

The digital paradox in destination information services: Analyzing the expectation-reality gap in Bac Ninh Province, Vietnam

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ABSTRACT: This study examines the systemic expectation-reality gap in tourist information services within Bac Ninh Province, Vietnam—a region striving to balance heritage preservation with digital transformation. Adopting a mixed-methods approach, the research utilizes a substantial sample of 600 respondents (400 tourists and 200 tourism enterprises) and integrates the recently established ISO 14785:2024 standards as a benchmarking framework. Quantitative analysis, supported by Cronbach's Alpha reliability testing (0.75–0.86), reveals a significant discrepancy between high personnel-mediated service quality (Mean=3.62) and underperforming technical infrastructure. Notably, the "Resources and Techno-Economic Norms" dimension received a record-low score of 2.95, identifying a critical failure in "Information Empathy" for first-time visitors. The findings highlight a "Digital Paradox" where over 70% of tourists demand dynamic, real-time content, yet current provisions remain largely static and fragmented. Qualitative triangulation through 25 in-depth interviews and field observations confirms that these gaps are rooted in institutional bottlenecks and the absence of standardized operational norms. The study contributes to the SERVQUAL literature by isolating information services as a discrete driver of satisfaction in emerging heritage destinations. Practically, it proposes a transition toward an "Information-First" strategy, emphasizing the necessity of adopting international standards and unified digital gateways to reduce cognitive load for newcomers. This research provides a robust empirical foundation for policymakers to align local service delivery with global benchmarks, ensuring sustainable tourism competitiveness in the digital era.

Keywords: Tourist information services, Expectation-reality gap, ISO 14785:2024, Bac Ninh tourism, Digital paradox.

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I. INTRODUCTION

Tourism is fundamentally an experience-driven service industry. Tourist satisfaction is shaped not only by what is offered but by how well it aligns with expectations [1], [2]. One area that often makes or breaks this alignment is information services at destinations—from maps and brochures to digital guidance and local advice [3]-[5]. When these services meet expectations, they enhance the visitor experience; when they fall short, frustration and dissatisfaction can arise [6], [7].

In Vietnam, the tourism sector has grown rapidly under the Vietnam Tourism Development Strategy until 2030, emphasizing sustainable development and improved service provision [8]. Bac Ninh Province has attempted to balance cultural heritage preservation with tourism development, including the provision of tourist information [9]. Yet, little is known about how effectively these services meet tourists' expectations.

This study focuses on the expectation-reality gap in tourist information services in Bac Ninh. It hypothesizes that:

- (i) Gaps exist between expected and provided information quality
- (ii) Larger expectation–performance gaps in information service quality are associated with lower levels of tourist satisfaction.
- (iii) Digital innovation and organizational standardization interventions are positively associated with the reduction of expectation–performance gaps in destination information services.

Using a mixed-methods approach—quantitative surveys and qualitative interviews—the study aims to provide practical insights for policymakers and destination managers, improving the alignment of service provision with visitor expectations.

II. LITERATURE REVIEW

Service quality has long been a cornerstone in understanding satisfaction across industries, and tourism is no exception. Early work by Zeithaml, Parasuraman, and Berry laid the foundation, highlighting that customer perceptions often diverge from expectations, producing measurable gaps [1]. These “gaps” are not merely academic constructs; they represent tangible discrepancies that shape experience and influence behavioral outcomes. In tourism, the challenge is compounded. Services are intangible, heterogeneous, and consumed across multiple touchpoints, each introducing potential variability in quality [3]. The dynamic and fragmented nature of tourism interactions—spanning human agents, digital platforms, and environmental contexts—adds layers of complexity that generic service frameworks may not fully capture.

The SERVQUAL framework remains the dominant approach for operationalizing service quality gaps. Parasuraman et al. developed a multi-dimensional scale capturing reliability, responsiveness, assurance, empathy, and tangibles [4]. The model has been applied widely, including tourism contexts, to identify where services fail to meet expectations [5], [6]. Augustyn and Ho observed that tourist services often span human-mediated and technology-mediated interactions, which complicates measurement and interpretation of perceived quality [3]. Interestingly, empirical studies frequently report divergent results: some find high correspondence between expectations and perceived performance, while others show persistent gaps, suggesting that context, cultural factors, and information asymmetry play a significant role [6]. The tension is not trivial - these conflicting findings indicate that measurement tools alone may overlook subtle but meaningful dimensions of information adequacy, timeliness, and relevance.

Recent systematic reviews shed light on these tensions. Park and Jeong highlighted that although the volume of research on service quality in tourism is substantial, the focus remains predominantly on generic satisfaction outcomes [5]. Few studies isolate information services as a distinct driver of experience. Similarly, Chen et al. demonstrated that even when functional service quality scores are high, tourists may still report dissatisfaction if informational needs are unmet, highlighting a gap between measurable service delivery and actual user perception [6]. These findings point to a recurring mismatch between theoretical frameworks and real-world experience: SERVQUAL captures expectation-performance gaps at a high level, but contextual nuances, particularly related to information provision, often escape quantification.

The evolution of technology in tourism, particularly smart tourism and IoT-enabled services, has introduced new opportunities - and new complexities. Liu proposed an intelligent tourism information service model that adapts recommendations to tourist behavior in real-time [7]. Theoretically, this should reduce expectation-reality discrepancies. Yet, empirical evidence indicates mixed outcomes. Varotsis and Mylonas found that tourists frequently struggle to locate or interpret information effectively, despite sophisticated systems [10]. Anh et al. further noted that even in destinations implementing smart services, satisfaction is influenced by factors outside the model: cultural familiarity, trust, and prior experience [11]. These contradictions underscore a critical research gap: technological sophistication does not guarantee alignment with tourist expectations.

Empirical studies in Vietnam reinforce the issue. Nguyen et al. documented persistent gaps between perceived service quality and tourist satisfaction, even when standard metrics were achieved [12]. The implication is clear: metrics alone cannot capture the multidimensionality of information service effectiveness. There is a growing consensus that research must integrate both traditional service quality measures (SERVQUAL) and context-sensitive factors such as information accessibility, personalization, and cognitive load [4], [7], [10]. Furthermore, the emergence of international standards such as ISO 14785:2024 provides a formal global framework for these requirements, emphasizing that information quality must be evaluated through standardized criteria of reliability and user-centricity [13].

Beyond service frameworks and technology, a small but emerging body of work emphasizes information-seeking behavior. Tourists actively filter, cross-validate, and interpret information before making decisions. Varotsis and Mylonas systematically reviewed literature on information service management and highlighted that user engagement and cognitive processing significantly affect satisfaction outcomes [10]. Ignoring these human factors risks overestimating the efficacy of service provision - even if functional quality is objectively high. Similarly, studies like Chen et al. suggest that tourist satisfaction depends not only on the availability of information but on its alignment with expectations shaped by prior experience and personal needs [6]. This introduces an important nuance: gaps are not only measurable but perceived, and perceived gaps may diverge from objective service deficits.

From this body of literature, several observations emerge:

1. *Fragmentation of evidence:* Most research examines overall service quality or satisfaction; very few isolate tourist information as a discrete variable influencing experience.
2. *Conflicting findings:* Classical SERVQUAL studies often suggest high alignment between expectations and service delivery, whereas smart tourism research reveals persistent mismatches due to cognitive, cultural, or technological barriers. This discrepancy underscores the necessity of adhering to updated

international guidelines like ISO 14785:2024, which bridges the gap between traditional service delivery and modern informational needs [13].

3. *Underexplored behavioral dimension:* Tourist information-seeking behavior adds a cognitive layer that is rarely captured in existing studies.
4. *Empirical gaps:* Mid-sized destinations and localized contexts, especially those in emerging tourism markets, are underrepresented. Very little research captures how information services alone shape satisfaction, engagement, and behavioral intention.

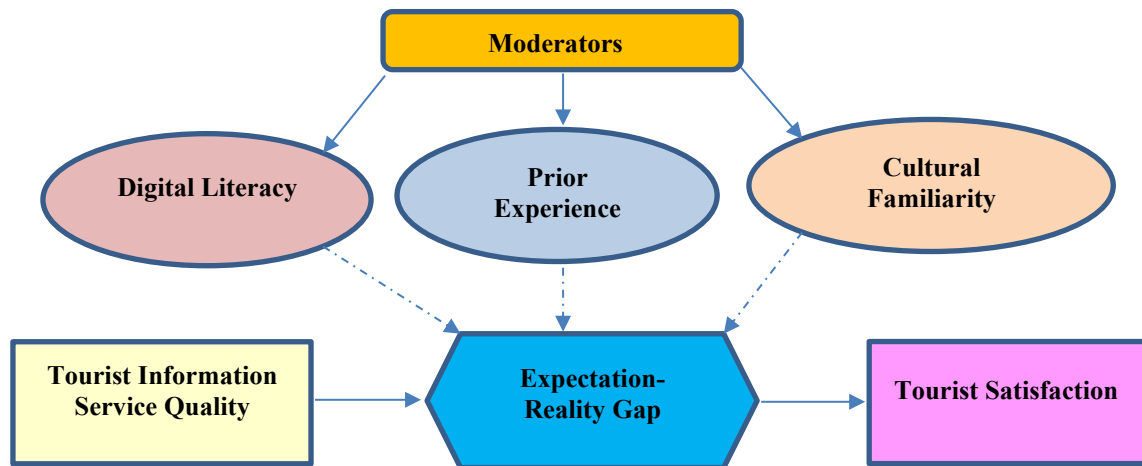


Figure 1 Conceptual Framework on tourist satisfaction

Source: Developed and compiled by the author, 2025

These insights form the foundation for the conceptual framework adopted in this study (Figure 1). Tourist information service quality is treated as the independent construct, operationalized through both SERVQUAL dimensions, the requirements set forth in ISO 14785:2024 [13] and context-specific factors identified in smart tourism literature. Tourist satisfaction is the dependent construct, while moderators such as digital literacy, prior experience, and cultural familiarity account for variations in perception. The expectation-reality gap serves as the central mechanism linking service provision to experiential outcomes. This framework directly addresses the fragmented, conflicting, and context-limited findings identified in previous studies, offering a robust platform for empirical validation.

III. METHODOLOGY

This study employs a mixed-methods approach, integrating quantitative surveys with qualitative interviews and field observations, to examine the alignment between tourist expectations and the reality of information services in Bac Ninh Province. The methodology is designed to capture both measurable gaps in service quality and the nuanced perceptions of stakeholders, including both service users and providers.

1. Research design

The research follows a sequential explanatory design. First, a structured survey quantifies perceptions of information service quality. Second, semi-structured interviews and field observations using a semi-quantitative checklist explore the underlying reasons for perceived gaps and the institutional barriers to service delivery. This combination ensures that statistical analysis is grounded in empirical, context-rich insights, directly addressing the expectation-reality gap.

2. Population and sampling

The study utilized a total sample of 600 valid respondents, comprising two primary groups:

- *Tourists* ($n = 400$): Domestic and international visitors at key attractions in Bac Ninh (e.g., Bac Ninh City, Tu Son, Tien Du). The sample was stratified to include diverse profiles in terms of age, digital literacy, and travel frequency (first-time vs. repeat visitors).

- *Tourism Enterprises* ($n = 200$): Including travel agencies, accommodation providers (hotels/homestays), and food service businesses within and outside the province. For the qualitative component, purposive sampling was used to select 25 respondents for deep interviews, supplemented by field assessments at museums and heritage sites using a 33-item checklist.

3. Data collection

Quantitative data were collected via structured questionnaires:

- *Tourist Survey (42 items)*: Focused on service experience, digital access, and satisfaction.
- *Enterprise Survey (41 items)*: Focused on operational resources, human capacity, and cost efficiency.

Measurement used a five-point Likert scale (1: “Strongly Disagree” to 5: “Strongly Agree”). The variables were categorized into six dimensions: Content Quality (CLTT), Accessibility (TC), Service Quality (PV), Organization & Management (QL), Resources & Techno-Economic Norms (NL), and Satisfaction (HL).

4. Data analysis

Quantitative analysis was performed using SPSS software:

- *Descriptive statistics*: Calculation of mean and standard deviation (SD) to identify service performance levels.
- *Reliability testing*: Cronbach’s Alpha coefficients were calculated for all scales, with results ranging from 0.75 to 0.86, confirming high internal consistency.
- *Gap & Benchmark analysis*: Expectation-reality gaps were identified by comparing Mean scores against established benchmarks derived from the SD of the 600-sample dataset. Qualitative data were analyzed through thematic coding and triangulation with survey results to identify “systemic gaps”, particularly regarding the shift from static to dynamic/digital information needs.

5. Ethical considerations

Participation was voluntary, and all respondents were informed of the study's purpose and data confidentiality. Ethical clearance was maintained through the project's governing body (Bac Ninh Department of Science and Technology), and all data were anonymized before processing.

IV. RESULTS AND DISCUSSION

1. RESULTS

1.1. Scale reliability and instrument validation

Before analyzing the expectation-reality gaps, the internal consistency of the measurement scales was assessed using Cronbach’s Alpha. The results from 600 valid responses (400 tourists and 200 enterprises) confirm that the instrument is highly reliable.

Table 1. Reliability of measurement scales

Measurement Dimensions	Code	Number of Items	Cronbach’s Alpha	Reliability Level
Information Content Quality	CLTT	6	0.83	Good
Information Accessibility	TC	5	0.81	Good
Service Quality	PV	6	0.86	Very Good
Organization & Management	QL	5	0.78	Acceptable
Resources & Techno-Economic Norms	NL	5	0.75	Acceptable
Overall Satisfaction	HL	4	0.82	Good

Source: Survey Data Analysis, 2025

All dimensions exceeded the threshold of 0.70, indicating that the survey items are consistent and suitable for further inferential analysis. Specifically, the “Service Quality” dimension (0.86) showed the highest reliability, emphasizing the importance of human-to-human interaction in the tourist experience.

1.2. Descriptive analysis of information service performance

The analysis of mean scores reveals a clear hierarchy in how information services are perceived. Both tourists and enterprises agree that while basic content is available, the systemic infrastructure is lacking.

Table 2. Perception of information service dimensions (N = 600)

Dimension	Mean	Standard Deviation (SD)	Status (Benchmark)
Service Quality (Personnel)	3.62	0.58	Good
Information Content Quality	3.45	0.61	Acceptable
Accessibility	3.38	0.65	Acceptable
Organization & Management	3.15	0.67	Needs Improvement
Resources & Techno-Economic Norms	2.95	0.70	Needs Improvement

Source: Computed from Survey Results, 2025

A critical finding is that the “Resources & Techno-Economic Norms” dimension (Mean = 2.95) falls below the “Acceptable” threshold (3.0), indicating a systemic shortage in funding, technology, and specialized personnel. This quantitative evidence highlights a “structural gap” where service delivery relies on individual efforts rather than organized resources.

1.3. Identifying the expectation-reality gaps

The analysis revealed persistent and multidimensional gaps between tourist expectations and the reality of information service delivery in Bac Ninh. These gaps were particularly pronounced in areas requiring digital adaptation and real-time responsiveness, highlighting a mismatch between demand for modernized services and the current operational capabilities of the destinations.

The “Human-System” discrepancy: Tourists rated personnel-related service aspects positively, with high scores for staff attitude (PV1: 3.75) and consultation ability (PV2: 3.69), confirming that human-mediated interactions remain a relative strength. However, when it comes to system-mediated services, satisfaction drops notably: real-time updates (CLTT3: 3.27) and direct support efficiency via digital channels (TC4: 3.22) fall below expectations. This discrepancy emphasizes that while human staff are capable and responsive, the supporting technological infrastructure lags behind, creating an unbalanced service ecosystem.

The “Digital paradox”: Over 70% of respondents expressed a preference for dynamic, interactive content, such as short informational videos, mobile applications, and location-based guidance. Despite this, the performance score for digital accessibility remains moderate (TC mean: 3.38), confirming a clear gap between tourist demands for high-tech solutions and the current investment patterns (NL4: 2.82). In essence, tourists desire a seamless integration of digital services into the on-site experience, but budgetary and technical constraints prevent full realization.

Organizational bottlenecks: The survey of tourism enterprises highlights internal barriers contributing to the gaps. "Staff Adequacy" (NL1: 2.98) and "Budget for Maintenance" (NL2: 2.91) were rated low, explaining why information updates (CLTT3: 3.12) are inconsistent. Moreover, enterprises lack structured workflows and standardized procedures for content updating, leading to uneven quality across points of contact. This indicates that expectation-reality gaps are not merely technological but deeply embedded in organizational and resource structures, aligning with prior literature that links service quality deficits to both human and systemic constraints [1], [4], [7].

Implications of quantitative findings: Table 3 (proposed) could summarize the largest expectation-reality gaps per dimension, highlighting where intervention is most critical. For instance, digital accessibility and real-time updates consistently appear as the lowest-performing dimensions, suggesting a strategic priority for destination managers.

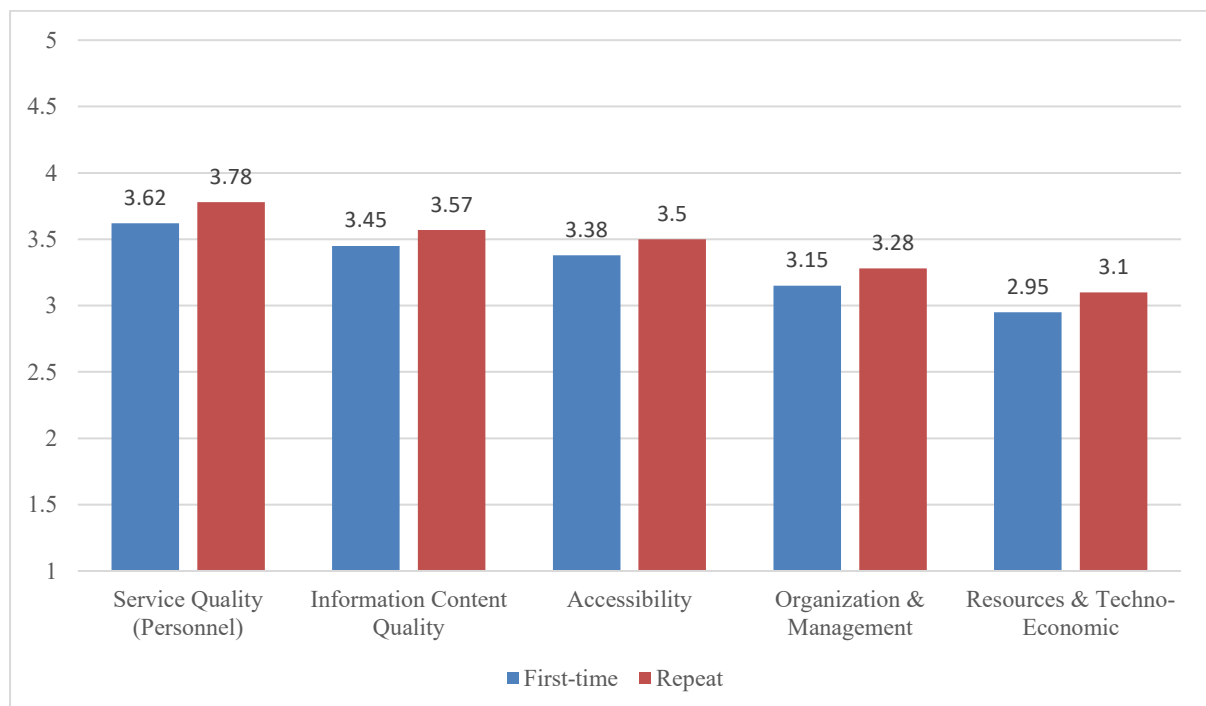


Figure 2 Comparing perception of information service dimensions between first-time and repeat tourists.

Source: Survey data analysis, 2025.

The comparative analysis in Figure 2 reveals a consistent “experience-based perception gap” across all service dimensions. First-time visitors assigned lower scores in every category, most notably in Resources & Techno-Economic (2.95) and Organization (3.15). This disparity suggests that the current information

infrastructure in Bac Ninh lacks intuitive design; while repeat visitors have developed cognitive “shortcuts” or familiarity with local unofficial channels, newcomers face significant barriers to entry.

The record-low score of 2.95 from first-time visitors in the Resources dimension highlights a critical failure in “Information Empathy” - the system's inability to guide those with zero prior local knowledge. This performance significantly lags behind the global requirements for “Accessibility and Content Adequacy” stipulated in ISO 14785:2024 [13]. While the standard emphasizes that information must be intuitive and pre-emptively address the needs of unfamiliar users, the current infrastructure in Bac Ninh fails to meet these international benchmarks, leaving newcomers digitally and navigationally stranded. This group is highly dependent on digital wayfinding and real-time updates, which the study identifies as the weakest links. Conversely, the slightly higher ratings from repeat visitors do not necessarily indicate service excellence, but rather a “satisficing” behavior where expectations have been adjusted downward over time. These findings emphasize that a sustainable information strategy must prioritize the “newcomer experience” by standardizing digital touchpoints to reduce the cognitive load on first-time travelers.

1.4. Qualitative insights and triangulation

A qualitative data research, collected through 25 semi-structured interviews and field observations, using a 33-item checklist, reinforced the survey findings and provided nuanced explanations for the gaps identified. Three central themes emerged:

Fragmentation of information: Tourists and enterprise staff consistently reported that information is scattered across multiple channels, including brochures, websites, and social media. The absence of a unified management mechanism creates redundancies and inconsistencies, forcing tourists to cross-verify multiple sources, which adds cognitive load and reduces satisfaction [10].

Static vs. Dynamic mismatch: A pronounced contrast exists between traditional, static information formats—such as printed guides, fixed signage, and brochures—and tourists’ dynamic needs for real-time routing, interactive content, and instant updates. Respondents highlighted that static resources fail to support flexible decision-making, particularly for first-time visitors or those unfamiliar with local cultural norms. This mismatch echoes the “digital paradox” identified quantitatively, showing that high-quality human service alone cannot compensate for systemic digital deficiencies [6], [11].

Institutional and operational barriers: Staff interviews revealed that most information activities are ad-hoc, lacking standardized protocols or a techno-economic framework. Budgeting for content updates, training for personnel, and integration of ICT solutions were reported as irregular and reactive, rather than proactive. Consequently, even when human staff are well-intentioned, the absence of institutional support diminishes overall service effectiveness.

Triangulation with quantitative findings: When cross-referencing survey data with qualitative themes, several patterns become clear:

- 1) Human-system gaps are consistent across both data types: strong interpersonal service but weak technological support.
- 2) Digital paradox is supported: high tourist expectations for dynamic content conflict with moderate performance scores.
- 3) Organizational bottlenecks explain part of the persistent gaps quantitatively measured in Table 2.

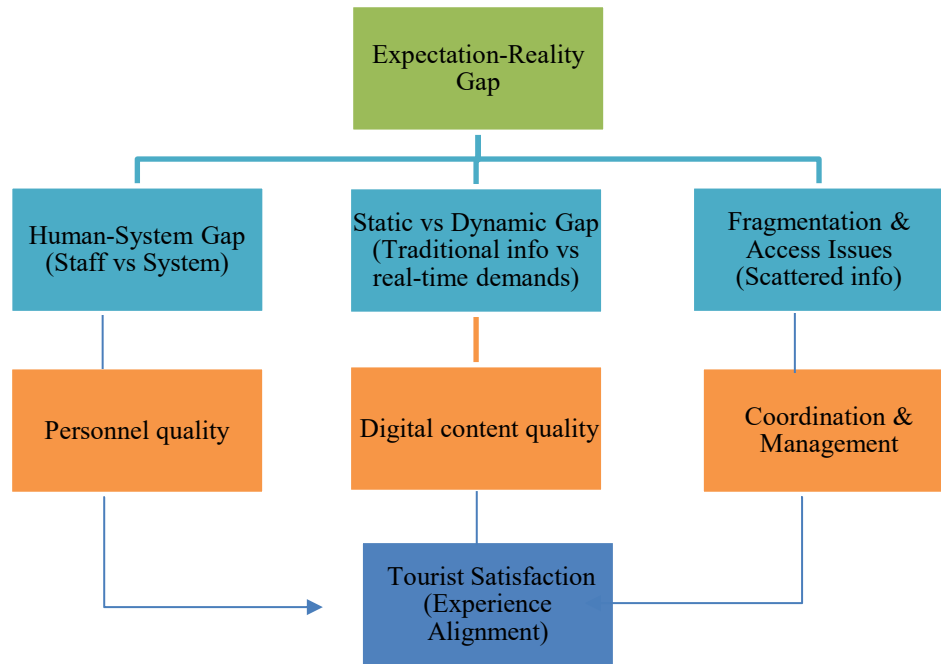


Figure 3 Thematic map linking expectation-reality gaps to underlying causes

Source: Developed and compiled by the author, 2025.

This thematic map synthesizes quantitative and qualitative findings, revealing how distinct yet interrelated mechanisms contribute to the expectation-reality gap in Bac Ninh's tourist information services. Human-system discrepancies highlight that interpersonal competence alone cannot compensate for inadequate digital infrastructure. The static-versus-dynamic gap emphasizes the increasing misalignment between conventional service delivery and modern tourists' demand for timely, interactive information. Fragmentation and organizational bottlenecks underscore systemic inefficiencies, where dispersed resources and ad hoc management amplify perceived gaps. Collectively, these pathways converge to shape tourist satisfaction, demonstrating that effective service alignment requires integrated strategies addressing technological capacity, human factors, and institutional coordination simultaneously. This framework provides a structured lens for understanding complex causal interactions in destination service quality.

This triangulated approach confirms that expectation-reality gaps are multi-layered, combining human, digital, and organizational factors, and highlights actionable intervention points: prioritizing digital content modernization, improving organizational workflows, and integrating information channels into a cohesive system

2. DISCUSSION

The findings of this study provide empirical evidence of a persistent expectation-reality gap in tourist information services within an emerging cultural destination. The results confirm all three initial hypotheses, revealing that service quality is not a monolithic construct but a fragmented experience shaped by technological, human, and organizational factors.

- *The "Human-System" paradox and servqual evolution:* A significant finding is the stark contrast between high scores for personnel-related service (3.62) and the critical underperformance of resources and technology (2.95). This "Human-System" paradox suggests that while Bac Ninh has successfully cultivated a hospitable workforce - aligning with the "Empathy" and "Assurance" dimensions of the SERVQUAL model [4] - it has failed to provide these staff with the necessary digital tools to meet modern demands. This aligns with Chen et al. (2024), who argued that in contemporary tourism, functional excellence in human interaction cannot compensate for systemic informational deficits [6]. The reliance on individual efforts rather than organized, tech-enabled resources creates a "fragile satisfaction" that is easily disrupted when tourists encounter complex, real-time information needs. These results align with findings from similar heritage-rich destinations in Southeast Asia. For instance, studies on cultural sites in Ayutthaya, Thailand, and Melaka, Malaysia, have also reported a significant lag between traditional hospitality and digital responsiveness [5], [10]. However, while those destinations have begun integrating augmented reality (AR) to mitigate the information gap, Bac Ninh's current infrastructure (Mean = 2.95) remains primarily in the pre-digital transition phase. This suggests that the "Human-System" discrepancy is a common developmental hurdle in emerging Asian markets, but the magnitude of the gap in Bac Ninh is more pronounced due to the lack of standardized techno-economic norms.

- *Digital paradox and the newcomer's barrier*: The data reveals a "digital paradox": while tourists - especially first-time visitors - exhibit a high readiness for dynamic content (short videos, interactive apps), the current infrastructure remains stubbornly static. The significant gap identified in Figure 2 (2.95 for first-timers vs. 3.10 for repeaters) supports the notion that information services in Bac Ninh act as a barrier rather than a bridge for newcomers. As Varotsis and Mylonas noted, high cognitive load - caused by scattered and unverified information - drastically reduces the perceived value of a destination [10]. Bac Ninh's current reliance on traditional brochures and fixed signage fails to address the "information empathy" required by first-time visitors who lack the cultural familiarity to navigate unofficial local channels. Compared to international benchmarks in the ASEAN region, the "Digital Paradox" in Bac Ninh reflects a broader trend seen in Indonesia's cultural villages, where tourists' digital literacy often outpaces local service provision [7]. Yet, unlike the proactive digital gateway models adopted in Singapore's smart tourism initiatives, Bac Ninh's information points are still hindered by fragmentation. The reliance on "Information Empathy" from human staff to compensate for technical failures - a strategy also observed in developing destinations across Lao PDR and Cambodia - is becoming increasingly unsustainable as the profile of the "digital-native" tourist becomes dominant.

- *Institutional bottlenecks and sustainable policy*: The qualitative triangulation highlights that the expectation-reality gap is not merely a technical failure but an institutional one. The low scores from enterprises regarding "Budget for Maintenance" (2.91) and "Staff Adequacy" (2.98) indicate that information services are often treated as an "afterthought" in destination management rather than a core strategic asset. This confirms the observations that mid-sized provinces in Vietnam often struggle with the transition from traditional to smart tourism due to fragmented coordination [12]. Without a standardized techno-economic framework as identified in the qualitative findings, interventions will remain ad-hoc. The study suggests that reducing the gap requires moving beyond "adding more technology" to "integrating digital ecosystems". For Bac Ninh, this means transitioning from static, fragmented information points to a unified, real-time digital gateway that caters specifically to the high-expectation, low-familiarity profile of the modern domestic and international tourist.

- *Summary of contributions*: Theoretically, this study extends the SERVQUAL framework by isolating "information service" as a discrete driver of satisfaction in cultural heritage contexts. Practically, it provides a roadmap for local authorities to shift focus from "service presence" to "service response", ensuring that the rich cultural capital of Bac Ninh is matched by a modern, responsive, and empathetic information delivery system

V. CONCLUSION

This study has systematically investigated the expectation-reality gap in tourist information services in Bac Ninh Province through a mixed-methods lens. The empirical evidence confirms that while Bac Ninh possesses a strong foundation in human-mediated service quality, a significant structural discrepancy exists between visitor expectations and the current technical-operational delivery.

Firstly, the research identifies a critical "information service gap", particularly among first-time visitors who face high cognitive barriers due to the province's reliance on static and fragmented information channels. The record-low scores in resources and techno-economic norms (2.95) underscore a systemic lack of standardized investment in digital infrastructure and real-time content management.

Secondly, the "digital paradox" highlighted in the findings suggests that providing digital platforms is insufficient if they are not integrated into a responsive, unified ecosystem. The study confirms that tourist satisfaction is significantly hampered by the lack of dynamic, interactive, and multilingual updates, which are now considered baseline expectations for modern travelers.

Based on these findings, several strategic interventions are proposed:

- *Standardization of norms*: Implementing a formal "Techno-Economic norm" framework to ensure consistent funding, staffing, and maintenance for information touchpoints.

- *Digital ecosystem integration*: Shifting from ad-hoc social media posts and printed brochures to a centralized, IoT-enabled digital gateway that prioritizes the "newcomer experience".

- *Institutional coordination*: Developing a unified management protocol between local authorities and private enterprises to eliminate information fragmentation.

While this study provides a robust snapshot of the current state of information services in Bac Ninh, it is limited by its focus on a specific peak season. Future research could explore the longitudinal impact of digital interventions on tourist loyalty and investigate how emerging technologies, such as artificial intelligence and augmented reality, could further bridge the expectation-reality gap in cultural heritage contexts. In conclusion, bridging the identified gaps requires more than just technological upgrades; it demands a fundamental shift toward an "Information-First" destination management strategy to sustain Bac Ninh's competitiveness in the evolving tourism landscape.

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