

The Dominance of Tangibility in Shaping Visitor Satisfaction: Evidence from UNESCO Heritage Sites in Malaysia

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ABSTRACT

Visitor satisfaction models drawn from SERVQUAL and the Expectancy-Disconfirmation Theory (EDT) typically treat physical service attributes as a baseline concern, secondary to the experiential and relational dimensions foregrounded by the experience-economy paradigm, yet this assumption is rarely tested directly against its most obvious heritage-tourism rivals. This study addresses that gap using data from 153 visitors to Malaysia's UNESCO-listed heritage cities of Melaka and George Town, examining five predictors of visitor satisfaction: experience, perceived value, responsiveness, tangibility, and reliability, each measured with validated Likert-scale items adapted from established SERVQUAL and heritage-tourism instruments. A positivist, cross-sectional quantitative design was adopted. Data were screened for normality and analysed using Pearson correlation and multiple regression, with visitor satisfaction regressed simultaneously on all five predictors to compare their relative strengths directly rather than in isolation. All five constructs correlated positively with satisfaction, and tangibility, encompassing the physical condition, architectural presentation, and aesthetic upkeep of a heritage site, emerged as the strongest statistically significant predictor once all constructs were estimated jointly, outperforming responsiveness and perceived value and outweighing the experiential and relational predictors typically assumed to dominate in contemporary tourism theory. The paper interprets this finding through servicescape theory, arguing that at built heritage attractions, the physical fabric itself functions as the primary evidence of authenticity and care that visitors use to judge their visit, a reading that reconciles rather than simply rejects experience-economy accounts of satisfaction. The findings have direct implications for how heritage-site managers and conservation authorities prioritise physical upkeep over experiential programming when conservation budgets are constrained.

Keywords— heritage tourism; SERVQUAL; servicescape; tangibility; visitor satisfaction

INTRODUCTION

A. Background of Study

Heritage tourism is one of the fastest-growing branches of Malaysia's tourism economy, anchored by the UNESCO-inscribed historic cities of Melaka and George Town, Penang, amid the wider recovery and growth of global travel and tourism (Akamavi et al., 2023). Unlike purpose-built attractions, both cities are valued precisely because of their physical fabric: shophouses, forts, temples, churches, and colonial-era streetscapes that visitors come specifically to see, touch, and photograph, and it is this tangible fabric, rather than any single festival or event, that carries the outstanding universal value on which their joint UNESCO listing rests (Ertan & Eğercioğlu, 2016). Sustaining that value is not automatic: state and local authorities in both cities face ongoing conservation and policy challenges in maintaining historic buildings against commercial pressure and urban development (Ghazali et al., 2017), and the economic incentives surrounding heritage shophouses in George

Town can pull toward uses that erode the very tangible heritage that draws visitors in the first place (Yun & Marzuki, 2025).

The stakes of getting this balance right have grown with the visitor volumes themselves: Melaka's official domestic-visitor count rose from 11.8 million in 2022 to 15.6 million in 2023 before easing to roughly 10 million by the end of the third quarter of 2024, while Penang, home to George Town, recorded a comparable upward trajectory from 5.6 million tourist arrivals in 2022 to 8.2 million hotel guests in 2024 (Fig. 1); even allowing for differences in how each state measures visitation, both cities are absorbing millions more visitors on the same historic building stock than they were only two years earlier (Department of Statistics Malaysia, 2024; Malay Mail, 2024; New Straits Times, 2024; The Malaysian Reserve, 2023). The long-term sustainability of these sites depends on visitors leaving satisfied, since satisfaction underpins repeat visitation, positive word-of-mouth, and continued public support for conservation funding.

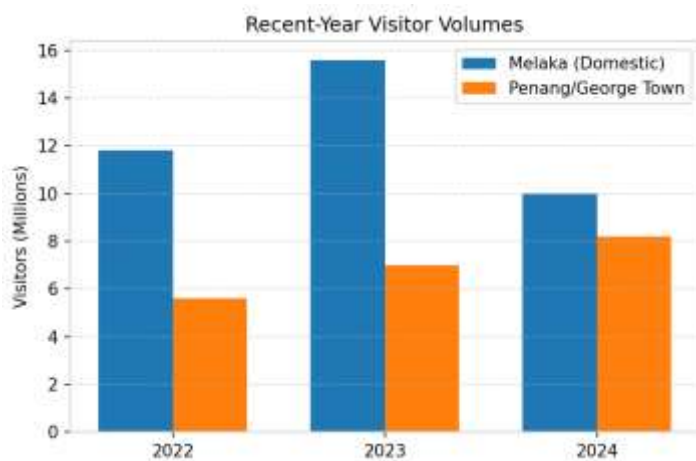


Fig. 1. Recent-year visitor volumes for Melaka and Penang/George Town (millions). Melaka figures are domestic counts; Penang figures are arrivals/hotel guests.

Contemporary tourism theory, however, has increasingly downgraded the physical, tangible dimension of service quality in favour of experiential and relational explanations of satisfaction. The experience-economy paradigm argues that memorable, staged, and emotionally engaging experiences, not physical facilities, are what modern visitors pay for and remember (Bagheri et al., 2023; Juliana et al., 2024; Zhou & Wang, 2024). Within SERVQUAL applications, tangibility is often treated as a hygiene factor, a baseline expectation rather than a genuine driver of satisfaction (Sasongko et al., 2025; Eck et al., 2023).

B. Problem Statement

This creates direct tension for heritage site management. If the experience-economy view is correct, marginal conservation and facility budgets are better spent on interpretive programming, storytelling, and staff-mediated experiences than on physical upkeep. If, however, tangibility remains the dominant driver of satisfaction at built heritage attractions, precisely because the physical fabric is the product visitors came to see, then facility maintenance, architectural preservation, and aesthetic upkeep deserve first claim on limited resources. This tension is rarely resolved empirically: most heritage-satisfaction studies either omit tangibility from their models entirely or report it as a single predictor among several, without testing whether it actually outperforms the experiential and relational predictors that current theory assumes should dominate. The problem this study addresses is, therefore, whether tangibility, when tested jointly against visitors' experience, perceived value, responsiveness, and reliability, remains a statistically significant predictor of visitor satisfaction at UNESCO heritage sites, and whether its effect is strong enough to challenge the assumption that intangible, experiential dimensions now drive satisfaction more than the physical servicescape.

C. Research Objectives

In direct response to this problem, the study pursues four objectives:

RO1: To examine the descriptive profile of visitors' ratings of tangibility relative to the other four SERVQUAL/EDT-derived constructs at UNESCO Cultural Heritage Sites in Melaka and George Town.

RO2: To determine, via multiple regression analysis, the relative statistical strength of tangibility as a predictor of visitor satisfaction when tested jointly against visitors' experience, perceived value, responsiveness, and reliability.

RO3: To theoretically explain why tangibility retains or loses predictive strength at heritage sites, drawing on servicescape theory and the experience-economy paradigm.

RO4: To translate the resulting evidence into resource-prioritisation guidance for heritage conservation authorities and site-facility managers.

D. Critical Review of Related Literature and Research Gap

A first stream of literature, rooted in servicescape theory, treats the physical environment as a direct shaper of visitor evaluation rather than a passive backdrop, and the consistency of this claim across quite different built and natural heritage settings, from Borobudur Temple to the Forbidden City, cultural heritage sites more broadly, a geoheritage trail in the Himalayas, and a multi-method analysis of heritage-tourism consumption drivers in China, is itself the more telling pattern: physical and aesthetic cues correlate with satisfaction or loyalty regardless of the specific site (Sasongko et al., 2025; Eck et al., 2023; Buonincontri et al., 2017; Bhattacharya et al., 2023; Chi et al., 2024).

Architecture-focused research strengthens this pattern further: aesthetic and artistic quality of heritage buildings has been shown to shape tourist interest and pleasure at Hui-style architectural sites in China (Cao et al., 2024c), eye-tracking evidence from the adaptation of traditional Chinese architectural gates shows that material authenticity and design complexity directly shape visitors' conservation intent (Cao et al., 2024b), authenticity and aesthetics jointly drive positive word-of-mouth at cultural heritage sites in a top-tier tourism-management sample (Yi et al., 2025), and museum visitors' satisfaction has been linked directly to exhibition layout and environmental facilities across a large multi-city dataset (Jiang et al., 2025). Yet this stream stops short of the claim this paper needs to make. It typically models tangibility alongside other predictors without asking whether it is the strongest predictor once all are estimated jointly, so its importance is asserted by inclusion in the model rather than demonstrated by comparison against its rivals.

A second, competing stream argues close to the opposite; that intangible, staged, and emotionally engaging experiences, not physical facilities, now drive satisfaction and loyalty in tourism generally (Bagheri et al., 2023; Juliana et al., 2024) and in immersive heritage experiences specifically (Zhou & Wang, 2024). This experience-economy view has become a near-default assumption in recent tourism scholarship, yet it is rarely tested directly against tangibility within the same heritage sample. As a result, the claim that experience now outweighs the physical servicescape functions in most of this literature as a premise rather than a finding.

Evidence from adjacent service industries complicates the picture further rather than resolving it. In at least one recent hotel-services study, tangibles were the weakest, not the strongest, SERVQUAL predictor of satisfaction, with empathy and assurance dominating instead (Dewantara et al., 2025). Tangibility's importance is therefore not universal across service contexts; whether it is particularly salient at built-heritage sites, where the physical fabric is arguably the product itself rather than an ancillary setting, is precisely the comparison this literature has not made.

A third stream, concerned with service-quality attributes more generally, shows that not all SERVQUAL dimensions behave asymmetrically. Some function as "must-be" attributes with limited power to increase satisfaction once they are minimally present, while others differentiate a good visit from an outstanding one (Bui & Robinson, 2024; van Bendegom, 2024). Read alongside the contradictory hotel-context evidence above, this stream supplies the missing theoretical vocabulary for what the first two streams leave unresolved: whether tangibility is a background must-be attribute, as it appears to be in generic hospitality, or a genuine differentiator,

as servicescape theory implies it should be at a physically dominant product such as built heritage. No study has yet asked this question directly at a heritage site.

Recent empirical work from the past five years has further highlighted these tensions. For instance, investigations into historical urban centres (Cao et al., 2024a; Sasongko et al., 2025) demonstrate that, while digital interpretation and experiential marketing are heavily promoted, physical servicescapes and material integrity remain the foundation on which visitors evaluate authenticity. Moreover, empirical assessments of heritage tourism in Southeast Asia (Yun & Marzuki, 2025; Akamavi et al., 2023) consistently confirm that physical degradation immediately detracts from visitor satisfaction, showing that tangibility operates not as a background hygiene factor but as an active driver of overall evaluations.

This paper is positioned at the intersection of these three streams, and its novelty follows directly from the gap each leaves open (Fig. 2). First, rather than modelling tangibility alongside other predictors without comparison, it explicitly tests tangibility against visitors' experience, perceived value, responsiveness, and reliability within a single regression model, allowing a direct answer to which predictor dominates rather than an inference from separate studies. Second, rather than assuming either the servicescape or the experience-economy view, it treats their relative strength as an open empirical question specifically for built heritage, a class of attraction where the product being consumed is substantially physical and where, as the contradictory hotel-context evidence shows, the answer cannot simply be imported from other service settings. Third, it uses the resulting evidence to offer heritage-conservation authorities a literature-grounded basis for prioritising physical upkeep over experiential programming, rather than defaulting to whichever paradigm is theoretically fashionable.

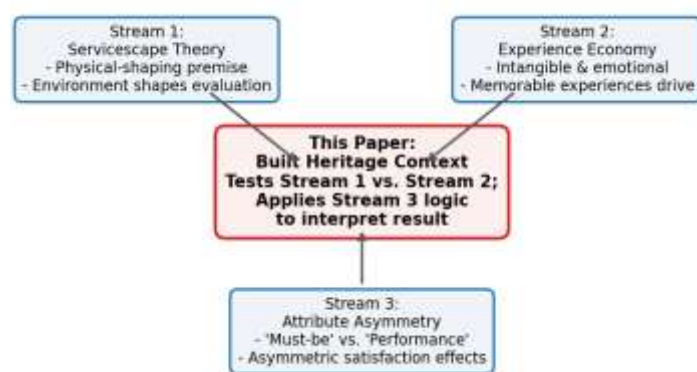


Fig. 2. The three literature streams reviewed and this paper's position at their intersection.

Theoretical Background and Hypotheses

A. Servicescape Theory and SERVQUAL Tangibility

Servicescape theory holds that the physical environment in which a service is delivered actively shapes, rather than merely accompanies, customers' evaluations of that service, influencing perceptions of quality, authenticity, and value before any interpersonal interaction takes place. Within SERVQUAL, tangibility operationalises this idea as the physical evidence of service quality, i.e., the condition, cleanliness, architectural presentation, and aesthetic upkeep of the facilities themselves. At heritage sites, this construct plausibly carries more weight than in generic service settings, because the physical fabric, the buildings, streetscapes, and monuments, is not merely where the service happens but is substantially what the visitor has travelled to see. Degraded or poorly maintained physical evidence at a heritage site not only detracts from an otherwise separable experience but also directly contradicts the authenticity claim on which the visit is premised. Multi-source spatial analysis at the Forbidden City similarly shows that the layout and adequacy of visible facilities such as seating, signage, and waste management shape how visitors experience a site's physical fabric in practice, not merely in survey responses (Lv et al., 2025), and independent evidence from a geoheritage trail context, where a comparable AHP-SERVQUAL gap analysis identified physical and tangible service dimensions as decisive for the overall

tourism satisfaction index. It reinforces the idea that this pattern is tied to the physical nature of the attraction rather than to any single site (Sasongko et al., 2025; Eck et al., 2023; Buonincontri et al., 2017; Bhattacharya et al., 2023).

B. The Experience-Economy Counter-Argument

Against this, the experience-economy paradigm argues that visitors increasingly pay for and remember staged, emotionally engaging experiences rather than the physical setting in which those experiences occur, so that a sense of well-being, memorable engagement, and immersive storytelling should now carry more explanatory weight than physical facilities (Bagheri et al., 2023; Juliana et al., 2024; Zhou & Wang, 2024). Expectancy-Disconfirmation Theory (EDT) offers a compatible mechanism for either outcome: satisfaction depends on whether performance exceeds expectations, and either physical or experiential attributes could, in principle, be the dimension along which most visitors experience meaningful disconfirmation (Hasan et al., 2024). Which paradigm better fits a built-heritage context is therefore an empirical question rather than one that can be settled by theoretical preference alone, and it is this question that motivates the hypotheses below.

Building on this literature, this study tests the following hypotheses, with particular attention to the comparative strength of tangibility once all predictors are estimated jointly:

H1: Visitors' experience positively influences visitor satisfaction at UNESCO Cultural Heritage Sites in Malaysia.

H2: Perceived value positively influences visitor satisfaction at UNESCO Cultural Heritage Sites in Malaysia.

H3: Responsiveness positively influences visitor satisfaction at UNESCO Cultural Heritage Sites in Malaysia.

H4: Tangibility positively influences visitor satisfaction at UNESCO Cultural Heritage Sites in Malaysia, and does so more strongly than the other four predictors.

H5: Reliability positively influences visitor satisfaction at UNESCO Cultural Heritage Sites in Malaysia.

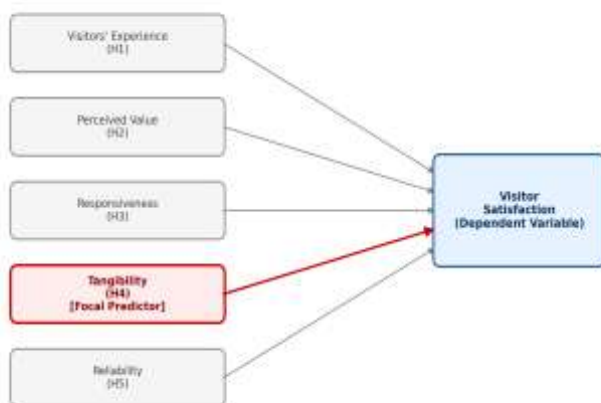


Fig. 3. Conceptual framework of the study. Tangibility (H4, red) is the focal predictor; other paths are comparison predictors.

METHODOLOGY

A. Research Design and Sampling

This study adopted a positivist research philosophy and a quantitative, deductive, cross-sectional design, consistent with the aim of testing pre-specified hypotheses about the relative strength of tangibility as a predictor of visitor satisfaction. Data was collected through a structured, self-administered online questionnaire distributed



to visitors who had recently visited Melaka Historic City or George Town, Penang. Non-probability convenience and stratified sampling were used to ensure representation across both sites and a range of demographic groups, yielding 153 valid responses.

B. Measures

Each construct was measured with five items on a five-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). The tangibility items addressed the physical condition, cleanliness, architectural presentation, and aesthetic upkeep of the heritage sites, adapted from established SERVQUAL and heritage-tourism service-quality measures (Eck et al., 2023; Weng et al., 2023). A pilot test with 30 respondents preceded the main survey; all constructs achieved Cronbach's alpha values above 0.90 at the pilot stage (Table I).

Table I. Internal Consistency (Cronbach's Alpha) of Study Constructs

Construct	Items	α (pilot)	α (main)
Visitors' Experience	5	0.941	0.766
Perceived Value	5	0.964	0.722
Responsiveness	5	0.945	0.842
Tangibility	5	0.936	0.775
Reliability	5	0.956	0.804
Visitor Satisfaction	5	0.958	0.725

C. Analytical Approach

Data were screened for missing values and outliers, and normality was assessed using skewness, kurtosis and formal Kolmogorov-Smirnov/Shapiro-Wilk tests; deviations were judged acceptable given the sample size. Pearson correlation analysis and multiple regression analysis (MRA) were then used to test the hypothesised relationships, with visitor satisfaction regressed simultaneously on all five predictors so that tangibility's strength could be judged directly against its rivals rather than in isolation.

RESULTS AND DISCUSSION

A. Sample Profile

Of the 153 respondents, the majority were female (71.9%), Malay (69.3%), single (60.8%), and Generation Z (45.8%). Most held a bachelor's degree (36.6%) and worked in the private sector (43.1%). Melaka Historic City was the most frequently visited site (41.2%), and 45.8% of respondents had experienced visiting a UNESCO heritage site two to three times.

B. Tangibility Is Rated Highly, but So Is Everything Else

Tangibility achieved a mean rating of 4.12, with the item addressing the architectural design and aesthetic presentation of the site rated highest of all tangibility items at 4.42, comfortably within the "high" interpretive band for a five-point Likert scale. This descriptive result alone, however, cannot settle the dispute between servicescape theory and the experience-economy view: visitors' experience, perceived value, and responsiveness were rated similarly highly in this sample (means 3.93 to 4.18), so a high tangibility score is, by itself, as consistent with tangibility being an unremarkable baseline attribute as with it being the dominant driver (Fig. 4). Resolving that question requires the joint regression model reported below.

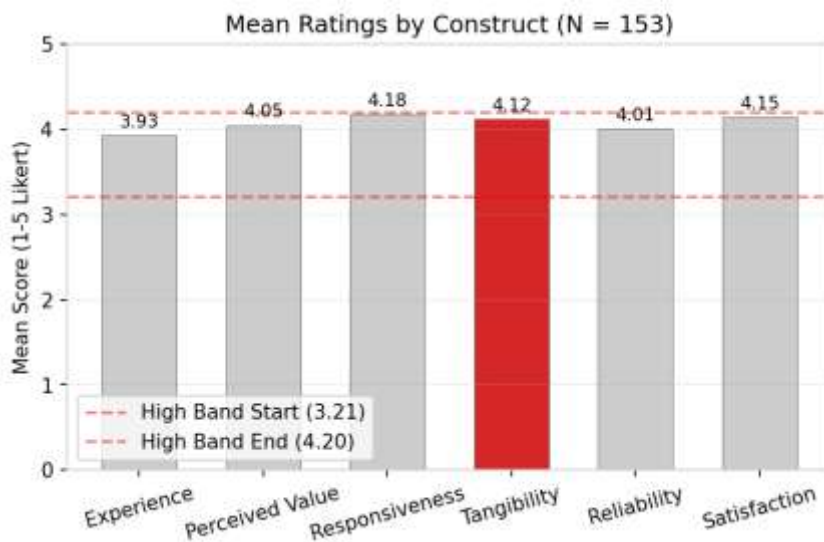


Fig. 4. Mean scores by construct (N = 153). All six constructs cluster within the 'high' band.

C. Tangibility's Relationship with Other Service-Quality Dimensions

Tangibility correlated strongly with reliability ($r = 0.780$) and moderately with responsiveness ($r = 0.635$), suggesting that visitors who rate the physical fabric of a site highly also tend to perceive its service delivery as consistent and its staff as responsive. This pattern is consistent with servicescape theory's premise that the physical environment functions as a visible, easily judged proxy for the site's overall standard of care (Buonincontri et al., 2017), a proxy that may be especially salient at heritage attractions where poor physical upkeep is difficult to separate perceptually from poor management more generally.

D. Tangibility as the Strongest Predictor

Table II and Fig. 5 report the standardised regression coefficients from the multiple regression model, in which visitor satisfaction was regressed simultaneously on all five predictors. The model was statistically significant ($F(5, 147) = 30.864, p < 0.001$) and explained approximately 51.2% of the variance in visitor satisfaction (Adjusted $R^2 = 0.496$).

Table II. Standardised Regression Coefficients Predicting Visitor Satisfaction (N = 153)

Predictor	β	t	p	Decision
Tangibility (H4)	0.429	4.549	< 0.001	Sig., strongest
Responsiveness (H3)	0.372	3.501	< 0.001	Sig.
Perceived Value (H2)	0.234	2.420	0.017	Sig.
Reliability (H5)	-0.203	-1.610	0.110	n.s.
Visitors' Exp. (H1)	-0.015	-0.173	0.863	n.s.

Note. DV: Visitor Satisfaction. Constant $\alpha = 7.242$. Rows are ordered by the magnitude of β to show tangibility's relative dominance. Sig. = significant at $\alpha = 0.05$; n.s. = not significant.

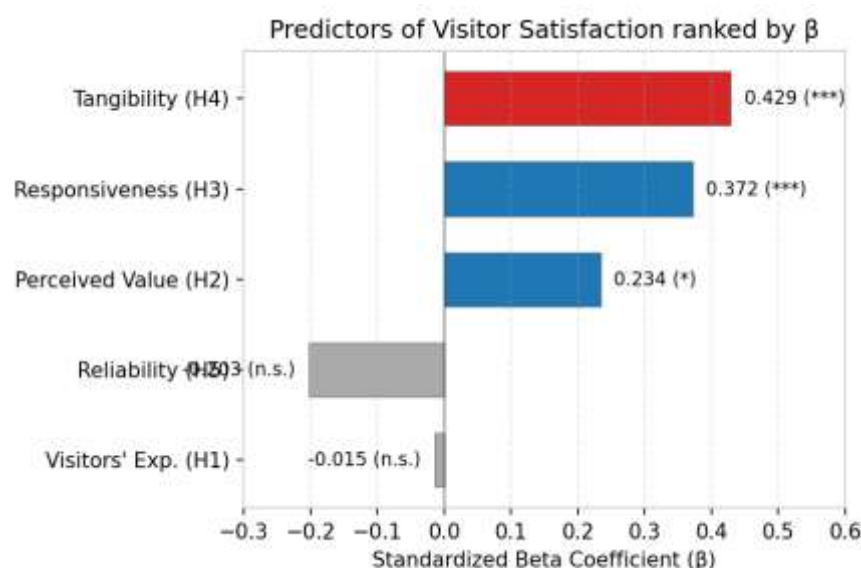


Fig. 5. Standardised regression coefficients predicting visitor satisfaction, ranked by magnitude.

Tangibility ($\beta = 0.429$, $p < 0.001$) was the strongest statistically significant predictor of visitor satisfaction once all five constructs were estimated jointly, ahead of responsiveness ($\beta = 0.372$, $p < 0.001$) and perceived value ($\beta = 0.234$, $p = 0.017$), and supporting H4 in full, including its comparative clause. Reliability and visitors' experience were not statistically significant, so H1 and H5 were not supported. This ordering directly contradicts the experience-economy premise that intangible, experiential dimensions now outweigh the physical servicescape. At these two UNESCO sites, the strongest predictor of satisfaction was not a memorable experience or a felt sense of value, but the visible condition and aesthetic presentation of the built heritage itself.

E. Why Tangibility Dominates: Reconciling Servicescape Theory and the Experience Economy

This finding is best explained by the nature of the product rather than by a wholesale rejection of experience-economy theory. Bagheri et al. (2023) and Juliana et al. (2024) are almost certainly correct that emotional engagement and a sense of well-being matter for tourism satisfaction in general; the present results do not contradict that claim so much as bound it, showing that its relative weight depends on what kind of attraction is being visited. At a built heritage site, the physical fabric is not incidental scenery for an otherwise separable experience. It is the primary evidence of authenticity that visitors use to judge whether the site has been properly conserved, a judgement that a well-run interpretive programme cannot fully substitute for if the buildings themselves are deteriorating. Read this way, tangibility's dominance is consistent with, rather than opposed to, servicescape theory's original claim that the physical environment actively shapes evaluation rather than merely housing it (Sasongko et al., 2025; Eck et al., 2023).

This reading also converges with, while sharply qualifying, recent evidence that not all service-quality attributes behave symmetrically. Bui and Robinson (2024) found that several SERVQUAL dimensions act as asymmetric “must-be” attributes with limited power to raise satisfaction once minimally present, and van Bendegom (2024) similarly found that formal service-quality dimensions outweighed customer-experience dimensions in a separate cultural-heritage sample; both support the general principle that predictors are not interchangeable, exactly as the present results also show. Yet the hotel-services evidence in which tangibles were the weakest predictor, with empathy and assurance dominating instead (Dewantara et al., 2025), shows that this asymmetry is not fixed in the same direction across service contexts: the same construct that is a background must-be attribute in a hotel is the leading performance attribute at a heritage site (Fig. 6). The most defensible reading is therefore not that tangibility is universally dominant, but that its rank among predictors tracks how physically constituted the product is, which is precisely why testing it explicitly, rather than assuming an answer from either theory, was necessary in this context.

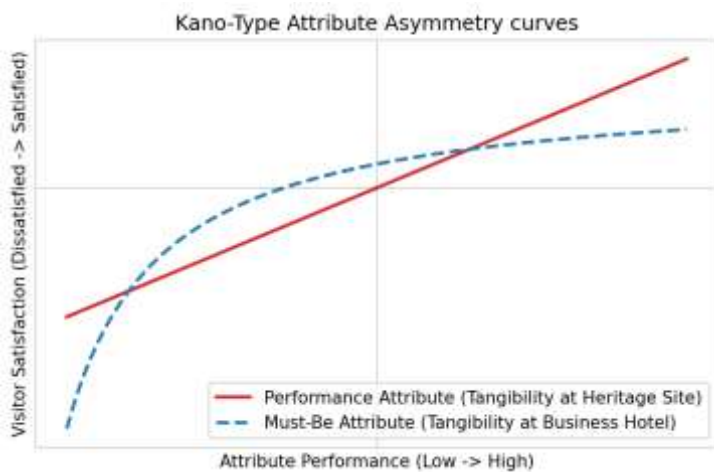


Fig. 6. Illustrative Kano-type curves contrasting must-be and performance attributes across tourism sectors.

F. Practical Implications for Heritage Conservation and Facility Management

For heritage-site authorities operating under finite conservation budgets, this evidence provides a clear signal for prioritisation. Where experiential programming and physical restoration compete for the same limited funds, the present results suggest that architectural conservation, cleanliness, and aesthetic upkeep of the built fabric should not be treated as background maintenance subordinate to interpretive or experiential investment; they are, on this evidence, the single largest lever available for raising visitor satisfaction at these sites. This does not mean experiential programming is worthless. Responsiveness and perceived value both remained significant predictors, but it does mean that, if forced to choose, the physical servicescape deserves first claim on the budget, not last. This prioritisation logic is consistent with importance-performance evidence from historical Chinese cities, which found that some of the architectural attributes residents and visitors valued most were also the most underperforming, underscoring the practical cost of treating physical upkeep as a secondary concern (Cao et al., 2024a). For MOTAC and site authorities in Melaka and George Town, this implies that heritage-conservation funding cases can be made on visitor-satisfaction grounds, not conservation grounds alone.

G. Implications for Heritage Interpretation and Visitor Education Programmes

While the primary focus of site managers must remain on physical conservation, the strong empirical link between tangibility and satisfaction also carries significant implications for heritage interpretation and visitor education programmes. Rather than treating physical conservation and interpretive programming as competing priorities, site authorities should integrate them. Physical structures, historical facades, and restored architectural features should serve as the primary canvas for educational storytelling and guided visitor interpretation (Weng et al., 2023; Cao et al., 2024c). For example, visitor education programmes can actively educate tourists about the specific conservation techniques, architectural materials, and cultural histories associated with traditional shophouses and colonial landmarks (Eck et al., 2023). By highlighting the care, effort, and structural authenticity embodied in the restored servicescape, education programmes can deepen visitors' appreciation of the outstanding universal value underpinning the UNESCO listing (Yi et al., 2025). This integration bridges the physical servicescape and experience dimensions, showing that visitors' educational fulfilment is enhanced when it is directly anchored in the authentic physical preservation of the heritage site.

CONCLUSIONS

This study set out, through four research objectives, to determine whether tangibility, the physical evidence of service quality at heritage sites, remains a dominant predictor of visitor satisfaction once tested jointly against the experiential and relational predictors that contemporary tourism theory assumes should now matter more, and the evidence gathered supports each objective in turn: RO1 is met by the descriptive profile showing tangibility rated highly ($M = 4.12$) alongside, not below, the other constructs; RO2 is met by the regression results showing tangibility as the strongest statistically significant predictor of visitor satisfaction ($\beta = 0.429$, $p < 0.001$), ahead of responsiveness and perceived value, while reliability and visitors' experience were not

significant; RO3 is met by the servicescape-theory explanation developed in Section IV-E, which reconciles this finding with, rather than simply rejecting, the experience-economy literature by showing that the physical fabric functions as heritage sites' primary evidence of authenticity. Meanwhile, RO4 is met by the resource-prioritisation guidance in Section IV-F, which argues that architectural conservation and facility upkeep deserve first claim on limited heritage budgets.

Limitations and Future Research Directions

Despite its contributions, several limitations of this study should be explicitly addressed to guide future research. First, the study adopts a cross-sectional quantitative design, representing a snapshot in time. This prevents the establishment of true causal relationships between tangibility, other service dimensions, and visitor satisfaction. While multiple regression indicates a strong and significant association, causal directions must be interpreted with caution. Future research should adopt longitudinal designs or experimental studies to rigorously establish causality (Akamavi et al., 2023). Specifically, future experimental studies could test the effect of physical restoration on visitor satisfaction by measuring visitor evaluations before and after specific conservation or restoration projects.

Second, this study relies on a relatively modest sample size of 153 respondents, which, although statistically sufficient for multiple regression, limits the generalisability of the findings and restricts the use of more complex modelling approaches (such as Structural Equation Modelling). To address this, future research should utilise a significantly larger and more representative sample. Furthermore, the demographic composition of the current sample shows a clear skew: heavily female (71.9%), Malay (69.3%), single (60.8%), and dominated by Generation Z (45.8%) (Section IV-A). This demographic profile must be addressed more explicitly in future work. Future studies should employ stratified or random sampling methods to ensure a more balanced representation across genders, ethnicities, and age cohorts, and explicitly test whether these demographic factors affect how visitors perceive and value physical servicescapes.

Third, while this study frames its findings within Expectancy-Disconfirmation Theory (EDT), it did not directly measure visitors' prior expectations. The interpretation of EDT is therefore based solely on post-visit evaluations. Future research should incorporate direct measures of visitors' prior expectations alongside post-visit evaluations to calculate explicit disconfirmation scores and strengthen the EDT framework (Hasan et al., 2024). Additionally, future research should expand the scope of outcome variables to include behavioural measures such as revisit intention and positive word-of-mouth, allowing researchers to determine whether the satisfaction driven by tangibility translates into actual loyalty behaviour (Juliana et al., 2024; Yi et al., 2025).

Finally, this study treats the visitor sample as a homogenous group. Future research should explore potential moderating variables that could influence the relationship between servicescape dimensions and visitor satisfaction. Key moderators to investigate include first-time versus repeat visitors, domestic versus international tourists, and varying motivations for visits (e.g., educational, cultural, or purely leisure-driven) (Zhou & Wang, 2024). This will provide heritage managers with more granular, actionable segments for tailored site planning and conservation strategies.

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