



Reconciling Tourism Growth and Cultural Heritage Conservation in Sri Lanka's Cultural Triangle: A Mixed-Methods Governance Framework

Methmal H.K.R.^{1*}, Nishadi H.T.B.²

¹NIIBS Campus, Sri Lanka

²Rajarata University of Sri Lanka, Sri Lanka

Emails: rusirumethmal0@gmail.com¹

Article Info :

Received:

27-06-2026

Revised:

19-08-2026

Accepted:

27-08-2026

Abstract

Sri Lanka's post-pandemic tourism recovery has renewed pressure on cultural heritage destinations to reconcile visitor growth, revenue generation, authenticity, community interests, and physical conservation. This study examines that governance problem in the Cultural Triangle by retaining the original mixed-method design, which included a quantitative tourist sample of 384 participants and qualitative engagement with local communities, Department of Archaeology officials, and Sri Lanka Tourism Development Authority managers. The original thematic and SPSS-based quantitative analyses were supplemented by verified secondary statistics from national tourism and Central Cultural Fund records. International arrivals increased from 719,978 in 2022 to 2,362,521 in 2025, while Central Cultural Fund sites recorded 1,974,888 visits in 2025 and Sigiriya alone accounted for 55% of that total. The integrated evidence indicates that tourism growth is concentrated at a small set of heritage nodes, while authenticity, community participation, and conservation capacity require stronger institutional protection. The study proposes a governance framework combining conservation thresholds, community co-governance, timed and data-informed visitor management, transparent conservation-linked revenue governance, augmented and virtual interpretation, and heritage digital twins. The framework reframes tourism success from volume maximization toward conservation-conditioned value creation and provides a practicable basis for aligning tourism development with long-term cultural heritage stewardship.

Keywords: Authenticity, Cultural Heritage Conservation, Digital Twin, Heritage Tourism, Sri Lanka, Visitor Management.



©2026 Authors.. This work is licensed under a Creative Commons Attribution-Non Commercial 4.0 International License.
(<https://creativecommons.org/licenses/by-nc/4.0/>)

INTRODUCTION

Sri Lanka's tourism economy has moved from crisis-level contraction to rapid recovery, creating a renewed management challenge at cultural heritage destinations. International arrivals rose from 719,978 in 2022 to 1,487,303 in 2023, 2,053,465 in 2024, and 2,362,521 in 2025, while heritage demand remained concentrated in emblematic sites administered by the Central Cultural Fund (Sri Lanka Tourism Development Authority [SLTDA], 2026a, 2026b). Cultural tourism in Sri Lanka is not limited to monuments because intangible practices, sacred meanings, community identity, and visitor experience are also integral to heritage value (Alahakoon & Udunuwara, 2022). The recovery trajectory makes visitor growth economically desirable, but it also increases the need to protect fabric, meaning, local access, and the social legitimacy of tourism development. A heritage strategy based only on maximizing arrivals is consequently inadequate for destinations where the same asset functions as a national economic resource, a living cultural environment, and a non-renewable conservation object.

Heritage tourism scholarship has progressively shifted from a narrow concern with attraction consumption toward questions of authenticity, meaning, and stewardship. Foundational studies distinguished staged, object-based, constructive, and existential forms of authenticity and showed that visitors' relationships with heritage depend on how sites are interpreted and connected to identity (MacCannell, 1976; Cohen, 1988; Wang, 1999; Poria et al., 2003). Later work demonstrated that staged presentation does not automatically eliminate perceived authenticity and that authenticity can mediate cultural motivation, satisfaction, and loyalty (Chhabra et al., 2003; Kolar & Zabkar, 2010). Contemporary evidence extends this debate by showing that conservation authenticity can support rather than contradict visitor satisfaction when cultural significance is communicated clearly (Dai et al., 2021). These findings position authenticity as a management variable that connects conservation practice, visitor experience, and the ethics of cultural representation.

The current evidence base remains fragmented when applied to the Cultural Triangle. Sri Lankan research has examined tourism impacts in nature-based settings and the experiential significance of intangible cultural heritage, but these streams do not provide an integrated governance model that links visitor growth, cultural rights, conservation capacity, and site-level technology (Sumanapala & Wolf, 2020; Alahakoon & Udunuwara, 2022). International studies show that World Heritage designation and tourism can generate uneven livelihood effects, perceived deprivation, and conflicts over authority when local communities have weak influence over management decisions (Liu et al., 2022; Qu et al., 2023). Smart-governance research likewise stresses that technology is effective only when embedded in destination institutions and stakeholder coordination rather than treated as an isolated technical solution (Mandic & Kennell, 2021). The research gap is an empirically anchored framework for Sri Lanka that connects the original mixed-method evidence from the Cultural Triangle with current visitation pressure, authenticity, community stewardship, and conservation-oriented digital management.

The urgency of that gap is visible in the scale and concentration of recent visitation. In 2025, Central Cultural Fund attractions recorded 1,974,888 visits, and Sigiriya Museum and Sigiriya Rock alone received 1,086,918 visitors, equivalent to 55% of visits recorded across those attractions (SLTDA, 2026b). Carrying-capacity research shows that pressure cannot be understood through annual totals alone because congestion varies by spatial bottleneck, season, infrastructure, ecological or material sensitivity, and managerial response (Long et al., 2022; Dong et al., 2022). Short-term occupancy forecasting has also demonstrated that site-specific prediction can support active visitor management where crowding is localized and time-sensitive (Bollenbach et al., 2024). For archaeology and sacred heritage, the practical consequence is clear: visitor growth must be translated into thresholds, routing, scheduling, interpretation, and monitoring rules before physical stress or social displacement becomes embedded in destination operations.

This study positions the Cultural Triangle as a governance system rather than a collection of marketable attractions. Its contribution is to integrate the original mixed-method evidence with updated official visitation statistics and a recent international literature on augmented interpretation, virtual experience, smart governance, and digital twins. Augmented-reality and mobile-heritage studies show that digital layers can improve experiential value and conservation-supportive behavior, while museum and heritage research indicates that virtual and augmented formats can enrich interpretation when they are designed around visitor needs rather than novelty alone (Han et al., 2021; Yin et al., 2021; Trunfio et al., 2022; Lu et al., 2023). Heritage digital twin research adds a second function by treating digital models as structured, interoperable representations for documentation and management rather than as promotional visualization (Niccolucci et al., 2022; Shabani et al., 2022). The novelty lies in joining these functions to conservation thresholds, community co-governance, and current Sri Lankan demand data within one operational framework.

The study aims to analyze how Sri Lanka's tourism-development objectives interact with cultural heritage conservation in the Cultural Triangle, identify the principal authenticity, community, and visitor-pressure issues arising from the tourism use of tangible and intangible heritage, and formulate a governance framework that can align visitor management, conservation financing, cultural interpretation, and digital technology. The scientific contribution is an integrated explanation of heritage tourism performance in which economic recovery is evaluated against conservation and community conditions rather than treated as an independent endpoint. The methodological contribution is the triangulation of the original mixed-method evidence with verified national and site-level secondary statistics without reconstructing unavailable primary data. The practical contribution is a set of implementable governance principles for tourism authorities, heritage agencies, site managers, and local communities.

RESEARCH METHOD

The study retained the mixed-method design documented in the original research record and focused on Sri Lanka's Cultural Triangle. The available field record identifies a quantitative tourist sample of 384 individuals and qualitative engagement with local communities, officials of the Department of Archaeology, and managers of the Sri Lanka Tourism Development Authority; subgroup counts for the non-tourist participants are not reported and are not inferred in this revision. Primary information was obtained through interviews and related field engagement, while secondary material included tourism reports, archaeological publications, and relevant academic literature. Written informed consent was reported for information collected from participants connected with sacred cultural sites and traditional artisan communities, and confidentiality and anonymity were maintained. No ethics-committee name,

approval number, fieldwork period, or sampling algorithm is added because those details are not available in the source manuscript.

Qualitative material was analyzed thematically to identify recurring issues concerning tourism objectives, commercialization, authenticity, visitor pressure, community interests, and conservation, while the original record states that quantitative data were analyzed inferentially in SPSS. The source manuscript does not contain the statistical test family, coefficients, significance values, software version, or complete output tables, so this revision does not create p-values, effect sizes, or reconstructed inferential results. To strengthen the empirical basis without altering the original field evidence, a secondary-data triangulation layer was added using verified SLTDA tourism series for 2019-2025 and Central Cultural Fund visitor and revenue data reported in the 2024 and 2025 Year in Review publications. Derived percentages in the results are simple arithmetic transformations of published totals and are labeled as such. Integration occurred at the interpretation stage: original qualitative themes were compared with observed visitor-growth and site-concentration patterns and then assessed against peer-reviewed evidence on carrying capacity, community participation, authenticity, visitor experience, and digital heritage management.

RESULTS AND DISCUSSION

Tourism Recovery and the Revenue-Conservation Tension

The updated secondary evidence shows that Sri Lanka has moved beyond the initial post-pandemic rebound into a phase of sustained tourism growth. International arrivals expanded from 719,978 in 2022 to 2,362,521 in 2025, while the original field record framed economic recovery and heritage conservation as potentially competing policy objectives (SLTDA, 2026a, 2026b). The pattern supports the relevance of evaluating tourism success through more than national arrival volume because heritage destinations absorb a geographically concentrated share of demand. Research on heritage conservation and tourism similarly treats growth as compatible with conservation only when institutional controls prevent market expansion from overriding heritage values (Zhang et al., 2023).

The recovery is particularly important for the Cultural Triangle because iconic heritage sites function simultaneously as visitor magnets, cultural assets, and sources of public revenue. The original manuscript associated tourism commercialization with risks to authenticity and site integrity but did not contain a time series capable of showing how rapidly the national demand environment had changed. Table 1 supplies that missing macro-level context using official arrival totals, without converting national flows into unobserved site-specific demand. The data establish a stronger empirical baseline for interpreting why visitor management has become a central conservation issue rather than a peripheral operational matter (Sumanapala & Wolf, 2020).

The sequence in Table 1 also shows that the management problem changed character after 2022. The 2022 and 2023 increases represented a recovery from an exceptionally depressed base, while growth continued at 38.1% in 2024 and 15.1% in 2025 after national arrivals had already returned to large absolute volumes. Smart-governance research cautions that technology-intensive destinations still require context-specific institutional capacity, while reviews of smart tourism in emerging markets find that technological adoption often advances faster than sustainability integration (Mandic & Kennell, 2021; Kusumawardhani et al., 2024). Tourism recovery creates a planning window in which demand management can be embedded before high-volume operating routines become the default objective.

The official heritage statistics confirm that national recovery is transmitted unevenly to particular sites. In 2025, Central Cultural Fund attractions received 1,974,888 visits, including 956,961 foreign and 1,017,927 local visits, while foreign visitors generated 98% of direct site income reported for those attractions (SLTDA, 2026b). Sigiriya alone received 1,086,918 visitors and generated 68% of reported direct site earnings, indicating a strong concentration of both physical demand and revenue. The concentration creates an institutional incentive to protect the same site that produces high earnings, but it can also encourage volume-oriented management if conservation thresholds are not explicit.

Table 1. International Tourist Arrivals to Sri Lanka, 2019-2025

Year	International tourist arrivals	Year-on-year change
2019	1,913,702	-
2020	507,704	-73.5%
2021	194,495	-61.7%
2022	719,978	+270.2%

2023	1,487,303	+106.6%
2024	2,053,465	+38.1%
2025	2,362,521	+15.1%

Source: SLTDA monthly/annual tourism reports; percentage changes calculated from published totals.

Carrying capacity should be treated as a dynamic management construct rather than a single annual ceiling. Reviews show that acceptable tourism intensity depends on interacting environmental, infrastructural, social, and managerial variables, and empirical carrying-capacity models emphasize the need to monitor coordination among these components rather than count visitors in isolation (Long et al., 2022; Dong et al., 2022). Local short-term occupancy prediction adds a temporal dimension by identifying when congestion will occur at a specific point of interest and can support proactive routing or access control (Bollenbach et al., 2024). For Sigiriya, such an approach is more defensible than inferring a fixed threshold from annual visitation alone, especially because the source manuscript does not provide measured physical-deterioration coefficients.

The original article stated that only a small proportion of tourism revenue is reinvested directly in heritage conservation, but it did not provide an auditable budget ratio. That unsupported proportion is not repeated as a quantified finding in the revised analysis. Instead, the governance issue is framed as a need for transparent linkage between revenue generated by heritage use and documented conservation requirements, while preserving public oversight and community legitimacy. Evidence from other heritage destinations shows that tourism and conservation can alter community livelihoods and perceptions differently across groups, making the distribution and use of benefits part of the conservation problem rather than a separate economic question (Liu et al., 2022; Pati & Husain, 2023; Phori et al., 2024).

Visitor value also cannot be reduced to physical presence at an archaeological monument. Heritage-tourism research shows that perceived personal connection, cultural motivation, and authenticity shape satisfaction and behavioral response, while recent empirical work links perceived authenticity to multiple dimensions of the experience economy (Poria et al., 2003; Kolar & Zabkar, 2010; Zhu et al., 2025). Studies at World Heritage sites further show that motivation, emotion, place attachment, and self-concept influence how visitors evaluate and recommend heritage experiences (Prayag et al., 2021; Prayag et al., 2022). A conservation-oriented policy can protect visitor value by prioritizing interpretive depth, temporal distribution, and quality of engagement rather than relying on continuously increasing throughput.

The combined evidence supports a shift from arrival maximization to conservation-conditioned value creation. Such a model would make site condition, crowding, community access, interpretive quality, and conservation financing explicit performance indicators alongside visitor numbers and revenue. Residents' environmentally responsible behavior and destination identification are also connected with sustainable heritage use, indicating that destination management should include local stewardship rather than position communities only as tourism-service providers (Elshaer et al., 2024). The revised framework treats economic performance as legitimate when it remains bounded by conservation and social conditions that preserve the asset generating that performance.

Authenticity, Community Rights, and Visitor Pressure

The primary conceptual tension in the field record concerns what happens when heritage is transformed from a cultural inheritance into a tourism product. MacCannell's staged-authenticity formulation and Cohen's later critique show that commodification does not mechanically destroy authenticity, but it changes the conditions under which authenticity is produced and judged (MacCannell, 1976; Cohen, 1988). Wang (1999) further separates object-related authenticity from existential experience, which is useful for the Cultural Triangle because visitors encounter archaeological fabric, ritual meaning, landscape, and self-reflective experience at the same time. Management should consequently protect both material integrity and the cultural conditions that allow heritage meanings to remain credible.

Sri Lankan evidence on intangible cultural heritage reinforces this point. Alahakoon and Udunuwara (2022) show that intangible heritage can function as a peak tourism experience through characteristics that exceed conventional sightseeing, which makes the quality of encounter and cultural meaning central to destination value. At the same time, international heritage research shows that visitors are heterogeneous in motives and emotional responses, so a single commercial presentation cannot be assumed to fit all heritage tourists (Prayag et al., 2021). Sacred performances and living traditions require management rules that distinguish interpretation from alteration and visitor access from cultural entitlement.

Commercial presentation can coexist with authenticity when the cultural basis of what is presented remains intelligible and professionally conserved. Chhabra et al. (2003) found that staged settings may still

be perceived as authentic, while Dai et al. (2021) showed that conservation authenticity can strengthen perceived authenticity and satisfaction when visitors understand cultural significance. Recent evidence also places authenticity upstream of educational, esthetic, entertainment, and escapist experiences rather than treating it as a cosmetic attribute added after development (Zhu et al., 2025). The policy implication is that tourism packaging should follow conservation and interpretation standards, not define them.

Community rights form the second boundary condition. Research on living heritage shows that World Heritage tourism can redistribute livelihood opportunities unevenly, and perceived exclusion from decision-making may reduce local willingness to support conservation (Liu et al., 2022; Qu et al., 2023). Rural heritage research likewise records simultaneous recognition of economic benefits and concern about environmental or lifestyle disruption, making participation a substantive governance requirement rather than a consultation ritual (Phori et al., 2024). Studies of sustainable cultural-heritage use also connect resident identification and responsible behavior with visitor sustainability, which supports reciprocal rather than one-directional stewardship (Elshaer et al., 2024).

Table 2. Visitor Concentration at Central Cultural Fund Attractions, 2024-2025

Indicator	2024	2025	Change
Total visits to CCF attractions	1,956,737	1,974,888	+0.9%
Foreign visitors	868,831	956,961	+10.1%
Local visitors	1,087,906	1,017,927	-6.4%
Sigiriya total visitors	1,121,892	1,086,918	-3.1%
Sigiriya share of CCF visits	57.3%	55.0%	-2.3 percentage points

Source: SLTDA Year in Review 2024 and Year in Review 2025, using Central Cultural Fund data; changes calculated from published totals.

The 2024-2025 site statistics add a physical-demand dimension to these social and authenticity concerns. Table 2 shows that total visits across Central Cultural Fund attractions rose modestly, while foreign visitation increased and domestic visitation declined; Sigiriya remained the dominant node in both years (SLTDA, 2026a, 2026b). The share of all CCF visits concentrated at Sigiriya fell from approximately 57.3% to 55.0%, but the site still received more than one million visits in each year. Such concentration increases the relevance of time-sensitive visitor management because annual growth can be modest while local crowding remains severe during peak periods (Long et al., 2022; Bollenbach et al., 2024).

Interpretation is one mechanism for reducing the conflict between access and stewardship because it can influence how visitors understand responsibility. Ruan et al. (2024) found that affection-based interpretation can strengthen willingness to inherit culture through cultural identity and perceived responsibility, while augmented heritage applications can add educational and experiential value without requiring greater physical intervention at the site (Lee et al., 2025). Interpretation should not be used as a substitute for access control where physical capacity is exceeded, but it can make conservation restrictions more intelligible. This is especially important at sacred or fragile locations where a visitor may perceive restrictions as service limitations unless the heritage rationale is communicated clearly.

The field record does not provide stakeholder-specific sample sizes, coded quotation frequencies, or comparative response distributions for tourists, communities, archaeology officials, and tourism managers. The revised analysis therefore does not assign percentages to stakeholder opinions or claim that one group held a majority position. This limitation matters because studies elsewhere show that residents within the same heritage landscape can experience tourism benefits and deprivation differently depending on power, location, and livelihood position (Qu et al., 2023; Phori et al., 2024). Future primary work should preserve the mixed-method design but report participant structure, coding procedures, quantitative test outputs, and group-level contrasts in enough detail to support reproducible inference.

A defensible management response combines spatial, social, and interpretive controls. Timed entry and route management can reduce bottleneck pressure; resident and religious stakeholder representation can protect cultural access; and site narratives can be reviewed for conservation accuracy and community legitimacy. Smart governance research supports such institutional integration because data tools produce limited public value if destination organizations lack coordination or stakeholder trust (Mandic & Kennell, 2021). The same logic is consistent with evidence that visitor self-concept and place attachment influence

recommendation behavior, making respectful management part of the tourism product rather than a constraint external to it (Prayag et al., 2022).

Digital Conservation and an Integrated Governance Framework

Digital technology is most useful when it solves a defined conservation or interpretation problem. Augmented reality can enhance experiential value and conservation-supportive behavior, while mobile heritage applications can meet information and navigation needs without requiring extensive physical signage or intrusive site alteration (Han et al., 2021; Yin et al., 2021). Museum research also shows that virtual and augmented components can improve the visitor experience when integrated with content, organization, and human service rather than deployed as isolated attractions (Trunfio et al., 2022). This evidence supports a selective technology strategy for the Cultural Triangle rather than indiscriminate digitization.

Virtual experience can also redistribute some interpretive demand away from fragile physical points. Empirical research at World Heritage attractions indicates that non-immersive virtual reality can generate telepresence, satisfaction, and behavioral intention, while heritage VR satisfaction depends partly on familiarity and the quality of the mediated experience (Zhu et al., 2023; Nam et al., 2024). Recent AR research similarly emphasizes educational, esthetic, entertainment, and escapist dimensions in heritage-app use (Lee et al., 2025). These tools can broaden access and pre-visit learning, but they should complement rather than replace conservation-led on-site experience.

Projection mapping and museum technology studies add a design principle: digital interpretation should be evaluated from the visitor's learning and experience pathway, not from technical novelty. Applied projection mapping at cultural tourism sites can influence experiential evaluation, while broader museum research documents an evolution from basic information delivery toward interactive, immersive, and personalized experiences (Li & Ito, 2023; Lu et al., 2023). A Cultural Triangle digital strategy should therefore specify the conservation problem, target audience, interpretive objective, data requirement, and evaluation criterion before choosing a platform. This avoids technology-driven projects whose maintenance burden exceeds their conservation contribution.

Digital twins address a different management layer by linking documentation, monitoring, and decision support. Heritage digital twin research proposes interoperable data structures that connect diverse information about an asset, while structural-heritage studies show how geometric documentation and simulation can support digital representations for vulnerability assessment (Niccolucci et al., 2022; Shabani et al., 2022). Table 3 translates these strands into a governance matrix for the Cultural Triangle, pairing each management problem with a digital or institutional instrument and an explicit boundary condition. The framework treats technology as infrastructure for conservation decisions rather than as evidence that conservation has already been achieved.

Table 3. Integrated Digital-Conservation Governance Matrix for the Cultural Triangle

Management problem	Instrument	Conservation function	Boundary condition
Peak congestion and bottlenecks	Timed entry plus local occupancy prediction	Distribute flows before crowding reaches sensitive zones	Requires ticket/occupancy data and authority to adjust access
Direct physical pressure on fragile interpretation points	AR/VR and projection-based interpretation	Provide information and experience without adding physical contact	Must supplement, not replace, conservation-led on-site access
Asset-condition uncertainty	3D documentation and heritage digital twins	Create baselines, connect monitoring records, support change detection	Requires interoperable data and conservation expertise

Weak cultural understanding or contested representation	Knowledge- and affective interpretation co-reviewed with communities	Strengthen cultural identity, responsibility, and legitimacy	Narratives require community and heritage-professional governance
Fragmented tourism-conservation governance	Shared dashboards linking visitation, condition, maintenance, and revenue data	Connect tourism performance with conservation decisions	Technology does not substitute for institutional accountability

Source: Analytical synthesis based on Mandic and Kennell (2021), Han et al. (2021), Yin et al. (2021), Niccolucci et al. (2022), Shabani et al. (2022), Ruan et al. (2024), and Bollenbach et al. (2024).

Crowd management is the most immediate use case for linking tourism data and conservation rules. Short-term occupancy prediction can provide site managers with forecasts at the point-of-interest scale, making timed entry, route diversion, or temporary access control responsive to actual demand conditions (Bollenbach et al., 2024). Smart-governance research indicates that these systems require organizational capacity, data sharing, and stakeholder agreement about what actions follow from the data (Mandic & Kennell, 2021). A prediction system without authority to regulate flows would measure congestion without preventing it.

Data architecture also matters because heritage information is produced by different institutions for different purposes. Heritage digital twin research emphasizes semantic interoperability, while smart-tourism reviews identify fragmented platforms and uneven use of technology for sustainability as persistent challenges in emerging markets (Niccolucci et al., 2022; Kusumawardhani et al., 2024). For Sri Lanka, a practical architecture would link ticketing, visitor counts, conservation condition records, spatial bottlenecks, maintenance histories, and interpretive assets while preserving institutional ownership and data-quality controls. Such integration should be incremental because the source manuscript does not establish that all required datasets are currently digitized or mutually interoperable.

Digital interpretation should also protect cultural meaning. Research on heritage interpretation demonstrates that affective content can strengthen cultural identity and perceived responsibility, while projection and AR studies show that technology can expand how visitors encounter historical narratives (Ruan et al., 2024; Li & Ito, 2023; Lee et al., 2025). Community review of narratives is especially relevant where tourism presentation concerns sacred practice or living heritage rather than only archaeological objects. The management test is not whether a digital product attracts attention, but whether it communicates heritage significance without displacing local authority over representation.

The integrated framework has five operational rules: conservation thresholds precede volume targets; community and heritage institutions share authority over sensitive cultural decisions; visitor flows are scheduled and adjusted through measured demand; digital interpretation reduces avoidable physical pressure while improving meaning; and revenue reporting is connected transparently to conservation needs. These rules are compatible with recent evidence linking resident stewardship to sustainable heritage use and with smart-tourism research that calls for stronger integration of technology and sustainability in emerging markets (Elshaer et al., 2024; Kusumawardhani et al., 2024). They also preserve authenticity as an active management objective rather than a marketing label, consistent with current empirical work on authenticity and visitor experience (Zhu et al., 2025). The framework offers a policy bridge between tourism recovery and long-term heritage stewardship without inventing quantitative thresholds that the available primary dataset cannot support.

CONCLUSION

The study shows that the central policy problem in Sri Lanka's Cultural Triangle is not a simple choice between tourism growth and conservation. The updated evidence indicates a strong tourism recovery, with 2,362,521 international arrivals in 2025 and almost two million visits to Central Cultural Fund attractions, while more than half of those heritage-site visits were concentrated at Sigiriya. The original field themes concerning commercialization, authenticity, visitor pressure, community interests, and conservation remain relevant under this higher-demand environment. The resulting governance

requirement is to condition tourism growth on conservation thresholds, community legitimacy, interpretive integrity, transparent conservation-linked revenue management, and data-informed visitor control. Digital interpretation and heritage digital twins are useful where they reduce physical pressure, improve understanding, or strengthen monitoring, but they are not substitutes for institutional responsibility.

The article contributes an integrated governance framework by combining the original mixed-method design with verified contemporary secondary data and a current international evidence base. Its principal limitation is the incomplete reporting of the original quantitative outputs and stakeholder subgroup structure; the revision deliberately avoids reconstructing missing statistical tests, effect sizes, sampling details, or ethics identifiers. Future research should report site-specific visitor flows, material-condition indicators, stakeholder-group comparisons, conservation expenditure, and transparent mixed-method integration so that carrying-capacity rules can be estimated empirically rather than asserted. A longitudinal design linking crowding, physical condition, community outcomes, visitor experience, and conservation expenditure would provide the strongest basis for testing whether the proposed governance model improves both heritage protection and tourism value.

REFERENCES

- Alahakoon, T., & Udunuwara, M. (2022). Intangible cultural heritage as a peak touristic experience in Sri Lanka. *Journal of Heritage Tourism*, 17(3), 312-326. <https://doi.org/10.1080/1743873X.2021.2007253>
- Bollenbach, J., Neubig, S., Hein, A., Keller, R., & Krcmar, H. (2024). Enabling active visitor management: Local, short-term occupancy prediction at a touristic point of interest. *Information Technology & Tourism*, 26, 521-552. <https://doi.org/10.1007/s40558-024-00291-2>
- Chhabra, D., Healy, R. G., & Sills, E. (2003). Staged authenticity and heritage tourism. *Annals of Tourism Research*, 30(3), 702-719. [https://doi.org/10.1016/S0160-7383\(03\)00044-6](https://doi.org/10.1016/S0160-7383(03)00044-6)
- Cohen, E. (1988). Authenticity and commoditization in tourism. *Annals of Tourism Research*, 15(3), 371-386. [https://doi.org/10.1016/0160-7383\(88\)90028-X](https://doi.org/10.1016/0160-7383(88)90028-X)
- Dai, T., Zheng, X., & Yan, J. (2021). Contradictory or aligned? The nexus between authenticity in heritage conservation and heritage tourism, and its impact on satisfaction. *Habitat International*, 107, 102307. <https://doi.org/10.1016/j.habitatint.2020.102307>
- Dong, X., Gao, S., Xu, A., Luo, Z., & Hu, B. (2022). Research on tourism carrying capacity and the coupling coordination relationships between its influencing factors: A case study of China. *Sustainability*, 14(22), 15124. <https://doi.org/10.3390/su142215124>
- Elshaer, I. A., Azazz, A. M. S., & Fayyad, S. (2024). Residents' environmentally responsible behavior and tourists' sustainable use of cultural heritage: Mediation of destination identification and self-congruity as a moderator. *Heritage*, 7(3), 1174-1187. <https://doi.org/10.3390/heritage7030056>
- Han, S., Yoon, J.-H., & Kwon, J. (2021). Impact of experiential value of augmented reality: The context of heritage tourism. *Sustainability*, 13(8), 4147. <https://doi.org/10.3390/su13084147>
- Kolar, T., & Žabkar, V. (2010). A consumer-based model of authenticity: An oxymoron or the foundation of cultural heritage marketing? *Tourism Management*, 31(5), 652-664. <https://doi.org/10.1016/j.tourman.2009.07.010>
- Kusumawardhani, Y., Hilmiana, H., Widiyanto, S., & Azis, Y. (2024). Smart tourism practice in the scope of sustainable tourism in emerging markets: A systematic literature review. *Cogent Social Sciences*, 10(1), 2384193. <https://doi.org/10.1080/23311886.2024.2384193>
- Lee, S. M. F., Zhang, A., & Au, N. (2025). User experience of an augmented reality heritage app: An experience economy model. *Tourism Recreation Research*, 50(4), 727-742. <https://doi.org/10.1080/02508281.2024.2339072>
- Li, H., & Ito, H. (2023). Visitor's experience evaluation of applied projection mapping technology at cultural heritage and tourism sites: The case of China Tangcheng. *Heritage Science*, 11, 52. <https://doi.org/10.1186/s40494-023-00898-4>
- Liu, Y., Wang, Y., Dupre, K., & McIlwaine, C. (2022). The impacts of world cultural heritage site designation and heritage tourism on community livelihoods: A Chinese case study. *Tourism Management Perspectives*, 43, 100994. <https://doi.org/10.1016/j.tmp.2022.100994>

- Long, C., Lu, S., Chang, J., & Zhu, J. (2022). Tourism environmental carrying capacity review, hotspot, issue, and prospect. *International Journal of Environmental Research and Public Health*, 19(24), 16663. <https://doi.org/10.3390/ijerph192416663>
- Lu, S. E., Moyle, B., Reid, S., Yang, E., & Liu, B. (2023). Technology and museum visitor experiences: A four stage model of evolution. *Information Technology & Tourism*, 25, 151-174. <https://doi.org/10.1007/s40558-023-00252-1>
- MacCannell, D. (1976). *The tourist: A new theory of the leisure class*. University of California Press.
- Mandić, A., & Kennell, J. (2021). Smart governance for heritage tourism destinations: Contextual factors and destination management organization perspectives. *Tourism Management Perspectives*, 39, 100862. <https://doi.org/10.1016/j.tmp.2021.100862>
- Nam, K., Baker, J., & Dutt, C. S. (2024). Does familiarity with the attraction matter? Antecedents of satisfaction with virtual reality for heritage tourism. *Information Technology & Tourism*, 26, 25-57. <https://doi.org/10.1007/s40558-023-00273-w>
- Niccolucci, F., Felicetti, A., & Hermon, S. (2022). Populating the data space for cultural heritage with heritage digital twins. *Data*, 7(8), 105. <https://doi.org/10.3390/data7080105>
- Pati, A., & Husain, M. (2023). People's perspectives on heritage conservation and tourism development: A case study of Varanasi. *Built Heritage*, 7, 17. <https://doi.org/10.1186/s43238-023-00098-w>
- Phori, M. M., Hermann, U. P., & Grobbelaar, L. (2024). Residents' perceptions of sustainable heritage tourism development in a rural municipality. *Development Southern Africa*, 41(3), 551-569. <https://doi.org/10.1080/0376835X.2024.2350391>
- Poria, Y., Butler, R., & Airey, D. (2003). The core of heritage tourism. *Annals of Tourism Research*, 30(1), 238-254. [https://doi.org/10.1016/S0160-7383\(02\)00064-6](https://doi.org/10.1016/S0160-7383(02)00064-6)
- Prayag, G., Alrawadieh, Z., & Alrawadieh, Z. (2021). Motivation, emotion and world heritage status in discerning the heritage tourists: A segmentation perspective. *Tourism Management Perspectives*, 40, 100906. <https://doi.org/10.1016/j.tmp.2021.100906>
- Prayag, G., Pung, J. M., Lee, C. G., & Del Chiappa, G. (2022). The self-concept and psychological antecedents of intention to recommend a heritage site: The moderating effects of visitor type. *Tourism Management Perspectives*, 42, 100962. <https://doi.org/10.1016/j.tmp.2022.100962>
- Qu, C., Zhang, C., Shen, S., & Olsen, D. H. (2023). Heritage conservation and communities' sense of deprivation in tourism: The case of the Hani community in Yunnan, China. *Tourism Geographies*, 25(2-3), 881-898. <https://doi.org/10.1080/14616688.2021.2016936>
- Ruan, W.-Q., Wang, M.-Y., Zhang, S.-N., Li, Y.-Q., & Su, X.-W. (2024). Knowledge-based or affection-based? The influence mechanism of heritage tourism interpretation content on tourists' willingness to inherit culture. *Tourism Management*, 102, 104876. <https://doi.org/10.1016/j.tourman.2023.104876>
- Shabani, A., Skamantzari, M., Tapinaki, S., Georgopoulos, A., Plevris, V., & Kioumarsis, M. (2022). 3D simulation models for developing digital twins of heritage structures: Challenges and strategies. *Procedia Structural Integrity*, 37, 314-320. <https://doi.org/10.1016/j.prostr.2022.01.090>
- Sri Lanka Tourism Development Authority. (2026a). *Year in review 2024*. Sri Lanka Tourism Development Authority. <https://www.sltda.gov.lk/en/tourism-industry-report>
- Sri Lanka Tourism Development Authority. (2026b). *Year in review 2025*. Sri Lanka Tourism Development Authority. <https://www.sltda.gov.lk/en/tourism-industry-report>
- Sumanapala, D., & Wolf, I. D. (2020). Think globally, act locally: Current understanding and future directions for nature-based tourism research in Sri Lanka. *Journal of Hospitality and Tourism Management*, 45, 295-308. <https://doi.org/10.1016/j.jhtm.2020.08.009>
- Trunfio, M., Della Lucia, M., Campana, S., & Magnelli, A. (2022). Innovating the cultural heritage museum service model through virtual reality and augmented reality: The effects on the overall visitor experience and satisfaction. *Journal of Heritage Tourism*, 17(1), 1-19. <https://doi.org/10.1080/1743873X.2020.1850742>
- Wang, N. (1999). Rethinking authenticity in tourism experience. *Annals of Tourism Research*, 26(2), 349-370. [https://doi.org/10.1016/S0160-7383\(98\)00103-0](https://doi.org/10.1016/S0160-7383(98)00103-0)

- Yin, C. Z. Y., Jung, T., tom Dieck, M. C., & Lee, M. Y. (2021). Mobile augmented reality heritage applications: Meeting the needs of heritage tourists. *Sustainability*, 13(5), 2523. <https://doi.org/10.3390/su13052523>
- Zhang, Z., Xiong, K., & Huang, D. (2023). Natural world heritage conservation and tourism: A review. *Heritage Science*, 11, 55. <https://doi.org/10.1186/s40494-023-00896-6>
- Zhu, C., Wu, D. C. W., Hall, C. M., Fong, L. H. N., Koupaei, S. N., & Lin, F. (2023). Exploring non-immersive virtual reality experiences in tourism: Empirical evidence from a World Heritage Site. *International Journal of Tourism Research*, 25(3), 372-383. <https://doi.org/10.1002/jtr.2574>
- Zhu, P., Chi, X., Ryu, H. B., & Han, H. (2025). Experience economy and authenticity in the heritage tourism sector: A multiple-dimensional approach. *Acta Psychologica*, 257, 105118. <https://doi.org/10.1016/j.actpsy.2025.105118>