

Emotion Mapping Cultural Heritage: A Visitor-Centered Analysis of Zhuhai's Historic and Cultural Districts

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Abstract: This study adopts a visitor-centered approach to explore how tourists emotionally and cognitively engage with Zhuhai's historic and cultural districts. Drawing on 151 user-generated travel narratives from leading Chinese digital platforms, the research employs a mixed-methods framework that integrates word frequency analysis with thematic content coding. The findings reveal six experiential dimensions: immersive interaction with historical heritage, aesthetics-driven photography behavior, emotional connection through local cuisine and crafts, pursuit of slow living and therapeutic spaces, the discovery and social sharing of hidden gems, and the impact of infrastructural limitations. By mapping tourists' affective responses and narrative expressions, the study introduces an emotion-based evaluative framework that complements conventional heritage assessment models. This research contributes to theoretical understandings of cultural tourism and emotional geography and provides actionable insights for destination planners seeking to enhance visitor experience in urban heritage environments.

1. Introduction

Historic and cultural districts are invaluable assets to urban tourism, blending heritage preservation with vibrant community life. Often described as “living museums”^[1], these areas offer immersive, participatory encounters with local culture and history, appealing to visitors seeking authenticity and experiential depth^[2]. As tourism increasingly drives urban cultural regeneration and economic revitalization, understanding tourist perceptions and experiences has become essential^[3]. Within the framework of the experience economy, heritage-based tourism is widely leveraged to reinvigorate historic districts^[4]. However, challenges persist—particularly the risks of over-commercialization and the lack of effective, visitor-centered evaluation systems, which can threaten the sustainability and integrity of these culturally significant spaces^[5].

Traditional evaluations of historic districts have primarily relied on surveys or expert assessments^[6], methodologies that often fall short in capturing tourists' nuanced, lived experiences^[7]. Moreover, a significant gap remains in studies that directly link evaluation outcomes to visitors' subjective perceptions, limiting the practical insights available for destination planning and management^[8]. Despite the rise of social media and travel review platforms, which have produced vast amounts of user-generated content (UGC), these sources remain underutilized in research on historic urban districts^[9]. Yet such narratives offer spontaneous, real-time reflections that can surface affective and cognitive aspects of experience often missed by formal survey instruments^[10].

The growing prevalence of UGC on platforms such as TripAdvisor, Mafengwo, Dianping, and Xiaohongshu presents a rich yet underexploited corpus of visitor-authored narratives. These unsolicited expressions reveal tourists' emotions, expectations, and behaviors in authentic and context-specific ways^[11,12]. While much of the existing tourism literature focuses on online reviews of hotels and restaurants^[13,14], relatively little attention has been paid to the digital discourse surrounding tourism attractions—particularly historic and cultural districts^[15]. These districts are significant for their heritage value, shaping urban identity, and differentiating cultural destinations from commercial spaces.

This situation presents a timely opportunity to reconceptualize how tourist experiences in historic districts are evaluated. Rather than relying on top-down, expert-driven assessments, a bottom-up, visitor-centered framework that draws on rich qualitative data can provide deeper, more empathetic insights into how heritage spaces are perceived and experienced. This study addresses this opportunity by analyzing 151 online visitor narratives across six historic and cultural districts in Zhuhai, China. The aim is twofold: (1) to enrich theoretical understandings of tourist experience in the context of cultural heritage tourism, and (2) to contribute to developing more inclusive, experience-driven frameworks for evaluating and managing urban heritage destinations.

2. Literature Review

Urban historic and cultural districts (UHCDs) serve as repositories of social, economic, and architectural heritage, blending tradition with contemporary urban life. Recognized as “living urban spaces,”^[16,17] they foster authenticity and intimacy while driving cultural continuity and economic revitalization through tourism. Since the ICOMOS Washington Charter (1987), historic urban areas have been framed holistically, encompassing architectural form, spatial structure, environmental setting, and craftsmanship^[18]. Academic inquiry emphasizes authenticity as central to their appeal, with Chinese practices requiring strict preservation standards. Scholars have proposed visitor-centered models^[19], principles of authenticity and spatial zoning^[16], and highlighted nostalgia, cultural immersion, and educational value as key to tourist experiences^[20]. Recent research underscores participatory governance, aligning community involvement with preservation and tourism development.

Tourist experience, a central theme in tourism research, is inherently multidimensional and shaped by interactions between visitors and cultural environments^[21]. Frameworks such as Walls et al.'s cognitive, emotional, ordinary, and extraordinary dimensions^[22], and Jia's tripartite model of material, institutional, and spiritual layers^[23], capture its complexity. In UHCDs, authenticity, memory, and place attachment structure experiences, while evaluation has often prioritized tangible metrics like infrastructure and service quality. However, these overlook emotional and symbolic engagement. Pine and Gilmore's “experience economy” framework highlights the economic and emotional value of visitor interactions, calling for tools that integrate subjective and affective dimensions^[24]. Recent contributions, such as Wei's culturally sensitive scale^[25] in China and Chen's categorization of leisure, economic, and consumption values^[26], offer richer evaluative approaches. Historically, cultural

tourism evolved from the 16th-century Grand Tour to modern participatory practices, with tourists increasingly co-creating experiences through food, crafts, and storytelling. Such active engagement deepens cultural immersion, reinforcing UHCDs as spaces of both preservation and creative reinvention^[27].

3. Methodology

3.1 Framework of the Study

As illustrated in Figure 1, this study adopts a mixed-methods approach that integrates both qualitative and quantitative analyses. Specifically, user-generated content in the form of tourist experience narratives was collected from multiple online platforms, focusing on six representative historical and cultural districts in Zhuhai. Through a combination of word frequency analysis and thematic coding, the study identifies and synthesizes the overarching perceptual image and experiential framework held by tourists toward cultural and historic district.

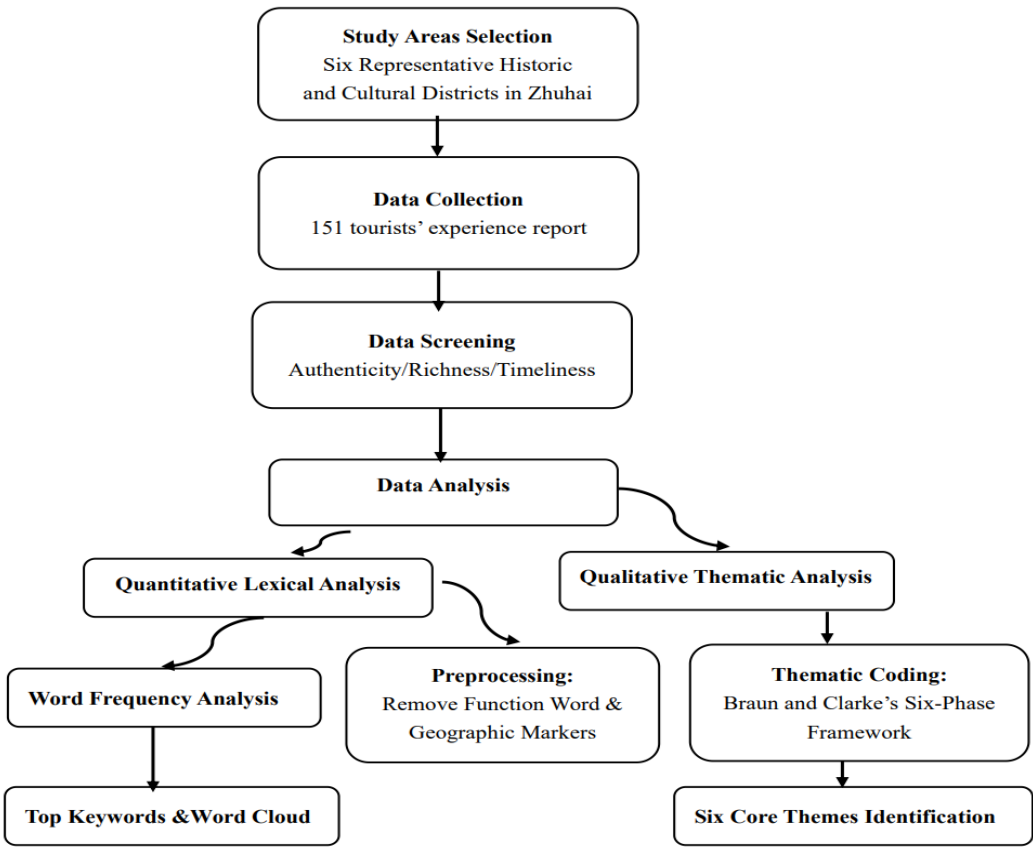


Figure 1 Framework of the study

3.2 Study Area: Zhuhai City

Zhuhai is located in the southwest of the Pearl River Estuary in Guangdong Province and faces Hong Kong China to the east and Macao China to the south. As a strategic node city within the Greater Bay Area, Zhuhai is characterized by a rich cultural heritage and a rapidly evolving urban landscape. However, the city now faces the pressing challenge of balancing the growing numbers of visitors with the preservation of cultural integrity. Particularly in its historic districts, where traditional architecture and local customs weave a distinctive narrative, the influx of tourism can serve as a catalyst for

economic revitalization yet also poses risks of cultural degradation if not managed sustainably. This study selects six representative historic and cultural districts in Zhuhai as focal destinations for investigating tourist experiences. These are summarized in Table 1.

Table 1 Representative Historic and Cultural Districts in Zhuhai

No.	Name of District	Core Attractions
1	Tangjiawan Ancient Town	Former residences of notable figures, Lingnan gardens, Shanfang Art Street
2	Doumen Old Street	Arcade architecture, Southeast Asian flair, traditional street food
3	Huitong Ancient Village	Chessboard-style layout, diaolou (watchtowers) with lotus ponds, authentic rural lifestyle
4	Beishan Courtyard	Container art installations, Yang family ancestral hall, trendy cafés
5	Qiao Island Baishi Street	Historic residences of celebrities, Lingnan gardens, cultural art streets
6	Xiangzhoubu	Wharf architecture, mountain–sea landscape integration

3.3 Data collection

To examine tourists’ experiences in urban historical and cultural districts, this study collected user-generated content (UGC) from four prominent Chinese digital platforms: Ctrip, Baidu Notes, Xiaohongshu (Little Red Book), and Dianping. These platforms are widely recognized in China for hosting rich repositories of travel narratives, consumer reviews, and personal reflections, making them valuable sources for experiential tourism research^[28]. The high volume, authenticity, and multimodal nature (text, images, metadata) of content from these platforms offer a comprehensive window into the motivations, emotions, and perceptions of domestic tourists.

The data collection process involved a systematic, manual search of content using location-specific keywords corresponding to six selected historical and cultural districts in Zhuhai, namely: “Tangjiawan Ancient Town”, “Doumen Old Street”, “Huitong Ancient Village”, “Beishan Courtyard”, “Qiao Island Baishi Street”, and “Xiangzhoubu”. These sites were selected due to their historical significance, cultural authenticity, and representation of diverse urban heritage spaces.

To ensure the data’s quality and reliability, rigorous inclusion criteria were applied: (1) Timeliness: Only reviews posted between January 2024 and April 2025 were considered. This ensured that the data reflects recent tourist experiences and minimizes historical bias; (2) Authenticity: Reviews were selected based on clear indicators of genuine travel engagement, such as original photographs, timestamps, and site-specific detail, thereby reducing the risk of fabricated or promotional content; and (3) Richness: Each review included contained at least 300 Chinese characters, ensuring narrative depth and thematic substance sufficient for qualitative analysis. Reviews primarily addressing peripheral aspects such as transportation, lodging logistics, or promotional campaigns were excluded. The researcher manually screened and annotated each review to confirm its relevance to historical, cultural, or leisure-related experiences.

A two-phase data collection strategy was employed. In Phase I, an initial set of 131 reviews was gathered and subjected to inductive content analysis, which identified several emergent themes. Subsequently, Phase II involved the collection of an additional 20 reviews to test further and refine the thematic categories. The final corpus thus comprised 151 experiential texts, labeled sequentially from T1 to T151. Notably, the second round of data analysis did not produce any new thematic patterns, indicating that theoretical saturation had been reached, defined as the point at which no new information is observed in the data^[29–31]. This methodological milestone validates the adequacy of the sample size for grounded qualitative inquiry.

The final dataset amounted to approximately 74,327 Chinese characters following the screening and annotation process. Each review entry was annotated with metadata, including the reviewer's username, review date, and a structured summary of the core experiential content. This organized data repository served as the foundation for subsequent thematic coding, frequency analysis, and text mining procedures employed in later stages of the research.

3.4 Data Analysis

Analyzing user-generated content collected from tourism review platforms involved a two-pronged methodological approach combining quantitative lexical analysis and qualitative thematic interpretation. This mixed-method strategy provided descriptive and interpretive insights into tourists' perceptions of Zhuhai's historical and cultural districts.

3.4.1 Word Frequency Analysis

A word frequency analysis was conducted on the textual corpus to capture the salient features of tourists' cognitive and emotional impressions. This quantitative approach facilitates identifying frequently occurring terms, which can reveal dominant experiential themes and commonly shared sentiments among tourists^[32]. The analysis was performed using Jieba, a widely used Chinese word segmentation tool, optimized for handling informal, colloquial, and context-rich content found in online reviews. Before computation, a two-step data preprocessing protocol was implemented to enhance analytical precision:

- **Removal of Function Words:** High-frequency grammatical elements such as prepositions, conjunctions, particles, and auxiliary verbs, which carry limited semantic value, were filtered out. This step ensured that the analysis concentrated on content-bearing words, thereby reflecting tourists' core descriptive language^[33];
- **Exclusion of Geographic Markers:** To prevent distortion from location-specific terms, place names such as "Zhuhai," "Tangjiawan," and other district identifiers were deliberately excluded. This allowed the analysis to focus on perceptual and affective descriptors rather than on spatial references.

As a result, the word frequency analysis provided a focused lens through which tourists' evaluative expressions, such as references to architectural aesthetics, cultural ambiance, leisure activities, and service quality, could be systematically examined. The top-ranking keywords extracted through this process formed the basis for subsequent thematic exploration.

3.4.2 Content Thematic Analysis

Thematic Analysis (TA) was adopted as the principal qualitative method for extracting latent meanings, patterns, and conceptual categories from tourists' narratives to complement the lexical analysis. The process was chosen for its analytical flexibility and effectiveness in interpreting large volumes of qualitative data derived from open-ended, naturalistic sources, such as online reviews^[34].

The coding and interpretation process followed the six-phase framework developed by Braun and Clarke^[35]. A double-coding procedure was employed to ensure methodological rigor. Two independent researchers performed the initial round of open coding separately, and their results were compared. Discrepancies were reconciled through iterative discussion and re-coding. This inter-coder reliability process enhanced the credibility and the trustworthiness of the findings^[36]. The thematic analysis yielded a set of recurrent conceptual categories representing tourists' emotional evaluations, cultural expectations, experiential highlights, and areas of dissatisfaction. These themes were subsequently triangulated with the word frequency results to ensure internal consistency and analytical depth.

4. Findings

Table 2 shows the first 28 words analyzed for word frequency, and Figure 2 shows the resulting word frequency cloud.

Table 2 Word frequency on Zhuhai’s historic and cultural districts

No.	Key Words	Frequency	No.	Key Words	Frequency
1	Ancient Town	286	15	Literary Arts	78
2	Ancient Street	189	16	Mangrove	73
3	History	168	17	Ancient Villages	70
4	Architecture	155	18	B&B	68
5	Cuisine	142	19	Hot Spring	60
6	Snapshot	138	20	Seafood	58
7	Photo-taking	135	21	Tea and Fruit	50
8	Culture	128	22	Cantonese Opera	48
9	Stone Road	115	23	Caf é	45
10	Lingnan	105	24	Chicken simmered in mud	43
11	Green Brick	98	25	Oyster Shell Wall	40
12	Riding House	95	26	Bazaar	35
13	Ancestral Hall	86	27	Wishing Wall	30
14	Diao Lou	83	28	Bean Curd Flower	20



Figure 2 Word frequency cloud on Zhuhai’s historic and cultural districts

a) Tourists’ experience framework of historic cultural districts

The analysis of visitor narratives revealed six core dimensions shaping the tourist experience in Zhuhai’s historic and cultural districts (Table 3).

Theme 1: Immersive Engagement with Historical and Cultural Heritage

Visitors frequently expressed a strong immersion in the district’s architectural and historical legacy. The distinctiveness of Lingnan-style arcade buildings, hybrid Chinese-Western designs, and preserved heritage sites (such as the former residences of notable local figures) stood out as key experiential anchors. A prevailing theme was the desire to “feel” the layers of history to sense the stories embedded in the urban fabric;

Theme 2: Aesthetics and Photography-Driven Tourism Behavior

Visual appeal played a critical role in shaping tourist engagement. Visitors emphasized the “photogenic” quality of scenic elements such as bougainvillea-draped walls, cobblestone pathways, and ancient towers. Deliberately staged photo opportunities, including traditional costume rentals, were common, reflecting the influence of social media aesthetics. Artistic venues, including galleries, craft fairs, and lantern displays, were praised for their shareability, particularly during optimal visual moments, such as sunset “blue hours” and festive seasons;

Table 3 The framework of experience on historic cultural districts

Theme	Sub-theme	Corresponding Review
Immersive Engagement with Historic and Cultural Heritage	Architectural Styles	<i>"The arcades on Doumen Old Street evoke the Republic-era, blending Southeast Asian charm with Lingnan style." (T2)</i>
	Historical Narratives	<i>"Gongleyuan carries the weight of modern history. The story of Tang Shaoyi was deeply moving." (T3)</i>
	Authenticity Preservation	<i>"Locals playing mahjong and drying fish in Huitong Village-it's full of down-to-earth charm!" (T5)</i>
Aesthetics and Photography-Driven Tourism Behavior	Photography Scenes	<i>"Baishi Street's stone alleys and Hanfu outfits look straight out of a historical drama." (T7)</i>
	Artistic Spaces	<i>"The red-brick walls with lanterns at Beishan Courtyard are perfect for silhouette shots!" (T8)</i>
	Lighting & Seasonality	<i>"The lantern-lit market during Spring Festival looks like a scene from a Miyazaki film." (T10)</i>
Local Gastronomy and Craftsmanship as Emotional Anchors	Signature Dishes	<i>"The duck-stuffed buns from Doumen's old street are savory and springy, a must-try!" (T12)</i>
	Intangible Heritage Crafts	<i>"I made my own scarf at the tie-dye workshop in Wuyong Textile Studio, it was so rewarding!" (T14)</i>
	Market Culture	<i>"The handmade accessories at the Beishan Lantern Market are one-of-a-kind-I bought several for friends." (T15)</i>
Pursuit of Slow Living and Healing Sensibility	Nature-Based Healing	<i>"A walk around the shaded path in Gongleyuan completely relaxed me." (T16)</i>
	Community Atmosphere	<i>"Watching elderly ladies sip tea under the banyan tree-it felt like time had stopped." (T17)</i>
	Accommodation Choices	<i>"The Liyuan Guesthouse preserves the charm of old arcade houses-staying there feels like living in history." (T18)</i>
Discovery of Hidden Gems and Social Sharing	Off-the-Beaten-Path Spots	<i>"Paishan Village is peaceful and beautiful-truly a hidden paradise." (T19)</i>
	Social Media Tags	<i>"Posted on Xiaohongshu with #ZhuhaiOldTownAesthetics-got over 1,000 likes!" (T20)</i>
	Contradictory Emotions	<i>"Hurry to Beishan Courtyard before it gets too commercialized!" (T21)</i>
Infrastructure Limitations and Experience Pain Points	Transport Inconvenience	<i>"After 4pm on weekends, Doumen Old Street is too crowded-better to visit off-peak." (T22)</i>
	Facility Maintenance	<i>"Chihuashan was super windy and lacked clear signage-I almost got lost." (T23)</i>
	Seasonal Constraints	<i>"Too many mosquitoes in summer-definitely bring repellent!" (T24)</i>

Theme 3: Local Gastronomy and Craftsmanship as Emotional Anchors

Culinary and artisanal experiences emerged as powerful emotional connectors. Iconic local

delicacies, such as tea pastries, stewed chicken, and fermented tofu desserts, evoked personal memories, often linked to childhood nostalgia. Participating in intangible cultural heritage activities (e.g., textile weaving, pottery workshops) and browsing handcrafted markets fostered a sense of belonging and place identity. These moments served as cultural bridges, deepening appreciation for the living traditions of the district;

Theme 4: Pursuit of Slow Living and Healing Sensibility

A recurring motif in visitor accounts was the pursuit of tranquility and mental restoration. Activities such as strolling beneath banyan trees, cycling along mangrove-lined rivers, or resting in quiet village squares contributed to an atmosphere described as “laid-back” and “therapeutic.” Everyday scenes, villagers playing Mahjong, casual cat cafés, or quiet guesthouses housed in old shophouses, reinforced the district’s appeal as a slow tourism and healing destination;

Theme 5: Discovery of Hidden Gems and Social Sharing

Many tourists expressed enthusiasm for discovering “hidden gems”—less commercialized attractions such as secluded mountain villages or under-the-radar islands. These experiences were often framed as personal discoveries, shared online through hashtags like #undiscoveredtown or #artsydestination. Yet, this enthusiasm was sometimes paired with ambivalence: some visitors feared that increasing popularity might compromise the authenticity of these sites. This duality reflects a social curatorial impulse, where visitors simultaneously consume and promote cultural experiences in digital networks.

Theme 6: Infrastructure Limitations and Experience Pain Points

Despite the overall positive tone of many reviews, practical limitations emerged as a notable theme. Common complaints included limited public transport, inadequate signage, dated infrastructure (e.g., restrooms, Wi-Fi), and parking shortages. Seasonal disruptions, such as mosquito prevalence in summer or store closures in winter, further affected visitor satisfaction. Though unrelated to cultural heritage per se, these factors significantly shaped overall tourist impressions and return intentions.

5. Discussion

This study’s thematic analysis of 151 online tourist narratives from six historic cultural districts in Zhuhai reveals a multidimensional visitor experience that reinforces and extends existing scholarship in heritage tourism, cultural experience, and destination evaluation. Below, we compare the six core dimensions identified in our findings with prior research, highlighting points of convergence and divergence.

5.1 Heritage Immersion and Authenticity

The “Immersive Engagement with Historical and Cultural Heritage” theme underscores tourists’ desire to connect emotionally with architectural styles and historical narratives. This aligns with MacCannell’s (1973) notion of staged authenticity, visitors seek “intimacy of relations and authenticity of experience” in heritage spaces^[17], and with ICOMOS’s emphasis on historic urban areas as holistic entities where physical form and narrative coalesce^[16,18]. However, while Shen et al. (2003) and Yang et al. (2004) proposed top-down preservation and spatial-planning frameworks centered on authenticity and engagement^[16,19], our bottom-up analysis reveals how tourists themselves articulate authenticity in terms of sensory immersion—the “weight of modern history” in a former residence or the lived-in charm of villagers playing mahjong. This suggests that evaluation frameworks should move beyond expert criteria and integrate visitor-expressed markers of authenticity as part of heritage management.

5.2 Visual Aesthetics and “Instagrammability”

The prominence of photography-driven behavior in our findings converges with recent studies on “Instagram tourism,” where visual shareability drives destination choice and experience. In contrast to earlier research on aesthetic experience in heritage tourism, which primarily focused on architectural appreciation^[21,23], our analysis highlights staged photo-ops, lantern-lit markets, Hanfu rentals, and the role of optimal lighting and seasonal settings in co-creating tourist value. This extends the literature by showing that social media aesthetics are not peripheral but deeply embedded in the lived experience of historic districts, warranting their incorporation into design and marketing strategies.

5.3 Gastronomy and Artisanal Craft as Emotional Anchors

Our third theme around local gastronomy and handcrafted workshops resonates with gastronomic and living-heritage tourism research, emphasizing nostalgia, sensory engagement, and cultural transmission through food and craft^[21]. The emotional weight tourists place on signature dishes and participatory crafts confirms Pine and Gilmore’s “experience economy” model, where producers stage immersive experiences that engage all five senses. Yet, while prior scales categorize gastronomic value primarily in economic and educational terms, our findings show that these experiences also serve as bridges to personal memories and identity, suggesting a more nuanced “psycho-cultural” dimension to culinary tourism that future models should capture.

5.4 Slow Tourism and Well-Being

The “Pursuit of Slow Living and Healing Sensibility” theme aligns with the emerging slow-tourism and wellness-tourism literature, which posits that heritage settings can foster psychological restoration^[23]. Whereas much wellness-tourism research focuses on purpose-built retreats or spas, our study shows that everyday heritage scenes, banyan-tree shade, mangrove riverbanks, village squares, naturally evoke “therapeutic” effects. This finding expands the scope of wellness tourism by positioning historic cultural districts themselves as inherently restorative environments, with implications for destination managers to preserve quiet zones and promote more mindful, unhurried itineraries.

5.5 Social Sharing, Hidden Gems, and Visitor Ambivalence

The dual impulse to discover “hidden gems” and then broadcast them via social media reflects the dual dynamics of exclusivity and commodification discussed by Cohen^[36] and Urry^[37]. Prior work has noted visitors’ ambivalence toward popularization, the “tourist gaze” vs. “local authenticity” tension, but our findings concretely illustrate this in digital practices: tourists revel in off-the-beaten-path discoveries (T19) yet warn peers about impending commercialization (T21). This underscores the co-creative role of social media in both valorizing and potentially endangering heritage sites, suggesting that DMOs must balance promotional activities with strategies to mitigate over-visitation and preserve authenticity.

5.6 Infrastructure Constraints and Service Quality

Finally, complaints about transport, signage, and seasonal nuisances echo longstanding service-quality dimensions in tourism research^[38], yet these practical pain points often fall outside cultural evaluation frameworks. Our study reinforces that visitor satisfaction in heritage districts depends as

much on basic infrastructure as on cultural content. This integration of “hardware” issues with “software” experiences suggests that comprehensive destination evaluation should encompass both cultural authenticity and amenity maintenance.

6. Implications

6.1 Theoretical Implications

This study contributes meaningfully to several theoretical dimensions, including cultural tourism experience, emotional geography, and the spatial perception of historic urban districts. First, in the realm of tourism experience theory, this research adopts a cognitive-affective mapping approach that moves beyond traditional site-centric frameworks. Instead, it emphasizes a dynamic model centered on the “tourist-space-memory” relationship. This perspective echoes Tuan’s proposition that space is a lived, emotional experience, wherein tourist interactions are not isolated occurrences but are deeply embedded in spatial context, cultural memory, and behavioral trajectories^[39]. By visualizing the relationship among path, emotion, and cognition, the study enhances analytical perspectives within human geography, particularly in relation to walking theory and emotional geography^[40].

Second, from the standpoint of cultural heritage tourism, the research establishes a mapping of the relationship between tourist emotions and spatial structure. This resonates with Ashworth and Tunbridge’s conceptualization of heritage landscapes as cognitively reconstructed, suggesting that heritage value is not inherently fixed but instead subjectively constructed through tourists’ perceptions^[41]. In the specific context of Chinese cities, the study addresses Lewicka’s inquiry into how place attachment is generated under urban memory transformation. The findings illustrate how tourists reshape local meaning amid processes of urban renewal and tourism development in Zhuhai^[42].

Third, the study also makes methodological contributions. By integrating emotional cartography, keyword clustering, and trajectory analysis, it demonstrates how subjective perception data can inform spatial planning. This methodological fusion aligns with Kwan’s (2004) concept of geographic information systems for emotional mapping, offering a hybrid path for integrating qualitative and quantitative techniques in tourism geography^[43].

6.2 Practical Implications

The findings of this study have significant practical value for spatial development, product design, and community management of cultural tourism destinations. At the level of spatial planning and urban design, the research reveals the alignment, and sometimes misalignment, between emotionally perceived “hotspots” and actual tourist movement paths. This information can inform urban regeneration initiatives by incorporating a tourist-centered perspective. In Zhuhai, where urban cultural continuity is relatively weak, identifying zones of high emotional density can guide the layout of cultural nodes and experience corridors. This strategy is consistent with Lynch’s (1960) theory of the city image, particularly the psychological readability of paths, nodes, and edges as critical to tourists’ spatial understanding^[44].

In terms of product design, the study shows that visitors prefer immersive, multi-sensory cultural experiences. Therefore, destinations can consider developing story-driven cultural itineraries through digital guides, augmented reality installations, or cultural festivals. These practices help to materialize abstract historical narratives through spatial storytelling, enhancing tourist engagement and local identity formation. This direction aligns with Binkhorst’s concept of the co-creation of experience, where the tourist becomes an active agent of meaning-making^[45].

In addition, the research provides policy implications for community participation and sustainable

tourism development. By mapping the correlation between tourists' emotional fluctuations and spatial functionalities, stakeholders can better mediate between residents' and tourists' interests, optimize pedestrian flows and reduce spatial conflicts. The extraction of emotional maps and keyword clusters also serves as an indirect measure of visitor satisfaction, enabling longitudinal monitoring and evidence-based policy evaluation.

Finally, rooted in the empirical context of a rapidly developing city in southern China, this study complements the Western-dominated literature on experiential tourism. It contributes to a more diversified global framework of experiential tourism by incorporating underrepresented geographical and cultural perspectives.

7. Limitations and Research Directions

7.1 Limitations

Despite its contributions, this study presents several limitations that warrant consideration. First, the geographical scope is restricted to six historic and cultural districts within Zhuhai City, which may constrain the generalizability of the findings to other urban contexts in China or internationally. Variations in heritage governance, infrastructural development, and cultural narratives across cities imply that the experiential dimensions identified here may not fully represent visitor perceptions in other settings.

Second, the dataset consists exclusively of user-generated content (UGC) from four Chinese-language platforms, Ctrip, Baidu Notes, Xiaohongshu, and Dianping, which primarily cater to domestic tourists comfortable with written expression in Chinese. This introduces potential selection bias, under-representing international visitors, less digitally engaged demographics, and individuals who prefer alternative media formats (e.g., short-form videos or foreign-language platforms).

Third, although two independent researchers rigorously triangulated the thematic coding process, the interpretive nature of manual qualitative analysis remains inherently subjective. Decisions about theme abstraction and inclusion may have inadvertently prioritized more dominant or articulated narratives, potentially overlooking nuanced or minority perspectives. While theoretical saturation appeared to be reached within the 151-review corpus, emergent experiences may still exist outside the captured dataset.

Fourth, the study employs a cross-sectional design, with data collected from reviews posted between January 2024 and April 2025. This temporal snapshot limits the ability to account for seasonal variations, evolving visitor trends, or the impact of ongoing policy interventions and site developments after data collection.

Finally, a lack of detailed demographic metadata, such as age, gender, ethnic group, or travel motivation, precludes any segmentation analysis. As a result, the study is unable to explore how different visitor profiles may shape distinct dimensions of the historic and cultural districts' experience.

7.2 Future Research Directions

Building on the identified limitations, future research can deepen the understanding of tourist experiences in historic cultural districts through several avenues:

Geographical Expansion: To enhance external validity, subsequent studies should apply this thematic framework across diverse urban and cultural contexts, both within China and globally. Comparative analyses across cities with different heritage governance structures (e.g., UNESCO-designated sites vs. Municipally protected districts) would help reveal the influence of institutional models on visitor experiences and surface potential context-specific dimensions.

Methodological Enrichment: A mixed-methods approach could offer more comprehensive insights. Quantitative survey instruments, derived from the six experiential dimensions identified in this study, could help validate their salience and measure their relative importance among different visitor segments. Complementary qualitative methods, such as in-depth interviews, ethnographic observation, and focus groups, could unpack the deeper motivations and affective layers of the visitor experience. Likewise, to address sampling limitations, future work should incorporate a wider array of data sources, including: (1) Foreign-language reviews and travel blogs to capture international perspectives; (2) Social media videos and visual content for richer behavioral cues; and (3) On-site observational data and GPS tracking to analyze spatial movement and engagement patterns.

In addition, the application of automated text-mining techniques (e.g., sentiment analysis, topic modeling, and dynamic clustering) on larger, longitudinal corpora could reveal evolving trends, seasonality effects, and the impacts of heritage interventions over time

Applied Relevance: Future research should also investigate how the identified experiential dimensions can inform destination management and policymaking. Collaboratively developing evaluation tools and design strategies with local stakeholders, such as community residents, tourism enterprises, and heritage authorities, could ensure that planning initiatives remain attuned to visitor needs and values. In particular, longitudinal assessments of heritage-led regeneration initiatives could illuminate how interventions affect perceived authenticity, satisfaction, and inclusivity over time, contributing to more resilient and sustainable tourism models.

Building on these limitations, future research can advance the understanding of tourist experiences in historic cultural districts in several ways. Geographically, scholars should replicate this thematic framework across multiple cities, both within and outside China, to test its validity and to uncover context-specific dimensions. Comparative studies across different cultural heritage governance models (e.g., UNESCO World Heritage sites versus municipally designated districts) would be especially illuminating.

Methodologically, integrating mixed methods could enrich insights. Quantitative surveys based on the six dimensions identified here could validate their prevalence and relative importance. At the same time, in-depth interviews or focus groups could explore underlying motivations and emotional resonances more deeply. The inclusion of foreign language reviews, social media videos, and on-site observations or GPS-based movement tracking would offer a more holistic, multimodal perspective on visitor behavior. Employing automated text-mining techniques, such as sentiment analysis or topic modeling, on larger, longitudinal datasets may also reveal temporal dynamics and allow for the monitoring of experience changes in response to management interventions.

Finally, future research should examine the practical application of these findings in destination management. Actionable evaluation tools and visitor-centered frameworks could be co-designed with local stakeholders, including residents, business owners, and heritage officials, to test how spatial planning, interpretive design, or infrastructure investments influence the six experience dimensions. Longitudinal impact assessments of heritage-led regeneration projects would further clarify how to balance authenticity preservation with economic sustainability, thereby supporting more resilient and inclusive cultural tourism development.

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