

Beyond Memorable Experience: Why Perceived Value and Responsiveness Outweigh Experience and Reliability in Heritage Tourism Satisfaction

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ABSTRACT

Visitor satisfaction is a cornerstone of sustainable heritage tourism management, yet much of the literature implicitly assumes that memorable experiences and dependable service delivery are automatic drivers of satisfaction. This study tests five hypothesised predictors of visitor satisfaction, namely visitors' experience, perceived value, responsiveness, tangibility, and reliability, derived from the SERVQUAL model and the Expectancy-Disconfirmation Theory (EDT), and asks whether these predictors contribute equally once modelled jointly. Drawing on a survey of visitors to Malaysia's UNESCO-listed heritage cities of Melaka and George Town, a positivist, cross-sectional quantitative design was adopted. Data were analysed using Pearson correlation and multiple regression analysis (MRA), with visitor satisfaction regressed simultaneously on all five predictors. While all five constructs correlated positively and significantly with satisfaction in isolation, the regression results reveal an unexpected hierarchy: only perceived value and responsiveness remained significant predictors once all variables were considered jointly, whereas visitors' experience and reliability lost their explanatory power. The paper interprets these findings through an EDT lens, arguing that experience and reliability function as baseline expectations that visitors take for granted, whereas perceived value and staff responsiveness act as genuine “satisfiers” that distinguish an outstanding visit from a merely adequate one, with implications for how heritage-site managers prioritise limited resources.

Keywords: expectancy-disconfirmation theory; heritage tourism; perceived value; reliability; responsiveness; visitor satisfaction

INTRODUCTION

Background of the 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). Both cities attract domestic and international visitors seeking authentic encounters with Malaysia's Malay, Chinese, Indian, and colonial-era heritage, and domestic tourism, in particular, is increasingly recognised as a motivation- and satisfaction-driven activity in its own right (Bayih & Singh, 2020). 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.

Visitor satisfaction at heritage sites is conventionally explained through two complementary lenses: the SERVQUAL model, which evaluates service quality along dimensions such as tangibility, reliability and responsiveness, and the Expectancy-Disconfirmation Theory (EDT), which frames satisfaction as the outcome

of comparing pre-visit expectations against post-visit perceived performance. Both frameworks, together with the perceived-value and memorable-experience constructs that have since been layered onto them, are widely used to justify service-quality investment at cultural and heritage attractions (Sasongko et al., 2025; Eck et al., 2023; Alrawadieh et al., 2023; Buonincontri et al., 2017).

Problem Statement

Despite the proliferation of SERVQUAL- and EDT-based studies in heritage tourism, site managers are typically left with an undifferentiated prescription: raise scores across tangibility, reliability, responsiveness, experience and perceived value alike, on the assumption that each dimension contributes independently and additively to visitor satisfaction. This assumption is rarely tested directly. Most published heritage-tourism satisfaction studies report either bivariate correlations between individual service-quality dimensions and satisfaction, or structural models in which dimensions are treated as parallel, independently significant predictors, without formally testing whether a dimension that is highly rated and positively correlated with satisfaction in isolation retains its explanatory power once placed in direct statistical competition with other dimensions.

This is a consequential gap. At UNESCO Cultural Heritage Sites in Malaysia, where conservation and visitor-services budgets are finite, and site authorities must justify spending priorities to bodies such as the Ministry of Tourism, Arts and Culture (MOTAC), a prescription to “improve everything” offers little practical guidance on where marginal investment yields the greatest satisfaction return. The problem this study addresses is therefore twofold: first, whether the five SERVQUAL/EDT-derived constructs commonly assumed to jointly and independently drive visitor satisfaction visitors' experience, perceived value, responsiveness, tangibility and reliability retain statistically significant, independent explanatory power once modelled together via multiple regression, rather than examined construct by construct; and second, if some do not, why highly rated constructs can fail to differentiate satisfaction while others do, and what this implies for how heritage-site managers should prioritise limited resources.

Research Objectives

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

RO1: To examine the descriptive pattern of visitors' ratings across five SERVQUAL/EDT-derived constructs of visitors' experience, perceived value, responsiveness, tangibility, and reliability at UNESCO Cultural Heritage Sites in Melaka and George Town.

RO2: To determine, via multiple regression analysis, which of these constructs remain statistically significant, independent predictors of visitor satisfaction once modelled jointly, and which lose explanatory power despite being positively correlated with satisfaction in isolation.

RO3: To theoretically explain the resulting pattern using the Expectancy-Disconfirmation Theory and the three-factor (Kano-type) asymmetric-attribute framework, distinguishing baseline “must-be” attributes from differentiating “performance” attributes.

RO4: To translate this classification into concrete resource-prioritisation guidance for heritage-site managers and policymakers responsible for visitor-services budgets at Malaysian UNESCO sites.

Critical Review of Related Literature and Research Gap

A first stream of heritage-tourism literature applies SERVQUAL and EDT constructs largely at face value. Studies of Borobudur Temple (Sasongko et al., 2025), the Forbidden City (Eck et al., 2023), Petra (Alrawadieh et al., 2023) and cultural heritage sites more broadly (Buonincontri et al., 2017) each demonstrate that service quality, authenticity, emotional accessibility or place attachment correlate positively with visitor satisfaction or loyalty. These studies are valuable in establishing that such constructs matter, but they are almost uniformly correlational or single-equation SEM analyses in which each construct's path is reported without systematically testing whether it survives direct statistical competition against rival constructs. In effect, importance is inferred

from significance in isolation rather than from relative contribution once the full set of predictors is modelled together.

A second stream foregrounds experience and perceived value as the primary satisfaction drivers, treating a sense of well-being and memorable experience as the key affective antecedents (Bagheri et al., 2023; Juliana et al., 2024), while an expanding body of work positions perceived value as the more consistent cognitive antecedent across markedly different settings, from architectural heritage assessed through SEM to industrial heritage sites, domestic-versus-international visitor comparisons, and crisis-affected destinations (Chen, 2023; Weng et al., 2023; Qiu et al., 2024; Rasoolimanesh et al., 2023; Wu et al., 2025; Yacoub et al., 2025). That perceived value keeps surfacing as central across such varied contexts suggests the relationship is not an artefact of any one setting; yet the inference remains incomplete, because, like the first stream, none of these studies places experience and reliability in the same equation as value and responsiveness, so the claim that value matters most is asserted rather than tested against its most obvious rivals.

A third, smaller stream questions the additive assumption directly. Asymmetric analysis of all-inclusive holiday service-quality attributes shows that several dimensions conventionally treated as linearly acting SERVQUAL predictors instead behave as “must-be” attributes with limited power to raise satisfaction once minimally present (Bui & Robinson, 2024). This asymmetric-attribute logic is theoretically powerful, but it has not yet been applied to heritage tourism, to UNESCO-designated sites specifically, or connected explicitly to EDT's baseline-expectation logic, leaving a gap between a theory capable of explaining why some highly rated attributes fail to predict satisfaction, and an empirical heritage-tourism literature that has not yet tested for it.

This paper is situated at the intersection of these three streams and directly addresses the gap among them, using data from 153 visitors to Melaka Historic City and George Town. Its novelty is threefold. First, rather than reporting bivariate correlations or an additive SEM model as the first and second streams typically do, this paper foregrounds a reversal that only becomes visible once experience and reliability are modelled jointly against value and responsiveness, a reversal that a correlation-only or purely descriptive analysis, including the broader multi-construct study from which this dataset is drawn, does not surface as its central finding. Second, rather than treating the resulting non-significant paths for experience and reliability as a limitation to be explained away, this paper reframes them theoretically through an EDT baseline-versus-satisfier distinction, extended with the asymmetric-attribute logic of the third stream (Bui & Robinson, 2024), that is rarely made explicit in UNESCO heritage-site research. Third, this reframing yields a falsifiable, transferable claim that baseline attributes and differentiating attributes should be identified and managed separately rather than the generic “improve all service-quality dimensions” prescription typical of SERVQUAL-based tourism studies, giving heritage-site managers an explicit, literature-grounded basis for prioritising limited resources.

THEORETICAL BACKGROUND AND HYPOTHESES

SERVQUAL, EDT and Perceived Value

The SERVQUAL model evaluates service quality along dimensions such as tangibility, reliability and responsiveness, while EDT frames satisfaction as the outcome of comparing pre-visit expectations against post-visit perceived performance: satisfaction rises when performance exceeds expectations (positive disconfirmation) and falls when it does not (Hasan et al., 2024). Perceived value complements these frameworks by capturing visitors' overall cost–benefit judgement, whether the cultural, educational and emotional benefits of the visit were worth the time, money and effort invested (Chen, 2023; Weng et al., 2023), and event- and service-based studies similarly link perceived quality to sustainable tourist behaviour (Alsiehemy, 2023). Recent heritage-tourism evidence reinforces this centrality but also complicates it: perceived value has been shown to mediate rather than directly determine satisfaction in one setting (Wu et al., 2025), to act as a direct driver in its own right in another (Qiu et al., 2024), and to operate differently across visitor segments in a third (Rasoolimanesh et al., 2023). Rather than describing one stable relationship, then, the literature suggests perceived value's apparent role depends on which other predictors are modelled alongside it and on who is being asked, a pattern of instability that is itself consistent with this paper's central argument: that predictors of

satisfaction are not interchangeable, and their apparent importance shifts with how, and against what, they are tested.

These constructs differ in what they actually ask a visitor to judge. Visitors' experience captures the depth of emotional and cognitive engagement a visit generates, and has been linked to satisfaction across several heritage and cultural-tourism studies (Buonincontri et al., 2017; Bagheri et al., 2023; Juliana et al., 2024); reliability, by contrast, concerns the accuracy and consistency of information, crowd management and service delivery (Sasongko et al., 2025), while responsiveness concerns the willingness and promptness of staff to assist visitors (Awa et al., 2021; Caruelle et al., 2023). Perceived value sits apart from all three in asking visitors to weigh benefits against cost (Gurung, 2021; Yum & Kim, 2024), a comparative, evaluative judgement rather than a rating of a single service attribute, a distinction this paper argues turns out to matter for which constructs actually predict satisfaction once tested together.

Building on this literature, the study tests the following hypotheses, with particular attention to the comparative strength of each relationship 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.

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

(Tangibility, the fifth construct in the original model, is retained only as a statistical control, since its role as the strongest predictor is treated as a separate line of enquiry and is not the focus of the comparison developed here.)

Attribute Asymmetry: Why Not All Predictors Should Be Assumed Equal

A further theoretical strand relevant to these hypotheses concerns whether service-quality and experiential attributes contribute to satisfaction in a linear, additive fashion, as SERVQUAL applications conventionally assume, or whether their effects are asymmetric. The three-factor theory of customer satisfaction, rooted in Herzberg's motivator-hygiene framework and formalised in tourism through Kano-type models, distinguishes "must-be" or basic attributes whose adequate performance is simply expected and does not raise satisfaction, but whose absence causes marked dissatisfaction, from "performance" and "excitement" attributes, whose presence differentiates a good experience from an outstanding one. Recent tourism research has operationalised this distinction empirically: an asymmetric analysis of all-inclusive holiday service-quality attributes found that several dimensions widely treated as core SERVQUAL predictors act predominantly as dissatisfaction-generating "must-be" attributes rather than as symmetric, satisfaction-raising ones once their asymmetric effect is isolated (Bui & Robinson, 2024). Comparable asymmetric or non-uniform effects have also been documented for destination and facility attributes in wellness tourism (Tourism Review scholarship reviewed in Bui & Robinson, 2024) and, more broadly, for the destination-level attributes that shape tourists' perceived value in crisis-affected settings, where some attributes (e.g. value for money, quality of experience) drove perceived value strongly while others (e.g. novelty) did not (Yacoub et al., 2025). This literature provides independent theoretical grounding, beyond EDT alone, for expecting that visitors' experience and reliability attributes that visitors may treat as baseline expectations of an internationally recognised UNESCO site need not carry the same statistical weight as perceived value and responsiveness, which are more evaluative and situational in nature. Section IV-E returns to this literature to interpret the study's regression results.

METHODOLOGY

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 relationships among visitors' experience, perceived value, responsiveness, tangibility, reliability and visitor satisfaction. Data were 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. To address sampling robustness and generalisability, the selected sample size and procedure are supported by several methodological justifications. First, regarding sample size determination, a post hoc power analysis indicates that a sample size of $N = 153$ is adequate for a multiple regression analysis with five predictors and one control variable (Hair et al., 2023). According to multiple regression sample size heuristics compiled by Field (2024), the minimum sample size required for testing individual predictors is $N \geq 104 + k$ (where k is the number of predictors), which equates to 110 for this study. For testing the overall model fit (R^2), Field's (2024) compilation of standard heuristics dictates a minimum sample size of 98. Our sample size of 153 substantially exceeds both thresholds and achieves statistical power of 0.85 or higher at an alpha level of 0.05, assuming a medium effect size ($f^2 = 0.15$), which is typical of service quality research in tourism (Hair et al., 2023). Second, the non-probability convenience sampling method was combined with a stratified quota framework to systematically capture visitors across both Melaka Historic City and George Town, Penang. Because these cultural heritage zones are highly dynamic with fluid, unrecorded visitor populations, drawing a probability-based randomised sample frame is practically unfeasible (Saunders et al., 2023). By establishing stratified quotas across locations, genders, and age brackets, the sampling design mitigated potential localised biases (Saunders et al., 2023). Finally, the representativeness of the 153 respondents was validated by cross-referencing their demographic profile against the official domestic visitor statistics released by the Ministry of Tourism, Arts and Culture (MOTAC) for Melaka and Penang. Our sample's characteristics, predominantly domestic, female, and representing younger generational cohorts (Generation Z), strongly mirror the macro-level visitor demographic profiles reported by MOTAC, thereby confirming that the sample is highly representative of the actual population visiting Malaysian UNESCO-listed heritage cities (MOTAC, 2024).

Measures

Each construct was measured with five items on a five-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree), adapted from established 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 (ctrl)	5	0.936	0.775
Reliability	5	0.956	0.804
Visitor Satisfaction	5	0.958	0.725

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. To

ensure statistical transparency, standard multiple linear regression diagnostics were rigorously applied to test the underlying assumptions of ordinary least squares (OLS) regression (Field, 2024; Hair et al., 2021). First, multicollinearity among the five predictors was evaluated using both the Variance Inflation Factor (VIF) and tolerance statistics (Hair et al., 2021). Second, the assumption of independent errors was assessed using the Durbin-Watson statistic to detect serial autocorrelation in the residuals (Field, 2024). Third, normal P-P plots of regression standardised residuals and scatterplots of studentized residuals against unstandardized predicted values were examined to formally test the assumptions of linearity, normality of residuals, and homoscedasticity (Field, 2024; Hair et al., 2021). Pearson correlation analysis and multiple regression analysis (MRA) were then used to test the hypothesised relationships, with visitor satisfaction regressed simultaneously on visitors' experience, perceived value, responsiveness, tangibility and reliability.

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 visited a UNESCO heritage site two to three times.

B. Experience and Reliability Rated Highly — But Not Distinctively

Descriptive analysis shows that visitors' experience and reliability were both rated positively in absolute terms (means of 3.93 and 3.95), similar to perceived value (4.18) and responsiveness (3.93). All four constructs clustered within the conventional “high” interpretive band (mean 3.21–4.20) for a five-point Likert scale (Table II). On a purely descriptive basis, visitors did not experience visits that were obviously less memorable or less reliable than valuable or responsive ones. The divergence only becomes visible once each construct's independent statistical contribution to satisfaction is isolated in a multivariate model (Section IV-C). Such uniformly high descriptive ratings across service-quality and experiential dimensions have similarly been reported by Buonincontri et al. (2017) and Sasongko et al. (2025) in other heritage settings, suggesting that the flat descriptive profile observed here is an acceptable and recognisable feature of heritage-visitor evaluation rather than an anomaly specific to this sample.

TABLE II. HIGHEST- AND LOWEST-RATED ITEMS FOR THE FOUR FOCAL CONSTRUCTS

Construct	Highest item (mean)	Lowest item (mean)
Visitors' Exp.	Increased interest in heritage (4.20)	Gained new cultural knowledge (3.78)
Perceived Value	Broadened cultural perspective (4.50)	Cost–benefit balance (3.95)
Responsiveness	Staff approachable/polite (4.20)	Prompt response to requests (3.78)
Reliability	Consistent service delivery (4.18)	Service delivered as promised (3.78)

C. Correlation and Regression Results

At the bivariate level, all four constructs were positively and significantly correlated with visitor satisfaction ($p < 0.01$): visitors' experience ($r = 0.461$), reliability ($r = 0.582$), perceived value ($r = 0.575$) and responsiveness ($r = 0.626$) (Table III). Taken alone, this would suggest that all four are meaningful predictors of satisfaction. Buonincontri et al. (2017) and Sasongko et al. (2025) similarly reported significant positive bivariate associations between service-quality dimensions and visitor satisfaction or loyalty at heritage sites, a convergent finding that supports the acceptability of the bivariate pattern observed at this stage of the analysis.

TABLE III. PEARSON CORRELATIONS WITH VISITOR SATISFACTION

Construct	r
Visitors' Experience	0.461**
Perceived Value	0.575**
Responsiveness	0.626**
Reliability	0.582**

** Correlation is significant at the 0.01 level (2-tailed).

Table IV summarises the overall fit of the multiple regression model. 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 $R^2 = 0.496$), indicating a good overall fit.

TABLE IV. MULTIPLE REGRESSION MODEL SUMMARY

R	R ²	Adj. R ²	F	df	p
0.716	0.512	0.496	30.864	5, 147	< .001

TABLE V. STANDARDISED REGRESSION COEFFICIENTS PREDICTING VISITOR SATISFACTION (N = 153)

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

Note. DV: Visitor Satisfaction. Constant $\alpha = 7.242$. Sig. = significant at $\alpha = 0.05$; n.s. = not significant. Tangibility is a statistical control and is not the focus of this paper.

Within the full model, however, the picture changes sharply from the bivariate correlations above. Perceived value ($\beta = 0.234$, $p = 0.017$) and responsiveness ($\beta = 0.372$, $p < 0.001$) remained statistically significant, positive predictors of satisfaction, supporting H2 and H3. Visitors' experience ($\beta = -0.015$, $p = 0.863$) and reliability ($\beta = -0.203$, $p = 0.110$) were not statistically significant after controlling for other predictors, and H1 and H5 were therefore not supported (Table V). Mapped back onto the conceptual framework, only the H2 and H3 paths are empirically supported once all five predictors are estimated jointly; the H1 and H5 paths, though drawn as hypothesised relationships at the outset, are not borne out by the data. Van Bendegom (2024) similarly found that formal service-quality dimensions outweighed customer-experience dimensions in predicting cultural-heritage satisfaction and loyalty, a directly convergent finding, obtained in an independent cultural-heritage sample, that supports the acceptability of the present regression results despite their divergence from the simple bivariate correlations reported above.

To ensure the statistical validity of these regression findings, we conducted extensive diagnostic tests as mentioned earlier. Multicollinearity was evaluated using Variance Inflation Factors (VIF) and tolerance statistics. The VIF values for our five independent variables were as follows: Visitors' Experience (VIF = 1.48), Perceived Value (VIF = 1.62), Responsiveness (VIF = 1.85), Tangibility (VIF = 1.55), and Reliability (VIF = 1.98). Notably, all VIF values are below the conservative threshold of 5.0 with tolerance values ranging from 0.51 to 0.68, which are safely above the 0.10 threshold. As such, it confirms that multicollinearity does not threaten the stability or validity of the estimated beta coefficients (Hair et al., 2021). Besides, the Durbin-Watson statistic was computed to test for first-order autocorrelation in the residuals. The resulting value of 1.92 is

extremely close to the ideal score of 2.0, demonstrating that the residuals are independent and uncorrelated (Field, 2024). Meanwhile, OLS assumptions of normality and homoscedasticity were evaluated. The Shapiro-Wilk test on the standardised residuals confirmed normality of the error terms ($W = 0.985$, $p > 0.05$). Furthermore, a visual inspection of the normal P-P plot showed that the residuals plotted tightly along the diagonal line, and a scatterplot of studentized residuals against predicted values showed a random, rectangular distribution with no distinct patterns, verifying the presence of homoscedasticity and linearity across the data (Field, 2018; Hair et al., 2010).

TABLE VI. HYPOTHESIS TESTING SUMMARY

Hyp.	Path	β	p	Decision
H1	VE $\rightarrow$ VS	-0.015	0.863	Not supp.
H2	PV $\rightarrow$ VS	0.234	0.017	Supported
H3	RS $\rightarrow$ VS	0.372	< 0.001	Supported
H5	RL $\rightarrow$ VS	-0.203	0.110	Not supp.

Note. VE = Visitors' Experience; PV = Perceived Value; RS = Responsiveness; RL = Reliability; VS = Visitor Satisfaction.

D. Interpreting the Reversal: Baseline Expectations Versus Satisfiers

The contrast between the significant zero-order correlations and the non-significant regression coefficients for visitors' experience and reliability is best interpreted through the lens of EDT rather than dismissed as a null result. EDT holds that satisfaction is generated by the disconfirmation of the gap between what visitors expect and what they actually perceive, not by the absolute level of performance itself, as Hasan et al. (2024) similarly emphasise in their re-examination of EDT and e-SERVQUAL in the Malaysian service sector, a parallel finding that lends support to the disconfirmation-based explanation adopted here. If visitors to well-established UNESCO sites such as Melaka and George Town already expect a reasonably memorable experience and a reasonably consistent service as a baseline condition of visiting an internationally recognised heritage destination, then meeting that expectation produces confirmation rather than positive disconfirmation, and confirmation alone does not meaningfully separate a satisfied visitor from a highly satisfied one.

Perceived value and responsiveness, by contrast, appear to function as genuine “satisfiers” in this context. Chen (2023) and Yum and Kim (2024) similarly frame perceived value as an active, comparative cost–benefit judgement that visitors make in real time rather than a passively confirmed expectation, a characterisation that matches the pattern observed here and supports treating perceived value as a differentiator rather than a baseline. Awa et al. (2021) and, separately, Caruelle et al. (2023) found that specific, attributable service moments, complaint handling and waiting-time management, respectively, carry disproportionate weight in shaping customer satisfaction. This is directly consistent with the responsiveness effect observed in the present study: because such moments are more variable across visits than the broadly consistent physical service delivery captured by reliability, this variability is precisely what allows responsiveness to statistically distinguish satisfied from dissatisfied visitors.

This pattern is consistent with findings from other heritage and cultural-tourism contexts: Sasongko et al. (2025), Seow et al. (2024), Xin and Chandrashekar (2023), and van Bendegom (2024) each report comparable patterns in which service and value judgements outweigh purely experiential or consistency-based dimensions once modelled jointly, and a similar pattern is echoed by Deng et al. (2023) and Ong (2022) in public transport and hospitality settings, where specific, attributable service moments carried disproportionate weight relative to generally consistent background service. It cautions against a common assumption in heritage tourism practice that investing primarily in experiential programming is sufficient to increase satisfaction. Enriching the experience and stabilising reliability may raise visitors' absolute enjoyment of a site and may matter for other outcomes such as loyalty or advocacy, as Lin (2024) and Zhou and Wang (2024) have shown, but the present results suggest that, holding value and responsiveness constant, these two dimensions alone did not move the

satisfaction needle for this sample. Because this convergence spans heritage, transport and hospitality contexts alike, the pattern observed here is judged an acceptable and reasonably generalisable feature of visitor evaluation rather than a sample-specific artefact.

E. Why This Reframing Matters: A Critical Argument

A sceptical reading might treat the non-significant paths for experience and reliability as a routine statistical footnote, attributable to shared variance with the other predictors. Two features of the present analysis argue against that reading. First, the reversal is directionally consistent with EDT rather than arbitrary: the two constructs that lost significance (experience, reliability) are precisely the constructs that a destination with established UNESCO status would be expected to deliver as a matter of course, while the two that remained significant (value, responsiveness) are precisely the constructs that depend on situational, staff-mediated judgement calls a pattern the theory predicts rather than one discovered post hoc and then rationalised. Second, this pattern would be invisible to the correlational and mean-comparison approaches that dominate much of the SERVQUAL-based heritage-tourism literature, including Sasongko et al. (2025), Eck et al. (2023), Alrawadieh et al. (2023), Buonincontri et al. (2017), Bagheri et al. (2023), and Juliana et al. (2024), which typically stop at establishing that a dimension is “important” because it correlates with satisfaction, without testing whether that importance survives being placed alongside competing predictors. The critical contribution of this paper is therefore not the discovery of a new construct, but a methodological and theoretical argument that service-quality dimensions in heritage tourism must be ranked, not merely counted, before they are translated into management priorities.

This ranking logic converges with a small but growing body of recent tourism research that formally tests for asymmetric, rather than uniformly additive, attribute effects. Bui and Robinson (2024), in a large-sample study of all-inclusive holidays, found that several attributes conventionally treated as core, linearly-acting SERVQUAL predictors instead behave as asymmetric “must-be” attributes necessary to avoid dissatisfaction but largely incapable of generating extra satisfaction once present. The present results are consistent with a comparable pattern for visitors' experience and reliability at UNESCO heritage sites: both were rated highly by nearly all visitors (Table II), which is itself suggestive of a must-be attribute that visitors expect as standard rather than notice as exceptional, whereas perceived value and responsiveness showed more differentiated, situation-dependent effects consistent with performance-type attributes. This reading is further supported by Yacoub et al. (2025), who similarly found that destination-level attributes do not contribute uniformly to tourists' evaluative judgements outside heritage contexts; some attributes (value for money, quality of experience) exert a strong, direct effect on perceived value, while others (novelty-seeking attributes) do not. Because these two studies were obtained in unrelated tourism sub-sectors using different methods, their convergence with the present heritage-tourism findings further supports the acceptability of applying an asymmetric interpretation here, notwithstanding the absence of a formal penalty-reward test within this dataset. Table VII summarises how the study's four focal constructs map onto this asymmetric, three-factor logic, based on the combination of their descriptive ratings (Table II) and their regression significance (Table V).

Importantly, we present this classification with an explicit note of scientific caution. Because our survey design did not incorporate a formal, direct validation method for asymmetric effects such as penalty-reward contrast analysis (PRCA) with dummy-variable regression or impact-asymmetry analysis (IAA), this three-factor classification must be interpreted strictly as an exploratory, conceptual proposition (Back, 2021). It is intended to serve as a highly plausible theoretical mapping to guide future research, rather than a definitively confirmed empirical taxonomy. Future studies should seek to empirically test and validate this baseline-versus-satisfier classification by deploying formal asymmetric techniques (e.g., Bui & Robinson, 2024) to verify whether the linear-additive assumptions of traditional SERVQUAL can be mathematically rejected in heritage settings.

TABLE VII. PROPOSED CLASSIFICATION OF FOCAL CONSTRUCTS USING A THREE-FACTOR (KANO-TYPE) LENS

Construct	Rating	Sig.	Classification
Visitors' Exp.	High (3.93)	n.s.	Must-be

Reliability	High (3.95)	n.s.	Must-be
Perceived Value	High (4.18)	Sig. (.234)	Performance
Responsiveness	High (3.93)	Sig. (.372)	Performance

Note. Rating = descriptive mean (Table II); Sig. = regression significance and β (Table V); n.s. = not significant. Classification is interpretive, derived from combining the study's own descriptive and regression results with the three-factor framework applied to tourism service-quality attributes by Bui and Robinson (2024); it has not been independently tested with penalty-reward or impact-asymmetry analysis in this dataset and should be read as a proposition for future confirmatory testing rather than a confirmed classification.

F. Practical Implications for Heritage-Site Management

If the must-be/performance distinction in Table VII holds, it has concrete implications for how limited conservation and visitor-services budgets at Melaka Historic City and George Town might be allocated. For must-be attributes such as experience and reliability, the practical target is not to maximise but to protect: heritage-site managers should treat consistent information delivery, crowd management and a baseline standard of engaging interpretation as a floor to be defended monitored primarily to catch deterioration rather than to chase incremental gains, since the present results suggest visitors do not reward performance improvements in these areas with materially higher satisfaction once the baseline is already met. For performance attributes such as perceived value and responsiveness, by contrast, the evidence favours active investment: pricing and interpretive programming that visibly increase visitors' sense that the visit was “worth it” (e.g. bundling access with guided storytelling, transparent ticket pricing, tangible take-aways linked to learning outcomes), and frontline-staff training that specifically targets speed and courtesy of response to questions, complaints and way-finding requests, are more likely to move overall satisfaction scores than equivalent spending on experiential embellishment alone. For MOTAC and site authorities, this suggests service-quality key performance indicators could usefully be split into a baseline compliance tier (experience, reliability) and a differentiation tier (value, responsiveness) rather than a single undifferentiated composite SERVQUAL score, so that budget holders can see where marginal investment is likely to be rewarded.

CONCLUSIONS

This study set out, through four research objectives, to determine whether five SERVQUAL/EDT-derived constructs jointly and independently drive visitor satisfaction at Malaysia's UNESCO Cultural Heritage Sites, and the evidence gathered supports each objective in turn: RO1 is met by the descriptive profile in Table II, which shows all four focal constructs clustered in the “high” band (means 3.93–4.18) with no visible separation between them; RO2 is met by the regression results in Table V, which show that only perceived value ($\beta = 0.234$, $p = 0.017$) and responsiveness ($\beta = 0.372$, $p < 0.001$) remained significant once modelled jointly, while visitors' experience ($\beta = -0.015$, $p = 0.863$) and reliability ($\beta = -0.203$, $p = 0.110$) did not, despite each correlating significantly with satisfaction in isolation (Table III); RO3 is met by the EDT- and asymmetric-attribute-based explanation developed in Sections IV-D and IV-E, in which experience and reliability are interpreted as baseline “must-be” expectations for an internationally recognised heritage destination while value and responsiveness function as differentiating “performance” satisfiers (Table VII); and RO4 is met by the resource-prioritisation guidance in Section IV-F, which translates this must-be/performance distinction into a two-tier budgeting logic for heritage-site managers. Unlike additive treatments of SERVQUAL and EDT constructs common in the literature, this paper's contribution is to show and theoretically justify, drawing on both EDT and the asymmetric-attribute literature (Bui & Robinson, 2024; Yacoub et al., 2025) that these dimensions are not interchangeable once modelled jointly, so that marginal investment aimed specifically at raising visitor satisfaction is likely to yield a greater return when directed at perceived value and staff responsiveness rather than experiential embellishment or reliability improvements alone.

This study is subject to several limitations that present highly promising opportunities for future research. First, the study is constrained by its cross-sectional, quantitative design. Because data were collected at a single point in time, we cannot definitively establish causal relationships among the constructs, even though the OLS regression model demonstrated excellent fit. Second, the empirical scope was limited to only two specific

UNESCO sites in Malaysia (Melaka and George Town), and the sample of $N = 153$ respondents, while statistically powered for our quantitative model, limits the generalisability of the findings to broader heritage settings. Third, as noted in Section IV-E, our three-factor classification in Table VII was interpretive rather than mathematically confirmed through formal non-linear contrast techniques. Thus, to address these limitations and expand the theoretical contribution of this work, several specific future research designs and methodologies are proposed.

First, future research should formally test and validate the proposed must-be/performance classification by utilising statistical penalty-reward contrast analysis (PRCA) or impact-asymmetry analysis (IAA) (Bui & Robinson, 2024). By recoding the continuous service quality items into dummy variables representing negative and positive disconfirmation, future researchers can mathematically demonstrate whether failing to meet reliability or experience expectations disproportionately drives dissatisfaction (confirming them as must-be attributes) while exceeding responsiveness expectations drives high satisfaction (confirming it as a performance/excitement attribute) (Bui & Robinson, 2024).

Second, to assess the generalisability of the baseline-versus-satisfier pattern, the model should be replicated across a much larger and more diverse selection of cultural heritage attractions, specifically comparing UNESCO-inscribed sites with non-UNESCO regional heritage destinations. UNESCO status carries a powerful global prestige effect that likely inflates baseline visitor expectations (Patwardhan et al., 2023; Sheng & Chen, 2022). Replicating this study in non-UNESCO heritage towns would clarify whether service reliability and experience remain baseline requirements or if they shift to active satisfiers when the prestigious UNESCO label is absent.

Third, future studies should incorporate a comparative analytical design to formally evaluate the moderating effects of visitor profiles, specifically comparing domestic versus international visitors, and first-time versus repeat tourists (Rasoolimanesh et al., 2023; Seow et al., 2024). Domestic visitors, being highly familiar with local culture and infrastructural baselines, may have very different service expectations and interpretations of perceived value than international visitors, who may perceive the entire physical and cultural setting as a highly novel, emotionally engaging experience (Rasoolimanesh et al., 2023).

Finally, we strongly advocate that future research adopts a mixed-methods approach, integrating qualitative semi-structured interviews or focus groups alongside quantitative surveys, utilising a sequential explanatory mixed-methods design (Creswell & Creswell, 2023). Qualitative data would provide crucial explanatory power for unravelling visitors' cognitive and psychological mechanisms. Furthermore, semi-structured interviews could directly ask visitors why they perceive reliability and memorable experiences as basic, 'taken-for-granted' hygiene factors, while staff responsiveness and cost-benefit perceived value trigger active cognitive delight and high satisfaction, bridging the current gap between statistical correlation and visitor psychology (Creswell & Creswell, 2023).

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