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Overtourism and the Visitor Experience Crisis: Evidence from Five Flagship Attractions in China

ABSTRACT

This paper investigates a governance paradox: hard visitor caps and compulsory reservation systems are intended to protect heritage and ensure crowd safety, yet they can trigger a visitor-experience crisis when introduced reactively during peak-demand surges. Using China's 2025 National Day Golden Week as an event window, we conduct a comparative, event-based qualitative study of five flagship attractions representing diverse site types and constraints (the Palace Museum/Forbidden City, Mount Huangshan, Gulangyu/Kulangsu Island, Jiuzhaigou Valley, and Hangzhou West Lake). Evidence is triangulated from official management announcements and operational notices (e.g., quotas, real-name ticketing, timed entry, and traffic controls), as well as from publicly visible visitor reactions documented through credible reporting and destination-facing information channels. Directed content analysis and cross-case synthesis reveal four recurring mechanisms through which caps reshape the visitor journey: (1) access scarcity and perceived unfairness, (2) persistent bottlenecks and queue spillovers despite numerical limits, (3) time pressure and operational frictions that "thin" on-site engagement, and (4) a narrative shift from iconic experience branding to crisis-management framing. We show that caps improve the visitor experience only when embedded in an integrated governance package that combines transparent allocation, real-time monitoring and adjustment, dispersal design, and feedback loops translating visitor sentiment into actionable indicators.

Keywords: overtourism, visitor caps, reservation systems, perceived fairness, experience-centered governance

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INTRODUCTION

Many destinations have recently adopted hard visitor caps, compulsory reservations, timed-entry systems, and real-name ticketing as pragmatic instruments to mitigate overtourism pressures, protect cultural and natural heritage, and manage safety risks (Mihalič, 2020; Miller et al., 2023). The spread of such measures reflects a broader policy shift from demand stimulation toward demand governance, as crowding has become an increasingly visible challenge in iconic destinations worldwide (Peeters et al., 2018). Rather than being merely a logistical problem, overtourism has been widely conceptualized as a condition in which tourism intensity triggers unacceptable declines in residents' quality of life and/or visitors' satisfaction and experience quality (Koens et al., 2018; Mihalič, 2020). In this context, caps appear to offer a straightforward solution: by keeping visitation within manageable thresholds, they should reduce congestion, protect fragile heritage assets, and improve the overall quality of the visitor experience (Peattie & Peattie, 2023).

However, a growing body of empirical research indicates that perceived crowding is not only common but often consequential for tourist psychology and behavior. Across multiple contexts, higher crowding perceptions tend to undermine satisfaction, positive emotions, perceived value, and loyalty intentions, although the magnitude of these effects can vary by setting and visitor expectations (Papadopoulou et al., 2022; Stemmer et al., 2024). Importantly, "crowding" is not reducible to headcounts alone: it is shaped by spatial bottlenecks, social interference, perceived control, and the quality of the service environment (Ruiz et al., 2021). These insights imply that visitor caps—while administratively simple—do not automatically translate into better experiences, because experience quality depends on how congestion is distributed, perceived, and interpreted, rather than merely on how it is measured.

In practice, caps are frequently introduced only after highly visible crowding crises, and they can generate new sources of friction—perceived access injustice, ticket scarcity, and queuing externalities—that compress on-site time and ultimately "thin" the meaning and depth of a visit (Peattie & Peattie, 2023; Shen & Li, 2024). When entry becomes scarce, visitors may experience heightened competition for time slots and a stronger sense of unfairness, while congestion can be displaced from on-site spaces to pre-visit infrastructures such as digital platforms, transport nodes, and ticketing systems (Guttentag & Smith, 2023; Shen & Li, 2024). In other words, caps can become a form of belated damage control—a governance response that prioritizes risk containment—rather than a proactive, experience-centered strategy.

Despite the policy relevance of caps and reservations, two limitations remain salient in the current literature. First, overtourism research has often emphasized residents' quality-of-life impacts and social carrying-capacity debates, while visitor-experience crises under cap regimes are comparatively less theorized as a governance failure mode (García-Hernández et al., 2023). Second, although a large body of research links perceived crowding to reduced satisfaction, far fewer studies examine how governance instruments themselves generate visitor-experience frictions—particularly through access rationing, perceptions of procedural unfairness, and the displacement of congestion from on-site spaces to reservation systems and other pre-visit infrastructures (Alexander et al., 2012; Creany et al.,

2024; Jenkins et al., 2025). This gap matters because visitor caps are likely to expand further under conditions of tourism rebound, climate risk, and rising heritage conservation pressures (Jenkins et al., 2025).

China provides a particularly salient context for advancing this agenda, as its public holiday system—especially the National Day "Golden Week"—institutionally concentrates domestic tourism demand into short and highly predictable peak periods, generating recurrent and intense crowding pressures across major destinations (Dou et al., 2025). In addition, travel decisions are increasingly shaped by platform infrastructures and social media amplification: social media plays a central role in travel information search and can contribute to flow concentration, thereby reinforcing hotspot crowding dynamics (Xiang & Gretzel, 2010; Song & Wondirad, 2023). These structural conditions make it analytically valuable to study how caps operate not merely as "limits," but as experience-shaping institutions that reallocate scarcity, expectations, and emotional burdens across the visitor journey.

Accordingly, this paper examines the resulting visitor-experience crisis: situations in which caps function as belated damage control rather than proactive, experience-centered governance. We focus on five flagship attractions in China that face structurally high demand due to large holiday peaks, social media amplification, and national identity symbolism: a national museum complex (the Palace Museum/Forbidden City), a mountain heritage landscape (Mount Huangshan), a small island heritage settlement (Gulangyu/Kulangsu), a fragile nature reserve (Jiuzhaigou), and an iconic urban cultural landscape (West Lake). The Palace Museum's earlier adoption of visitor quotas and real-name ticketing illustrates how heritage protection and safety rationales can lead to strict access controls under crowding pressure ("Palace Museum to Limit," 2015). By comparing governance measures and experience outcomes across these distinct but highly demanded sites, we aim to identify common patterns in how caps transform experience quality.

The study contributes to the literature in three ways. First, it develops an experience-governance perspective on visitor caps by conceptualizing them not only as volume controls but also as mechanisms that reshape perceptions of fairness, control, and time scarcity. Second, it advances a multi-case, event-oriented understanding of reactive versus proactive cap governance, highlighting when caps emerge as crisis instruments and how they may externalize congestion into new friction points. Third, it provides practical implications for experience-centered management—suggesting that improving experience quality requires integrating reservation design, spatial bottleneck management, service capacity, and transparent communication into a coherent governance strategy. Guided by these motivations, the paper addresses three research questions:

- How are visitor caps justified and framed in official management announcements across different attraction types?
- What experience frictions and crisis narratives do visitors articulate under cap and reservation regimes (e.g., scarcity, unfairness, queue displacement, time pressure)?
- Under what conditions do caps operate as proactive experience governance versus belated damage control, and what design principles can reduce experience loss?

LITERATURE REVIEW

Overtourism as an Experience-Policy Problem

Overtourism is increasingly conceptualized not as a simple function of absolute visitation numbers but as a governance-relevant condition in which tourism intensity and its externalities exceed tolerable thresholds for residents and/or visitors, producing "unacceptable" declines in quality of life and experience quality (Mihalič, 2020). The UN World Tourism Organization defines overtourism as the impact of tourism on a destination (or parts of it) that excessively influences the perceived quality of life of citizens and/or negatively affects the quality of visitors' experiences (UNWTO, 2018). This definition is consequential because it shifts analytical attention from tourism growth per se toward perceived impacts, legitimacy, and managerial acceptability, positioning overtourism as both a socio-psychological and a policy-design challenge.

A consistent theme in the literature is that overtourism is multidimensional, context-specific, and politically embedded. Koens, Postma, and Papp (2018) emphasize that overtourism in cities is intertwined with broader structural transformations—housing pressure, platform economies, social media visibility, and urban change—implying that "too many tourists" is often a symptom of deeper institutional dynamics rather than a standalone cause. Similarly, socio-psychological accounts argue that negative reactions to tourism are mediated by perceived place change, loss of control, and crowding-related stressors, rather than by objective use levels alone (Gössling et al., 2020). Visitor–resident relations research further highlights that both groups may experience overtourism as a deterioration of shared spaces and everyday functionality, motivating calls for more active visitor governance (Cheung & Li, 2019).

From a management standpoint, overtourism debates frequently invoke "carrying capacity," yet contemporary scholarship cautions that capacity is not merely a numeric threshold but an institutional and spatial governance problem. Policy-oriented syntheses on overtourism underscore that capacity management requires indicator selection, monitoring systems, and enforceable policy instruments, rather than merely declaring a maximum number (Peeters et al., 2018). In protected and heritage settings, international guidance similarly emphasizes that sustainable management depends on defining desired conditions for resources and experiences, selecting measurable indicators, and adapting interventions over time (Leung et al., 2018). This reframing is directly relevant to visitor caps: caps are often justified as "capacity control," but their effectiveness depends on the institutional design governing when, how, and for whom access is rationed.

Crucially, overtourism can be approached as an experience–policy problem: it emerges when governance systems fail to maintain acceptable experiential conditions and when policy responses prioritize containment over experience quality. This suggests that the key question is not simply whether destinations cap visitors, but whether caps represent proactive experience governance or reactive crisis control that may generate new frictions (UNWTO, 2018; Peeters et al., 2018).

Perceived Crowding and Experience Quality

Perceived crowding has long been treated as a central experiential mechanism through which high use levels translate into dissatisfaction and behavioral change. Importantly, crowding is not synonymous with density; rather, it is an evaluative judgment that a given level of encounters is excessive relative to expectations and norms (Needham & Szuster, 2011). Recreation and park research conceptualizes crowding as a normative phenomenon in which visitors hold implicit standards of what constitutes "acceptable" social conditions, and these standards may vary across segments and settings (Vaske & Shelby, 2008). Accordingly, experience degradation can occur even when absolute visitor numbers remain stable if spatial bottlenecks, waiting times, or perceived interference violate visitors' norms and goals.

Empirical tourism research provides robust evidence that perceived crowding negatively influences experience outcomes. Large-scale synthesis work reports consistent negative effects of crowding on satisfaction, positive emotion, experience quality, perceived value, and behavioral intentions, aligning with stimulus-overload perspectives (Luo & Deng, 2010). In heritage and destination contexts, perceived crowding is commonly associated with weaker satisfaction and loyalty, often mediated by perceived risk and experience quality (Yin et al., 2020; Papadopoulou et al., 2022). Notably, evidence from China-based big-data studies using tens of thousands of online reviews suggests that crowding–satisfaction relationships are heterogeneous and moderated by contextual factors, reinforcing the need to treat crowding as an experiential rather than purely physical variable (Liang et al., 2021).

This literature also highlights that the consequences of crowding depend on how congestion is distributed across the visitor journey. Congestion at iconic "must-see" nodes, queues for entry, and time-slot scarcity can impose opportunity costs and time pressure, effectively "thinning" interpretation and emotional immersion. This resonates with visitor management perspectives that recommend moving beyond blunt volume limits toward integrated flow redistribution across time and space, bottleneck redesign, and expectation management through communication (Jin et al., 2016; Leung et al., 2018). In this sense, perceived crowding becomes not only an outcome to be minimized but also a diagnostic indicator of whether governance strategies are maintaining acceptable experiential standards.

Methodologically, the crowding literature further supports the use of indicators and standards as practical links between experience objectives and interventions. Frameworks in parks and protected areas recommend specifying measurable proxies such as people-at-one-time (PAOT), waiting time, encounter rates, and perceived acceptability, and establishing standards that define minimum acceptable experiential conditions (Manning et al., 2011). This approach is particularly important for cap policies because it makes explicit the managerial question: whether caps are designed to achieve experience standards (proactive governance) or deployed as emergency measures once those standards have already collapsed (reactive governance).

Visitor Caps as Governance Instruments: Effectiveness, Displacement, and Justice

Visitor caps—implemented through quotas, timed entry, real-name ticketing, reservation systems, and temporary traffic controls—have become prominent governance instruments in both urban heritage attractions and protected natural areas. Contemporary visitor management guidance conceptualizes such interventions as part of a broader Visitor Use Management (VUM) system: a proactive and adaptive process that manages visitor use characteristics and settings to achieve desired resource and experiential conditions (Interagency Visitor Use Management Council, 2016). The VUM approach explicitly treats visitor experience as encompassing multidimensional perceptions, feelings, and reactions before, during, and after a visit, implying that caps should be evaluated not only by throughput but also by experience outcomes and perceived legitimacy.

Empirical studies offer nuanced evidence regarding timed-entry and reservation systems. For example, research on U.S. national parks suggests that timed-entry pilots can improve perceived experience quality in congested areas and receive moderate visitor support, especially when framed around safety and sustainability (Miller et al., 2023; Creany et al., 2024). This indicates that caps can function as effective experience governance under certain design conditions. Yet the same literature also warns that access-rationing mechanisms often generate distributional and procedural conflicts: who gains entry, which time slots are most desirable, how rules are communicated, and whether enforcement is perceived as fair.

A critical limitation of cap-centric approaches is the risk of congestion displacement across system boundaries. Restricting on-site entry may reduce density within the attraction but shift friction to "pre-visit" infrastructures and surrounding public spaces—ticketing platforms, transport nodes, queueing areas, and peripheral streets—thereby creating new experiential stressors (Peeters et al., 2018). Moreover, reservation-based rationing introduces scarcity dynamics that can amplify perceived unfairness and reduce perceived control, which are core determinants of experience satisfaction in high-demand settings. This is consistent with broader justice-oriented research suggesting that procedural fairness (transparency and rule legitimacy) and distributive fairness (equitable access outcomes) are increasingly salient in tourism governance, particularly where public heritage is symbolically tied to collective identity (Bai et al., 2024; Yang et al., 2025).

In China, visitor caps and reservation systems have been widely applied to high-profile cultural and natural sites, reflecting both conservation imperatives and crowd-safety concerns. Heritage management discussions in China have long emphasized the need for visitor management and carrying-capacity strategies that are operationally feasible and institutionally supported (Agnew & Demas, 2014). Recent empirical work also shows that crowding at heritage sites can be examined through spatiotemporal distribution patterns and point-based congestion, reinforcing the role of governance in managing bottlenecks rather than merely limiting aggregate numbers (Ding et al., 2023). At the same time, social media amplification and platform-mediated information search can channel disproportionate attention toward highly visible or viral sites, concentrating tourist flows, intensifying peak pressures, and complicating the implementation of visitor caps (Alonso-Almeida et al., 2019).

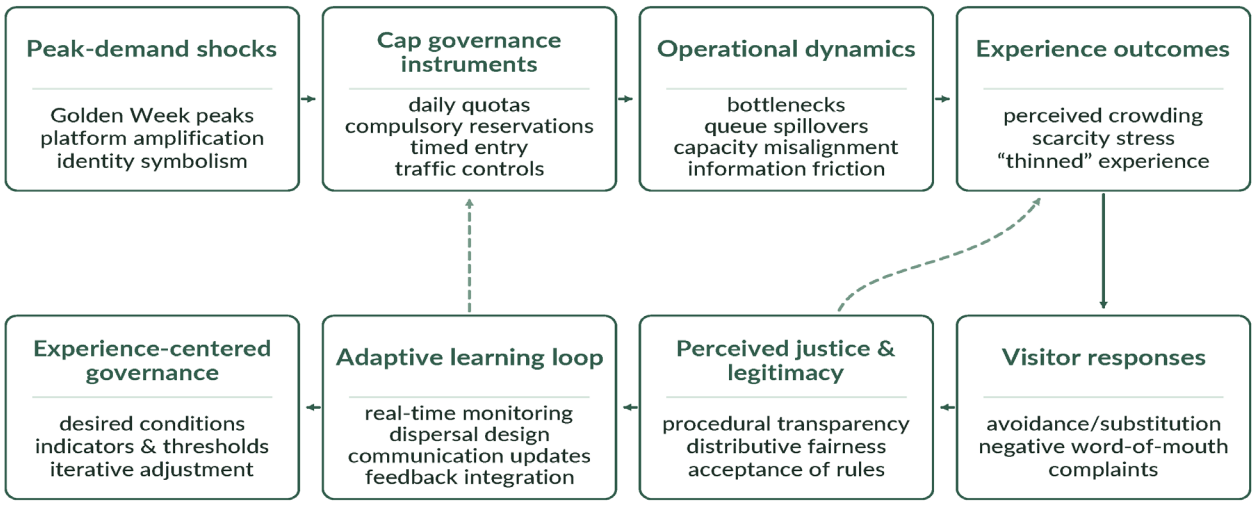
Taken together, the literature suggests that visitor caps should be understood as experience-shaping governance institutions rather than purely technical volume controls. Caps may improve experience quality when they are embedded in adaptive management systems that specify desired experiential conditions, monitor indicators, and adjust interventions accordingly (Interagency Visitor Use Management Council, 2016; Leung et al., 2018). Conversely, when introduced primarily as crisis responses, caps can become a form of belated damage control that externalizes congestion and produces experience frictions through scarcity, perceived unfairness, and time pressure. This unresolved tension motivates the present study's focus on the visitor-experience crisis behind caps and on the conditions under which cap governance transitions from reactive containment to proactive experience-centered design.

METHODS

Research Model and Geographic Distribution

Figure 1 summarizes the study's conceptual model. Demand shocks (e.g., national holidays) trigger intensified visitor-management instruments (caps, reservations, and traffic controls). These instruments shape on-site experience outcomes (congestion, queueing, operational frictions), which in turn influence visitor perceptions and coping behaviors (avoidance, substitution, negative word-of-mouth). The model emphasizes a feedback loop: visitor perceptions should be treated as governance signals that inform adaptive management and ultimately affect destination legitimacy and sustainability.

Figure 1. Conceptual framework linking demand shocks, visitor-management instruments, and experience outcomes.



Note. Solid arrows indicate primary causal pathways across the visitor journey. Dashed arrows represent iterative feedback effects (policy learning and operational recalibration) and the moderating role of perceived justice and legitimacy in shaping experience outcomes.

Figure 2. Geographic distribution of the five case-study destinations in China.

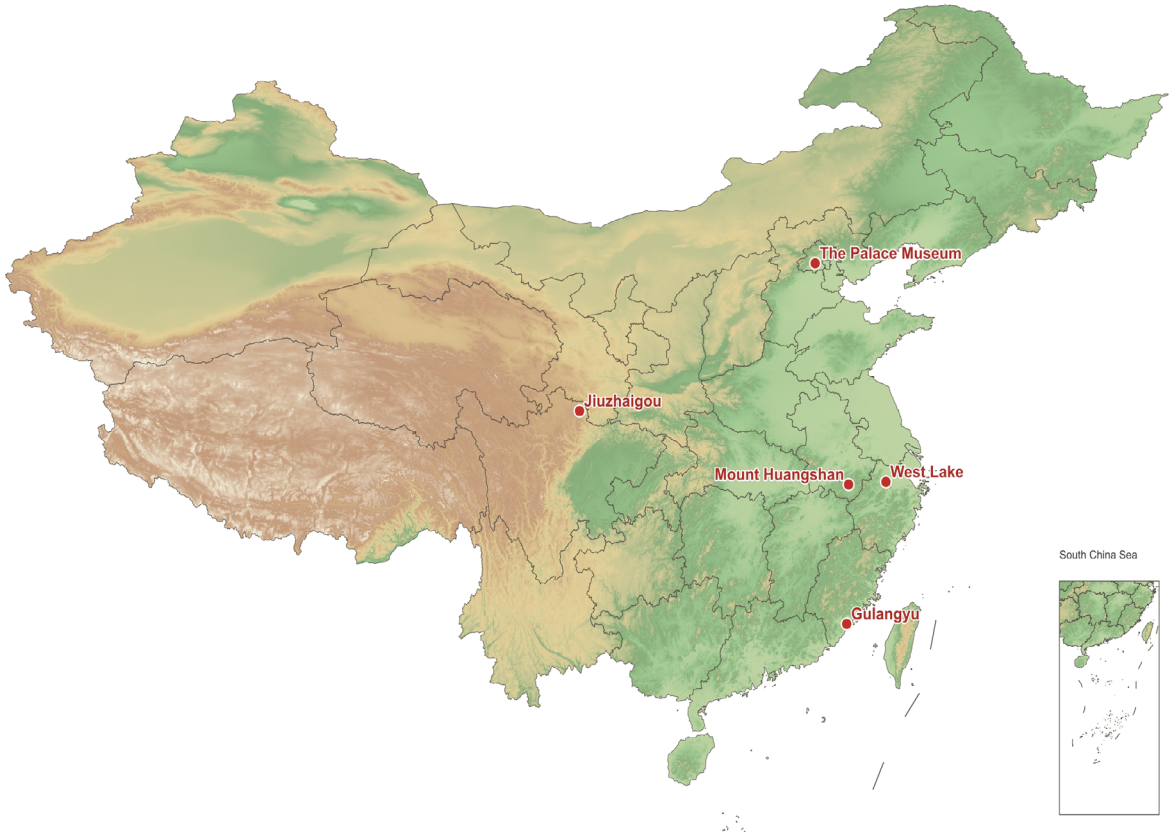


Figure 2 presents the geographical distribution of the five case destinations selected for this study. By locating the cases across different parts of China, the map illustrates the regional diversity of the sample and helps situate the comparative analysis spatially. The selected destinations also represent different tourism contexts, including imperial heritage, mountain scenery, lake tourism, island tourism, and protected natural landscapes, thereby strengthening the study's ability to examine how visitor caps generate experience frictions under varying destination conditions.

We employ a comparative, event-based qualitative case study design. For each attraction, we select a salient high-demand period (typically a national holiday or peak season) during which visitor-management measures and public reactions are most visible. The analytic corpus triangulates: (i) official policy documents and notices (e.g., cap policies, reservation rules, traffic-control announcements), and (ii) publicly reported visitor feedback captured in reputable media reporting and destination-facing channels, such as official museum or scenic-site releases, major national media, and UNESCO documentation for World Heritage properties.

Analytically, we conduct directed qualitative content analysis using the conceptual model as an initial coding frame, then refine the codes inductively within cases. Codes include: access scarcity/fairness; on-site congestion/bottlenecks; operational frictions (ticketing, transport, crowd control); time pressure/experiential dilution; and legitimacy narratives (protection vs. inconvenience). Cross-case synthesis then identifies common mechanisms and context-specific variations. The study uses

only publicly available materials from institutional sources and published media; no private data are collected.

Case Selection

Cases were selected to maximize variation in site type (museum, mountain, island settlement, nature reserve, urban landscape) while holding constant high demand and policy salience (Table 1).

Table 1. Case Characteristics and Dominant Visitor-Management Instruments

Attraction	Designation	Main pressure	Primary management tool(s)
Palace Museum (Forbidden City), Beijing	World Heritage; national museum complex	Extreme holiday peaks; access scarcity	Daily caps; real-name reservation (trial cap 80,000/day introduced in 2015; later reduced)
Mount Huangshan, Anhui	World Heritage; mountain landscape	Bottlenecks; safety risk on trails/cableways	Quota + reservation; capacity-triggered booking closure
Gulangyu/Kulangsu Island, Xiamen	World Heritage; small island settlement	Ferry bottlenecks; commercialization pressure	Ferry quota and island access control (max 35,000 visitors/day in WH nomination)
Jiuzhaigou Valley, Sichuan	World Heritage; fragile nature reserve	Ecological vulnerability; peak-season saturation	Strict daily quota (41,000/day) and time-slot management
West Lake, Hangzhou	World Heritage cultural landscape	Crowding at nodes; surrounding traffic overload	Seasonal/holiday traffic controls and dispersal measures

Event Definition and Sampling Window (2025 National Day Golden Week)

The 2025 National Day–Mid-Autumn Festival holiday lasted from 1 to 8 October 2025. This study treats the holiday as a peak-demand stress test and uses 1–7 October as the core visitor-feedback sampling period. Golden Week concentrates national holiday mobility into a short window, creating abrupt demand shocks that expose operational bottlenecks, queue spillovers, and the perceived fairness of allocation rules. For official notices and media reports, the collection window extended from 23 September to 15 October 2025 to capture pre-holiday communication and post-holiday reporting. Visitor feedback was sampled separately for 1–7 October 2025. The differing source windows reflect the timing of policy announcements, reported visitor experiences, and subsequent coverage.

Data Corpus and Analytic Procedure

The empirical material consists of publicly available documents and communications that reflect both managerial intent and user-facing experience signals. For each case, we collected (1) official notices and operational advisories (e.g., daily quotas, timed-entry rules, traffic controls, safety guidance), (2) reputable media reporting on crowding conditions and on-site management, and (3) publicly visible visitor feedback, where available (complaints, platform discussions, and post-visit narratives). We treated each distinct communication item as a unit of analysis and coded it for management instrument type, allocation and transparency features, operational frictions (queueing, bottlenecks, spillovers),

and experience outcomes. Visitor feedback was sampled from the core Golden Week period (1–7 October 2025) using date filters and keyword queries on major OTA platforms (e.g., Ctrip, Qunar, Fliggy), where publicly visible (Table 2).

Several limitations of the data sources should be acknowledged. First, visitor feedback was collected primarily from online travel platforms such as Ctrip, Fliggy, and Qunar. Although these platforms provide rich and timely user-generated content, online reviewers may represent visitors with particularly strong positive or negative experiences, potentially introducing response bias. Second, media reporting often focuses on peak crowding incidents, which may amplify exceptional situations rather than average visitor conditions. To mitigate these risks, this study triangulates multiple sources—including official announcements, media coverage, and visitor feedback—to ensure analytical robustness and reduce reliance on any single data stream.

Table 2. Corpus Construction & Source Inventory (Core Golden Week: 1–7 October 2025)

Case (attraction)	Official announce-ments (n)	Media reports (n)	Visitor feedback (n; Ctrip/Fliggy/ Qunar)	Total N	Search keywords (examples)	Search window	Link / archiving method
1. Palace Museum (Beijing)	3	6	Ctrip=25; Fliggy=15; Qunar=10 (Total=50)	59	„reservation” „sold out” „visitor cap” „time-slot entry” „queue”	1–7 Oct 2025 (UGC); 23 Sep–15 Oct 2025 (official/media)	URL captured + PDF print / screenshot; stored in audit trail
2. Huangshan (Anhui)	3	5	Ctrip=20; Fliggy=15; Qunar=15 (Total=50)	58	„traffic control” „reservation” „visitor cap” „cableway” „queue”	1–7 Oct 2025 (UGC); 23 Sep–15 Oct 2025 (official/media)	URL captured + PDF print / screenshot; stored in audit trail
3. Gulangyu (Xiamen)	2	4	Ctrip=18; Fliggy=16; Qunar=16 (Total=50)	56	„ferry ticket” „quota” „real-name” „time-slot” „queue”	1–7 Oct 2025 (UGC); 23 Sep–15 Oct 2025 (official/media)	URL captured + PDF print / screenshot; stored in audit trail
4. Jiuzhaigou (Sichuan)	3	6	Ctrip=22; Fliggy=14; Qunar=14 (Total=50)	59	„sold out” „waitlist” „visitor cap” „carrying capacity”	1–7 Oct 2025 (UGC); 23 Sep–15 Oct 2025 (official/media)	URL captured + PDF print / screenshot; stored in audit trail
5. West Lake (Hangzhou)	2	5	Ctrip=24; Fliggy=13; Qunar=13 (Total=50)	57	„crowd flow” „congestion” „traffic control” „staggered travel”	1–7 Oct 2025 (UGC); 23 Sep–15 Oct 2025 (official/media)	URL captured + PDF print / screenshot; stored in audit trail

Note: Counts reflect screened units included in the analytic corpus. Visitor feedback was quota-sampled (n=50 per case) from OTA platforms within the core Golden Week window (1–7 October 2025). Platform-level quotas (Ctrip/Fliggy/Qunar) are reported in Table 2 and were implemented using each platform's date filters and keyword queries. Representative source entries (titles, dates, and platforms) are provided in Appendix D.

Analysis followed a directed qualitative content analysis approach, using the conceptual framework in Figure 1 to guide first-cycle coding, and then iteratively refining cross-case categories (e.g., scarcity-induced stress, boundary displacement, time-pressure 'thinning', and legitimacy concerns). We then performed a structured cross-case synthesis to identify recurring mechanisms and the governance conditions under which caps are more likely to improve perceived experience quality. The full coding framework (Appendix B) and a cross-case evidence matrix for Golden Week 2025 (Appendix A) are provided to enhance transparency and replicability.

RESULTS

This section synthesizes cross-case mechanisms through which hard caps and compulsory reservations reshaped visitor experience during the 2025 National Day Golden Week. Drawing on official notices and media reporting collected for 23 September–15 October 2025 and visitor feedback sampled for 1–7 October 2025, the analysis identifies reported access and congestion frictions involving ticketing systems, approach transport, and entrance gates. These patterns are consistent with potential pressure displacement under visitor-management arrangements, but do not establish that visitor caps alone caused the observed difficulties (UNWTO, 2018; Koens et al., 2018). To illustrate the coded themes, the analysis summarizes recurring patterns identified in the OTA feedback. These researcher-authored formulations are analytical paraphrases, not verbatim quotations from individual visitor reviews.

Caps are Framed as Heritage and Safety Protection but Frequently Implemented as Late-Stage Damage Control

Across all cases, cap instruments are publicly justified through heritage protection, ecological integrity, and safety narratives. Jiuzhaigou, for example, reiterates a strict peak-season maximum of 41,000 visitors per day and instructs visitors to comply with compulsory reservations and staggered entry; its Golden Week advisory notes that 2–5 October were already close to sold out at the time of release (Jiuzhaigou County Government Service Network, 2025).

Yet the communicative tone frequently signals late-stage damage control: warnings of imminent sell-outs, reminders not to arrive without bookings, and appeals to avoid unofficial ticket channels. In Huangshan, the pre-holiday policing notice focuses on traffic controls and peak-time risk management on access roads, illustrating how restrictions are tightened as congestion becomes visible in system-boundary areas rather than designed proactively as part of the visitor journey (Huangshan Scenic Area Public Security Bureau, 2025). For high-symbolic sites such as the Palace Museum, long-running sell-out narratives reinforce the perception that access is a scarce entitlement rather than a managed service ("Holiday Tickets," 2021; Palace Museum, 2015).

These patterns echo overtourism governance observations that interventions are often crisis-triggered and legitimacy-sensitive, rather than embedded as routine experience design (Goodwin, 2017; Mihalič, 2020).

Experience Frictions: Scarcity, Boundary Displacement, and Time-Pressure "Thinning"

Three experience frictions recur across cases (Appendix A). First, caps translate crowding into scarcity. When entry becomes a rationed resource, visitors experience reservation stress and heightened scrutiny of procedural transparency (e.g., release timing, eligibility rules), and experience quality becomes contingent on perceived distributive fairness rather than on-site conditions alone (Agnew &

Demas, 2014). In the Palace Museum corpus, recurring feedback themes concerned tickets becoming unavailable before visitors secured entry, unsuccessful repeated booking attempts, and itinerary changes due to limited availability. These patterns suggest that uncertainty and perceived unfairness may arise before the visit begins.

Second, congestion is frequently displaced across system boundaries. Huangshan's Golden Week controls explicitly target approach-road management, reflecting how queueing and waiting are moved to transfer nodes and cableway access rather than removed (Huangshan Scenic Area Public Security Bureau, 2025). On Gulangyu, where island access is inherently constrained, holiday ferry rhythms become a central determinant of waiting externalities and time scarcity; coastal passenger transport remained at exceptionally high levels during the holiday period ("Coastal Waterway Passenger," 2025). Here, recurring feedback themes concerned delays in reaching the entrance, queues before sightseeing, and fatigue during transfers and ferry boarding. These accounts point to experience frictions at the approach stage, although they do not establish that visitor caps caused those delays.

Third, time-slotting interacts with bottlenecks to "thin" the experience. Strict entry windows combined with delays at iconic nodes compress discretionary time for interpretation and enjoyment, amplifying dissatisfaction even when headcounts are capped. West Lake exemplifies node-dominant crowding: official reporting indicates approximately 446,300 visits on the first day of the holiday, and post-holiday summaries report more than five million visits across the eight-day period, with comfort and safety hinging on micro-level routing and real-time crowd control at hotspots such as Broken Bridge ("West Lake Scenic Area," 2025; "Over 5 Million Visits," 2025). Correspondingly, the West Lake and Jiuzhaigou samples included recurring accounts of hurried visits, limited opportunities to appreciate scenery, and delays at photo viewpoints. These themes indicate that visitor experience may remain constrained by bottlenecks and time pressure even where access-management measures are in place. This aligns with evidence that perceived crowding and perceived risk reduce satisfaction and behavioural intentions (Papadopoulou et al., 2022).

When do Caps Improve Experience? Conditions for Adaptive, System-Wide Cap Design

Cross-case synthesis points to governance features that may help mitigate experience frictions when caps form part of a broader approach to managing the entire visitor journey (Appendix A). Four conditions are particularly salient: (a) transparent allocation and release rules that reduce reservation uncertainty; (b) real-time monitoring with rapid operational adjustments (dynamic routing, staggered releases, queue triage); (c) dispersal design that actively reallocates flows across zones, routes, and substitute itineraries; and (d) feedback loops that formalize visitor sentiment as a management indicator.

Empirically, these conditions emerge when quotas are coupled with boundary management and node-based design rather than standing alone. Jiuzhaigou operationalizes "limit–reservation–staggering" as an integrated package under a fixed ecological threshold (Jiuzhaigou County Government Service

Network, 2025), while Huangshan's traffic restrictions underscore the need to incorporate approach mobility and transfers as part of cap performance (Huangshan Scenic Area Public Security Bureau, 2025). At West Lake, where strict ticket caps are less feasible, adaptive policing and hotspot routing function as a soft-cap strategy that stabilizes comfort at critical choke points ("West Lake Scenic Area," 2025). These patterns reinforce visitor-management arguments that experience outcomes depend on flow distribution and expectation management, not only on total numbers (Jin et al., 2016; Koens et al., 2018).

Implication: From "Capacity Control" to Experience-Centered Policy Learning

Overall, the cases indicate that cap governance is best understood as an experience-centered policy learning problem. Fixed quotas can reduce visible overcrowding but may generate invisible frustration through displaced queues and perceived injustice. Experience-centered governance therefore operationalizes fairness, predictability, and perceived comfort as performance targets, and iteratively adjusts instruments in response to monitored conditions and public feedback. This reframes caps from crisis containment to adaptive stewardship—strengthening legitimacy while meeting heritage and ecological protection mandates (UNWTO, 2018; Mihalič, 2020).

From Capacity Control to Experience Governance

This study makes three theoretical contributions to the overtourism governance literature. First, it reframes visitor caps not merely as numerical crowd-control instruments but as experience-shaping governance mechanisms that redistribute scarcity and influence visitor perceptions of fairness, accessibility, and legitimacy. This moves the debate beyond the conventional question of whether caps lower density and toward the broader question of how governance instruments reorganize the visitor journey itself. Second, it extends perceived crowding research by showing that congestion is not only reduced or intensified but also spatially and temporally displaced along the visitor journey, with pressure shifting to reservation systems, transport nodes, and entry gates. In this sense, the study connects crowding research to governance design by demonstrating that experiential loss can be transferred rather than eliminated. Third, the concept of a "visitor experience crisis" clarifies how reactive responses to overtourism can unintentionally generate new experiential tensions even when visible crowding is partially reduced. Together, these contributions position cap governance as a problem of system design rather than simple quota setting.

More specifically, the cross-case evidence clarifies how this study extends previous research in three distinct ways. Relative to overtourism scholarship focused primarily on resident pressure, it foregrounds visitor-side legitimacy and experiential consequences under cap regimes. Relative to visitor-use-management research that often evaluates instruments in operational terms, it specifies the mechanisms through which allocation rules, mobility organization, and communication practices jointly shape perceived fairness and trip quality. Relative to crowding studies centered on on-site

density, it shows that friction can be relocated to digital booking systems, transfer infrastructure, and entrance sequencing. This three-level linkage helps explain why a formally successful cap may still be experienced as unfair, exhausting, or disappointing. The findings therefore suggest that static caps become adaptive experience governance only when they are coupled with communication, routing, and feedback integration.

Managerial implications are threefold. First, authorities should publish transparent allocation and release rules (e.g., staggered ticket release windows, fair-use constraints, and clear refund policies) to reduce perceptions of arbitrariness. Second, destinations should prioritize micro-spatial crowding analytics, because many experience failures arise at nodes and boundaries rather than at the site as a whole. Third, destinations should institutionalize visitor experience quality as a KPI: structured monitoring of public feedback can complement safety and conservation metrics and provide an early warning signal when caps are containing numbers but not improving the visit. In practice, this means treating recurring complaint patterns—such as booking failure, queue spillover, or rushed sightseeing—as operational signals for immediate adjustment rather than as post hoc reputational noise.

This study focuses on a single high-demand event window, the 2025 National Day Golden Week, which represents an extreme demand scenario rather than everyday visitation patterns. Future research could examine multiple peak periods or conduct longitudinal analyses to explore whether repeated reservation scarcity influences long-term destination reputation and visitor loyalty. In addition, the feedback evidence used here is derived from publicly visible materials and analytically condensed OTA comment patterns rather than fully reproducible verbatim comment transcripts; future studies could strengthen the evidentiary base through archived quotation datasets, interviews, or direct access to platform-level review corpora. Integrating large-scale behavioural data, such as mobility tracking or ticketing records, would further strengthen empirical understanding of visitor-flow dynamics under cap regimes.

CONCLUSIONS

Visitor caps have become a signature response to overtourism, but their experience effects depend fundamentally on policy design and governance capacity. Across five prominent Chinese attractions, the evidence identifies access scarcity, persistent bottlenecks, operational inconvenience, and legitimacy concerns in the context of peak-demand visitor management. These patterns suggest that caps and related controls may be experienced as reactive measures when complementary management arrangements are insufficient. Importantly, the analysis suggests that "successful" caps cannot be evaluated solely by reduced on-site density; they must be assessed across the full visitor journey, where congestion and dissatisfaction may be displaced to pre-visit infrastructures (ticketing platforms, transport nodes, and entry screening). The policy challenge is therefore not whether to cap, but how to embed caps within an adaptive, transparent, and experience-centered governance package. Such a package requires clear allocation principles, real-time monitoring with rapid operational adjustment, dispersal-oriented design (zoning and alternative itineraries), and feedback loops that institutionalize

visitor sentiment as a measurable management criterion. Future research could extend this event-based design across multiple peak periods and incorporate longitudinal behavioral data to evaluate how repeated scarcity and perceived unfairness reshape destination loyalty and reputation over time.

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The data are available from the corresponding author upon reasonable request.

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Not applicable: this study did not involve human participants, animal experiments, or sensitive personal data requiring ethical approval.

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REFERENCES

Agnew, N., & Demas, M. (Eds.). (2014). *Visitor management and carrying capacity at World Heritage sites in China*. Getty Conservation Institute.

Alexander, M., MacLaren, A., O'Gorman, K. D., & White, C. (2012). Priority queues: Where social justice and equity collide. *Tourism Management, 33*(4), 875-884. https://doi.org/10.1016/j.tourman.2011.09.009

Alonso-Almeida, M.-d.-M., Borrajo-Millan, F., & Yi, L. (2019). Are social media data pushing overtourism? The case of Barcelona and Chinese tourists. *Sustainability, 11*(12), 3356. https://doi.org/10.3390/su11123356

Bai, J., Tang, Z., & Yan, L. (2024). Research on tourism spatial justice based on residents' perception: A case study on Babao Town of Qilian Mountain National Park (Qinghai area). *Journal of Outdoor Recreation and Tourism, 47,* 100801. https://doi.org/10.1016/j.jort.2024.100801

Cheung, K. S., & Li, L. H. (2019). Understanding visitor-resident relations in overtourism: Developing resilience for sustainable tourism. *Journal of Sustainable Tourism, 27*(8), 1195-1213. https://doi.org/10.1080/09669582.2019.1606811

Coastal waterway passenger traffic remains high in Fujian during the National Day-Mid-Autumn holiday. (2025, October 8). *China News Service.*

Creany, N., Monz, C. A., & Esser, S. M. (2024). Understanding visitor attitudes towards the timed-entry reservation system in Rocky Mountain National Park: Contemporary managed access as a social-ecological system. *Journal of Outdoor Recreation and Tourism, 45*, 100736. https://doi.org/10.1016/j.jort.2024.100736

Ding, S., Zhang, R., Liu, Y., Lu, P., & Liu, M. (2023). Visitor crowding at World Heritage Sites based on tourist spatial-temporal distribution: A case study of the Humble Administrator's Garden. *Journal of Heritage Tourism, 18*(3), 632-657. https://doi.org/10.1080/1743873X.2023.2214680

Dou, W., Zhang, H., Xu, C., & Zhang, J. (2025). Spatial evolution pattern of tourism flow in China: case study of the May Day Holiday based on Baidu migration data. *Current Issues in Tourism, 28*(10), 1611–1627. https://doi.org/10.1080/13683500.2024.2345179

García-Hernández, M., de la Calle-Vaquero, M., & Chamorro-Martínez, V. (2023). Visitor management strategies in cultural heritage cities: The case of the Alhambra (Spain). *Heritage, 6*(10), 6494-6509. https://doi.org/10.3390/heritage6100339

Goodwin, H. (2017, October). *The challenge of overtourism (Responsible Tourism Partnership* (Working Paper No. 4). Responsible Tourism Partnership. https://haroldgoodwin.info/wp-content/uploads/2020/08/rtpwp4overtourism012017.pdf

Gössling, S., Scott, D., & Hall, C. M. (2020). Pandemics, tourism and global change: A rapid assessment of COVID-19. *Journal of Sustainable Tourism, 29*(1), 1-20. https://doi.org/10.1080/09669582.2020.1758708

Guttentag, D., & Smith, S. L. J. (2023). From queues to clicks: The spatial and temporal displacement of overtourism through digital reservation systems. *Tourism Geographies, 25*(4), 789-812. https://doi.org/10.1080/14616688.2022.2151674

Holiday tickets to Palace Museum sold out. (2021, May 1). *China Daily.*

Huaibei Municipal Public Security Bureau. (2025). *Police reminder: Traffic control for Huangshan Scenic Area during the Mid-Autumn and National Day holidays*. https://gaj.huaibei.gov.cn/jwzx/jfts/57993515.html

Huangshan Scenic Area Public Security Bureau. (2025). *Traffic control announcement for Huangshan Scenic Area during the 2025 Mid-Autumn and National Day holidays*. https://hsgwh.huangshan.gov.cn/xwzx/tzgg/9302434.html

Interagency Visitor Use Management Council. (2016). *Visitor use management framework: A guide to providing sustainable outdoor recreation* (Edition one). National Park Service. https://visitorusemanagement.nps.gov/content/documents/VUM_Framework_Edition%201_508%20Compliant_IVUMC.pdf

Jenkins, J. S., Marshall, A. M., Shiflett, S. A., Mattos, R. F., Sanchez, I. T., & Athearn, N. D. (2025). Snow droughts, deluge, and reservation systems interact to drive recreation access at Yosemite National Park. *Scientific Reports, 15*, 37131. https://doi.org/10.1038/s41598-025-21022-5

Jin, Q., Pearce, P. L., & Bao, J. (2016). Factors influencing perceived crowding of tourists and sustainable tourism destination management. *Sustainability, 8*(10), 976. https://doi.org/10.3390/su8100976

Jiuzhaigou County Government Service Network. (2025). *Warm travel tips for Jiuzhaigou County's 2025 National Day and Mid-Autumn holidays.* https://abzjzgx.sczwfw.gov.cn/art/2025/9/28/art_35508_297184.html

Koens, K., Postma, A., & Papp, B. (2018). Is overtourism overused? Understanding the impact of tourism in a city context. *Sustainability, 10*(12), 4384. https://doi.org/10.3390/su10124384

Leung, Y.-F., Spenceley, A., Hvenegaard, G., & Buckley, R. (2018). *Tourism and visitor management in protected areas: Guidelines for sustainability* (Best Practice Protected Area Guidelines Series No. 27). IUCN. https://doi.org/10.2305/IUCN.CH.2018.PAG.27.en

Liang, S., Li, C., Li, H., & Cheng, H. (2021). How do you feel about crowding at destinations? An exploration based on user-generated content. *Journal of Destination Marketing & Management, 21*, 100606. https://doi.org/10.1016/j.jdmm.2021.100606

Luo, X., & Deng, L. (2010). An examination of the effect of perceived crowding on tourist satisfaction. *Annals of Tourism Research, 37*(2), 493-512. https://doi.org/10.1016/j.annals.2009.11.002

Manning, R., Budruk, M., Valliere, W., Laven, D., Anderson, L., Hallo, J., Stanfield McCown, R., Park, L., Pettengill, P., Bacon, J., Reigner, N., Abbe, D., Lawson, S., van Riper, C., Newman, P., & Goonan, K. (2011). Defining, measuring, monitoring, and managing the sustainability of parks for outdoor recreation. *Journal of Park and Recreation Administration, 29*(3), 24-37.

Mihalič, T. (2020). Conceptualising overtourism: A sustainability approach. *Annals of Tourism Research, 84*, 102832. https://doi.org/10.1016/j.annals.2020.102832

Miller, Z. D., Borst, J. J., D'Antonio, A., Newman, P., Monz, C., & Wilkins, E. (2023). Pilot timed entry reservation system feasibility and support in Arches National Park. *Sustainability, 15*(3), 2054. https://doi.org/10.3390/su15032054

Needham, M. D., & Szuster, B. W. (2011). Situational influences on normative evaluations of coastal tourism and recreation management strategies in Hawaii. *Tourism Management, 32*(4), 732-740. https://doi.org/10.1016/j.tourman.2010.06.005

Over 5 million visits to West Lake during the National Day-Mid-Autumn holiday, topping the moon-viewing destination popularity list. (2025, October 9). *Chao News.*

Palace Museum to limit daily visitor number by 80,000. (2015, May 17). *China Daily.*

Palace Museum. (2015). *The Palace Museum to implement a pilot daily visitor cap of 80,000 from June 13.* https://www.dpm.org.cn/classify_detail/179518.html

Papadopoulou, A., Ribeiro, M. A., & Prayag, G. (2022). Perceived crowding, place attachment and satisfaction: A study among tourists at overcrowded destinations. *Journal of Travel Research, 61*(1), 109-124. https://doi.org/10.1177/00472875211013159

Peattie, K., & Peattie, S. (2023). Managing overtourism in historic cities: The role of visitor caps and reservation systems. *Journal of Sustainable Tourism, 31*(5), 1289-1307.

Peeters, P., Gössling, S., Klijs, J., Milano, C., Novelli, M., Dijkmans, C., Eijgelaar, E., Hartman, S., Heslinga, J., Isaac, R., Mitas, O., Moretti, S., Nawijn, J., Papp, B., & Postma, A. (2018). *Overtourism: Impact and possible policy responses* (Study requested by the TRAN Committee). European Parliament, Policy Department for Structural and Cohesion Policies. https://www.europarl.europa.eu/thinktank/en/document/IPOL_STU(2018)629184

Ruiz, C., Delgado, N., García-Bello, M. Á., & Hernández-Fernaud, E. (2021). Exploring crowding in tourist settings: The importance of physical characteristics in visitor satisfaction. *Journal of Destination Marketing & Management, 20,* 100619. https://doi.org/10.1016/j.jdmm.2021.100619

Shen, L., & Li, Z. (2024). Reservation systems and perceived fairness in high-demand heritage tourism: Evidence from China's 5A scenic spots. *Annals of Tourism Research, 106,* 103752. https://doi.org/10.1016/j.annals.2024.103752

Song, Q., & Wondirad, A. (2023). Demystifying the nexus between social media usage and overtourism: Evidence from Hangzhou, China. *Asia Pacific Journal of Tourism Research, 28*(4), 364-385. https://doi.org/10.1080/10941665.2023.2230313

Stemmer, K., Gjerald, O., & Øgaard, T. (2024). Crowding, emotions, visitor satisfaction and loyalty in a managed visitor attraction. *Leisure Sciences, 46,* 710-732. https://doi.org/10.1080/01490400.2022.2028691

Vaske, J. J., & Shelby, L. B. (2008). Crowding as a descriptive indicator and an evaluative standard: Results from 12 outdoor recreation areas. *Leisure Sciences, 30*(2), 111-123. https://doi.org/10.1080/01490400701881363

West Lake scenic area popular on the first day of the National Day-Mid-Autumn holiday. (2025, October 2). *China News Service.*

World Tourism Organization (UNWTO), Centre of Expertise Leisure, Tourism & Hospitality (CELTH), Breda University of Applied Sciences, & European Tourism Futures Institute (ETFI), NHL Stenden University of Applied Sciences. (2018). *'Overtourism'? Understanding and managing urban tourism growth beyond perceptions: Executive summary.* World Tourism Organization. https://doi.org/10.18111/9789284420070

Xiang, Z., & Gretzel, U. (2010). Role of social media in online travel information search. Tourism Management, 31(2), 179-188. https://doi.org/10.1016/j.tourman.2009.02.016

Yang, H., Ying, Y., & Chen, R. (2025). How does interactional justice differentiation influence tourists' revisit intention: The roles of tourism experience quality, tourist loyalty, and tourist tolerance. *BMC Psychology, 13,* 1184. https://doi.org/10.1186/s40359-025-03528-9

Yin, J., Bi, Y., & Chen, W. (2020). Crowding and tourist satisfaction: The role of perceived risk and experience quality. *Journal of Destination Marketing & Management, 17,* 100468. https://doi.org/10.1016/j.jdmm.2020.100468

Zhang, C., & Zhang, H. (2022). Perceived justice in tourism: A systematic review and research agenda. *Journal of Travel Research, 61*(7), 1523-1542. https://doi.org/10.1177/00472875211045321

APPENDIX

A) Cross-Case Evidence Matrix (Golden Week 2025)

This evidence matrix summarizes how demand pressure, governance instruments, and experience frictions manifested across the five cases during the 2025 National Day Golden Week event window (T–7 to T+7). It is intended as an audit-friendly bridge between the directed coding scheme and the cross-case synthesis in Section 5.

Table A1. Cross-case evidence matrix linking instruments, experience frictions, and governance implications.

Case (attraction type)	Demand-pressure signals (Golden Week)	Observed governance instruments	Operational & experiential frictions	Visitor perceptions & coping	Implications for adaptive governance
Palace Museum / Forbidden City (National museum complex)	High symbolic demand and rapid sell-outs; intense peaks concentrated in iconic halls and corridors.	Real-name reservation; capped admission; entry screening; queue control and circulation guidance.	Queue spillovers at gates and internal bottlenecks; time-pressure and reduced interpretive depth.	Perceived access scarcity; fairness concerns; substitution to off-peak or alternative museums.	Strengthen allocation transparency; expand pre-visit information; micro-bottleneck management and timed routing.
Mount Huangshan (Mountain heritage landscape)	Holiday surges shaped by weather windows and transport constraints; concentrated pressure on cableways and transfer nodes.	Reservation requirements; traffic restrictions; managed transfers; safety advisories and capacity warnings.	System-boundary displacement to roads, transfers, and cableway queues; node congestion at viewpoints.	Stress from waiting and crowding at choke points; itinerary compression and perceived value loss.	Integrate transport-side capacity as part of the cap; deploy real-time queue triage; dispersal via route zoning.
Gulangyu / Kulangsu (Island heritage settlement)	Island access inherently capacity-constrained; demand peaks amplified by ferry rhythms and day-trip scheduling.	Ticketing quotas linked to ferry capacity; time-based departures; crowd and safety management at terminals.	Congestion concentrated at terminals/boarding and narrow streets; waiting externalities and time scarcity.	Disappointment when preferred slots unavailable; avoidance or substitution; negative word-of-mouth if opaque.	Treat ferry system as core to experience; staggered releases and queue design; clear rules for priority access.
Jiuzhaigou Valley (Fragile nature reserve)	Very high holiday demand under fragile ecological constraints; strong salience of "sold-out" risk.	Strict daily cap; compulsory reservation; staggered entry guidance; conservation and safety framing.	Scarcity-driven reservation anxiety; bottlenecks at shuttle/entry nodes; "thin" visit due to rigid timing.	Heightened sensitivity to procedural fairness and information; substitution to nearby sites or off-peak.	Combine hard caps with dispersal design; communicate rationale and thresholds; monitor sentiment as an indicator.
West Lake (Urban cultural landscape)	Extremely high footfall and concentrated iconic choke points (e.g., Broken Bridge) during Golden Week.	Traffic controls; real-time policing and crowd routing; soft-flow management rather than strict ticket caps.	Localised high-density hotspots; boundary congestion in surrounding streets; safety and comfort trade-offs.	Visitors rely on self-regulation and real-time cues; satisfaction depends on micro-level crowd control.	Prioritise node-based controls and dynamic routing; expand alternative itineraries; responsive communication.

B) Directed Content Analysis Codebook

The study applied directed qualitative content analysis. Codes were initially defined from the conceptual framework (Figure 1) and refined during iterative review. The codebook below provides operational definitions and typical indicators to support analytic transparency.

Table B1. Codebook and operational definitions.

Code family	Code	Operational definition (include/ exclude)	Typical indicators / cues
Demand shocks	Peak-demand trigger	Signals of holiday-driven surges and amplification mechanisms. Excludes routine seasonality statements without an explicit surge cue.	Golden Week peak; "high season"; sold-out warnings; platform hype
Governance instruments	Hard cap / quota	Explicit numeric or quota-based limit on entry or total daily visitation. Excludes general "manage crowds" language without a limit.	daily cap; maximum carrying capacity; quota
Governance instruments	Compulsory reservation	Mandatory pre-booking (real-name, time-slot, reservation-only). Excludes optional booking recommendations.	reservation required; real-name booking; timed entry
Governance instruments	Traffic / access control	Controls outside the site: road restrictions, transfers, ferry capacity, terminal control.	traffic restriction; transfer shuttle; ferry quota
Operational dynamics	Bottleneck persistence	Evidence that localized crowding persists despite caps due to choke points.	viewpoint congestion; corridor jams; cableway queues
Operational dynamics	Boundary displacement	Congestion or waiting shifted to system edges (ticketing, transport, gates, streets).	queue spillovers; terminal crowding; street congestion
Experience outcomes	Scarcity stress	Visitor stress or perceived competition for access due to limited slots/caps.	sold out; "cannot book"; ticket scarcity
Experience outcomes	Time-pressure thinning	Compressed time-on-site or reduced immersion due to strict slots and waiting.	rushed visit; limited time; "experience thinned"
Perceptions & legitimacy	Procedural justice	Perceived transparency, consistency, and clarity of rules and enforcement.	rule clarity; release schedule; complaint about opacity
Perceptions & legitimacy	Distributive fairness	Perceived fairness of who obtains access and outcomes under scarcity.	unfair access; scalpers; priority rules
Visitor coping	Avoidance / substitution	Behavioral responses: switching sites, shifting timing, canceling trips.	avoid peak; go elsewhere; change itinerary
Visitor coping	Negative WOM / complaint	Public criticism or dissatisfaction narratives likely to affect reputation.	complaints; negative reviews; social media backlash
Adaptive governance	Real-time adjustment	Dynamic routing, staggered releases, additional controls activated in response to conditions.	dynamic diversion; extra staff; staggered release
Adaptive governance	Feedback integration	Use of visitor sentiment or incident signals in operational learning and policy iteration.	monitor sentiment; complaint-driven adjustment; after-action review

C) Trustworthiness and Audit Trail

To enhance credibility and reduce selective interpretation risk, the study maintained an audit trail documenting search terms, inclusion decisions, and codebook revisions. The analysis triangulated official notices, reputable media coverage, and publicly visible visitor narratives (where available) to cross-validate mechanisms. Ambiguous texts were re-coded after codebook refinement to ensure conceptual consistency across cases and reduce drift in category boundaries.

D) Representative Source List (Titles, Dates, and Platforms)

This appendix presents selected official and media sources and OTA platform retrieval entries used to construct the event-based corpus. It provides a representative inventory rather than a complete item-by-item list of the analysed materials. Visitor feedback items were sampled from OTA platforms during 1–7 October 2025; representative examples and the platform landing pages used for retrieval are provided below.

Case	Type	Title	Date	Source / platform	URL / archive note
Palace Museum	Media	Palace Museum tickets sold out for the National Day holiday (news)	2025-09-30	Yicai (First Financial)	Link archived (URL + PDF print)
Palace Museum	Media	Palace Museum tickets nearly fully booked for the National Day holiday (news)	2025-10-02	Jimu News	Link archived (URL + PDF print)
Palace Museum	Visitor feedback	Palace Museum attraction reviews entry (OTA)	Accessed 2026-01-10	Ctrip (Trip.com Group)	Landing page used for date-filtered sampling
Huangshan	Official	Traffic control announcement for Huangshan Scenic Area during the 2025 Mid-Autumn & National Day holidays	2025-09-23	Huangshan Scenic Area Administrative Committee	Link archived (URL + PDF print)
Huangshan	Media	High visitor volume at Huangshan: queues and traffic pressure (news/ photo report)	2025-10-01 to 2025-10-07	Multiple media outlets (compiled)	Link archived (URL + PDF print)
Huangshan	Visitor feedback	Huangshan Scenic Area attraction reviews (OTA; samples dated Oct 1–Oct 7)	Accessed 2026-01-10	Ctrip (Trip.com Group)	Landing page used for date-filtered sampling
Gulangyu	Media	National Day travel trend: “westward and southward” shift; Gulangyu popularity rises (platform data)	2025-10-02	China Tourism News	Link archived (URL + PDF print)
Gulangyu	Visitor feedback	Gulangyu attraction reviews entry (OTA; total review volume visible)	Accessed 2026-01-10	Ctrip (Trip.com Group)	Landing page used for date-filtered sampling

Jiuzhaigou	Official	Warm travel tips for Jiuzhaigou County during the 2025 National Day & Mid-Autumn holidays	2025-09-28	Jiuzhaigou County Government Service Network	Link archived (URL + PDF print)
Jiuzhaigou	Media	Jiuzhaigou tickets sold out / waitlist registration during the National Day holiday (news)	2025-10-01	The Paper (Pengpai) / reprinted by Guangming Online	Link archived (URL + PDF print)
Jiuzhaigou	Visitor feedback	Jiuzhaigou Valley attraction reviews entry (OTA; total review volume visible)	Accessed 2026-01-10	Ctrip (Trip.com Group)	Landing page used for date-filtered sampling
West Lake	Media	West Lake popular on the first day of the National Day–Mid-Autumn holiday (photo report)	2025-10-02	China News Service	Link archived (URL + PDF print)
West Lake	Media	Hangzhou holiday traffic and travel advisory (including West Lake pressure points)	2025-09-30	HangzhouNet	Link archived (URL + PDF print)
West Lake	Visitor feedback	West Lake attraction-related product and review entry (OTA; used for sampling)	Accessed 2026-01-10	Ctrip (Trip.com Group)	Landing page used for date-filtered sampling
Gulangyu	Official	Gulangyu ferry ticketing instructions: real-name policy and quota rules (official booking system)	Accessed 2026-01-10	Xiamen Ferry Co., Ltd. (official booking system)	Official booking interface captured; URL + screenshot/ PDF archived

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