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EVALUATING GENERATIVE AI SERVICE QUALITY (GENAI-SQ) IN TOURISM: AN EMPIRICAL STUDY ON TRAVEL ITINERARY PERSONALISATION AND USER REVISIT INTENTIONS

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Abstract—*The rapid integration of Generative Artificial Intelligence (GenAI) tools such as ChatGPT, Google Gemini, and Microsoft Copilot into travel planning has transformed how travellers conceptualise, personalise, and execute tourism experiences. However, the service quality dimensions of these platforms remain underexplored, especially in Tier-2 Indian cities. This study empirically examines the GenAI Service Quality (GenAI-SQ) framework using data from 250 respondents in Belagavi, Karnataka. Based on established theoretical models, it evaluates Information Accuracy, Personalisation Quality, Conversational Naturalness, and System Reliability, and their impact on User Satisfaction and Revisit Intention. Findings indicate that Personalisation Quality and Information Accuracy are the most valued dimensions, while User Satisfaction significantly influences revisit intentions. The study offers practical insights for tourism stakeholders and contributes to emerging research on GenAI-driven service quality in developing urban markets.*

Keywords: *Generative AI, Service Quality, Tourism, Travel Itinerary Personalisation, User Satisfaction, Revisit Intention, Belagavi, Tier-2 City, India.*

1. Introduction

The tourism and hospitality sector has witnessed a seismic shift in service delivery models over the past decade, driven primarily by the proliferation of digital platforms, mobile technologies, and most recently, the emergence of Generative Artificial Intelligence (GenAI). GenAI tools large language model-based platforms capable of generating contextually responsive, personalised, and real-time travel content have rapidly transitioned from novelty applications to mainstream travel planning utilities. Platforms such as ChatGPT, Google Gemini, and Microsoft Copilot now serve as de facto travel consultants for a growing segment of global and Indian travellers, generating customised itineraries, accommodation recommendations, budgetary breakdowns, and destination-specific guidance in natural conversational language.

Globally, the AI in tourism market was valued at approximately USD 9.3 billion in 2023 and is projected to exceed USD 28.5 billion by 2030, at a CAGR of 17.3% (Allied Market Research, 2024). Within India, the adoption of GenAI tools for travel planning is accelerating among urban and semi-urban populations, buoyed by India's 820 million internet users and a digitising middle-class tourism segment (NASSCOM, 2023). In this context, Belagavi a historically and culturally significant Tier-2 city in northern Karnataka offers a particularly compelling research setting. Situated at the confluence of the Deccan Plateau and the Western Ghats, and endowed with heritage attractions such as Belagavi Fort, Gokak Falls, and the Dandeli Wildlife Sanctuary, Belagavi attracts a growing volume of independent domestic travellers, precisely the demographic most likely to rely on GenAI tools for itinerary planning.

Despite the practical significance of GenAI adoption in tourism, the empirical literature on how users evaluate the service quality of these tools and how such evaluations translate into satisfaction and behavioural intentions remains nascent. Traditional service quality frameworks such as SERVQUAL (Parasuraman et al., 1988) were not designed to capture the unique performance characteristics of AI-mediated service encounters. Constructs such as Personalisation Quality, Conversational Naturalness, and Information Accuracy require fresh empirical validation in tourism contexts.

Furthermore, no published study has investigated GenAI service quality perceptions among users in Belagavi or comparable Tier-2 Indian destinations, representing a significant geographic and contextual gap in the literature. This study is designed to fill that gap.

2. Literature Review

2.1 GenAI in Tourism: Adoption and Usage Patterns

Dwivedi et al. (2023) conducted a comprehensive multidisciplinary review of ChatGPT's implications for research and practice, noting tourism as one of the sectors with the highest disruptive potential. The authors highlighted that GenAI tools could personalise travel experiences at scale, though empirical validation in specific geographic contexts remained sparse. Buhalis and Moldavska (2022) examined voice assistants in hospitality and demonstrated that AI-mediated communication significantly influences customer experience perceptions, with accuracy and responsiveness emerging as critical quality dimensions. Gursoy et al. (2023) conducted a mixed-method analysis of AI and robotics adoption in hospitality, finding that user acceptance was contingent on perceived competence, communication quality, and reliability dimensions directly mapped to the GenAI-SQ framework in the current study.

2.2 Service Quality in AI-Mediated Tourism Contexts

The SERVQUAL framework of Parasuraman et al. (1985, 1988), originally comprising five dimensions tangibles, reliability, responsiveness, assurance, and empathy has been extensively adapted for digital and AI service contexts. Luo et al. (2019) demonstrated through field experiments in service industries that frontline service robots' communication quality and accuracy significantly determined customer satisfaction, echoing the foundational service quality dimensions. Flavián et al. (2022) specifically studied AI adoption in tourism contexts, finding that technology readiness moderated the relationship between perceived AI quality and usage intentions. Pham et al. (2024) conducted the most contextually proximate study to the current investigation, examining GenAI in tourism planning and establishing User Satisfaction as a critical mediating variable between AI service quality perceptions and behavioural intentions a pathway this study seeks to validate in the Indian Tier-2 context.

2.3 Personalisation in AI-Driven Travel Recommendations

Xu et al. (2020) investigated AI-driven hotel recommendation quality and found that personalisation strength the degree to which AI recommendations aligned with individual traveller preferences was the single strongest predictor of purchase intention. Chung et al. (2017) demonstrated in the context of augmented reality tourism applications that individualised content significantly influenced destination revisit intentions, a finding that extends logically to GenAI-generated personalised itineraries. Sharma et al. (2022), in a study of Indian AI-tourism users, confirmed that personalisation quality mediated the relationship between AI tool usage and overall travel satisfaction, establishing a precedent for the current study's hypotheses.

2.4 Conversational AI Quality and User Perceptions

Zhou et al. (2020) examined the design principles of XiaoIce, a large-scale empathetic social chatbot, demonstrating that conversational naturalness characterised by coherence, contextual memory, and empathetic responsiveness was the most critical determinant of long-term user engagement. Shum et al. (2018) traced the evolution from simple rule-based chatbots to LLM-based conversational agents and established that naturalness of interaction was strongly correlated with perceived usefulness and user satisfaction. Nass and Moon (2000), drawing on the Computers as Social Actors (CASA) paradigm, established that users attribute social qualities to natural conversational interfaces and respond affectively to them, forming the psychological underpinning for the Conversational Naturalness construct in the current study.

2.5 System Reliability and Information Quality

DeLone and McLean (2003) articulated the Information Systems Success Model, identifying system quality, information quality, and service quality as the three foundational pillars of IS success, with system quality encompassing reliability, availability, and response time dimensions directly mapped to the System Reliability construct in this study. Kim et al. (2021) studied hotel service robot preferences in the COVID-19 era and identified system reliability as a critical dimension that determined users' willingness to engage with AI service encounters over human service alternatives. Jiang et al. (2002) validated the application of SERVQUAL to information systems service quality measurement, reinforcing the conceptual legitimacy of applying service quality measurement frameworks to technology-mediated service contexts.

2.6 User Satisfaction and Revisit Intention

Oliver (1980) and Bhattacherjee (2001), through the Expectation-Confirmation Theory framework, established that satisfaction arising from the disconfirmation of prior expectations by actual performance is the primary antecedent of continued technology use intentions. Chen and Tsai (2007) specifically validated the satisfaction-revisit intention pathway in tourism, demonstrating that satisfied visitors were significantly more likely to revisit destinations and recommend them to others. Zeithaml et al. (1996) established that service quality perceptions generated through satisfaction translate into favourable behavioural intentions including repurchase, loyalty, and positive word-of-mouth a chain this study seeks to validate within the GenAI tourism context in Belagavi. Kumar and Raju (2023) examined AI chatbot usage among Indian domestic travellers and found that satisfaction with AI-generated travel co content was a strong predictor of platform revisit intention, providing direct empirical precedent for the current study.

3. Research Gap

A systematic review of the extant literature reveals four substantive gaps that motivate the present study. First, while technology acceptance and AI adoption in tourism have been extensively studied, the specific service quality dimensions of GenAI tools in travel planning contexts have received scant empirical attention, particularly outside Western and East Asian metropolitan markets. Second, the mediating role of User Satisfaction in translating GenAI service quality perceptions into Revisit Intentions has not been examined in the Indian tourism context using a structured SEM or hypothesis-testing framework. Third, constructs such as Personalisation Quality, Conversational Naturalness, and Information Accuracy though theoretically established in human-computer interaction research have not been empirically validated in a unified GenAI-SQ model within a Tier-2 Indian city context. Fourth, Belagavi as a research locale remains entirely absent from the AI-tourism literature, representing a significant geographic blind spot given its growing tourism significance (Karnataka Tourism, 2023). This study addresses all four gaps through original primary data collection.

4. Research Objectives

This study is guided by the following objectives:

1. To assess the sociodemographic profile and GenAI usage patterns of respondents in Belagavi engaged in AI-assisted travel planning.
2. To measure respondents' perceptions of the four GenAI-SQ dimensions Information Accuracy (IA), Personalisation Quality (PQ), Conversational Naturalness (CN), and System Reliability (SR).
3. To examine the relationship between GenAI-SQ dimensions and User Satisfaction among Belagavi-based GenAI travel planning users.
4. To investigate the impact of User Satisfaction on Revisit Intention and test hypothesised relationships through statistical analysis.
5. To derive managerial and policy implications for GenAI adoption in Tier-2 Indian tourism destinations.

5. Hypotheses

H1: Information Accuracy has a significant positive direct effect on User Satisfaction.

H2: Personalisation Quality has a significant positive direct effect on User Satisfaction.

H3: Conversational Naturalness has a significant positive direct effect on User Satisfaction.

H4: System Reliability has a significant positive direct effect on User Satisfaction.

H5: User Satisfaction has a significant positive direct effect on Revisit Intention.

6. Research Methodology

6.1 Research Design

This study adopts a quantitative, descriptive, and analytical cross-sectional research design. A descriptive design enables systematic profiling of respondents' GenAI usage behaviours and service quality perceptions, while the analytical

component facilitates hypothesis testing through statistical inference. A positivist epistemological stance is adopted, consistent with the deductive research approach and the survey-based analytical methodology employed.

6.2 Population and Sampling

The target population comprises adult residents and visitors in Belagavi city (aged 18 years and above) who have used at least one GenAI tool for travel planning purposes at least once in the six months preceding data collection. A non-probability convenience sampling technique was employed, given the absence of a comprehensive sampling frame for GenAI travel planning users in Belagavi. Respondents were recruited from university campuses, tourism hotspots (Belagavi Fort, Nehru Nagar, Camp area), technology parks, and through targeted online survey dissemination via WhatsApp, Instagram, and LinkedIn communities.

6.3 Sample Size

A final usable sample of 250 responses was obtained from 320 questionnaires distributed (response and usability rate: 78.1%). This sample size satisfies the minimum requirements recommended by Hair et al. (2019) for structural models and exceeds the ten-times rule (10 observations per path) for the nine hypothesised structural paths in this model.

6.4 Research Instrument

Data were collected using a structured, self-administered questionnaire comprising two sections. Section A elicited sociodemographic and behavioural profiling data. Section B contained 24 psychometric measurement items across six constructs, each measured on a five-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). All items were adapted from validated scales in the extant literature and contextually modified for Belagavi. The questionnaire was piloted with 40 respondents (excluded from the final sample) to assess clarity and internal consistency.

6.5 Data Analysis Tools

Data were analysed using frequency distribution tables, percentage analysis, mean and standard deviation, Pearson correlation analysis, Chi-square tests, and one-sample t-tests. Statistical significance was assessed at the $p < 0.05$ level throughout.

7. Data Analysis and Interpretation

7.1 Sociodemographic Profile of Respondents

Table 1: Sociodemographic Profile of Respondents (N = 250)

Gender	Male	141	56.4
	Female	104	41.6
	Not to say	5	2.0
Age Group	18–24 years	72	28.8
	25–34 years	89	35.6
	35–44 years	54	21.6
	45 years and above	35	14.0
Education	Undergraduate (UG)	68	27.2
	Postgraduate (PG)	102	40.8
	Diploma / Vocational	38	15.2
	Professional Degree	42	16.8
Occupation	Student	78	31.2
	Private Sector Employee	79	31.6
	Government Employee	41	16.4

	Self-employed / Business	35	14.0
	Others	17	6.8
Monthly Income (INR)	Below ₹20,000	62	24.8
	₹20,001 – ₹40,000	91	36.4
	₹40,001 – ₹60,000	58	23.2
	Above ₹60,000	39	15.6

Source: Authors Calculation

Interpretation: The sample is male-dominated (56.4%), with the 25–34 age cohort forming the largest segment (35.6%), reflecting the demographic that is most digitally active and likely to engage GenAI tools for travel planning. Postgraduate-educated respondents constitute 40.8% of the sample, suggesting a reasonably educated, tech-savvy base. The income distribution is fairly balanced, with the ₹20,001–₹40,000 bracket being the most represented (36.4%), consistent with the emerging middle-class consumer profile in Belagavi's rapidly growing urban economy. Students and private sector employees together constitute nearly 63% of respondents, confirming the sample's digital nativity and travel intent.

7.2 GenAI Usage Patterns

Table 2: GenAI Platform Usage and Travel Behaviour (N = 250)

Variable	Category	Frequency (n)	Percentage (%)
GenAI Platform Used	ChatGPT (OpenAI)	113	45.2
	Google Gemini	79	31.6
	Microsoft Copilot	36	14.4
	Others / Multiple	22	8.8
Frequency of GenAI Use for Travel	First-time user	19	7.6
	1–2 times	73	29.2
	3–5 times	98	39.2
	More than 5 times	60	24.0
Travel Frequency (Belagavi region)	Once a year or less	58	23.2
	2–3 times a year	97	38.8
	4–5 times a year	62	24.8

Variable	Category	Frequency (n)	Percentage (%)
	More than 5 times a year	33	13.2

Source: Authors Calculation

Interpretation: ChatGPT (OpenAI) is the dominant GenAI platform for travel planning among Belagavi users (45.2%), followed by Google Gemini (31.6%). The majority of respondents (39.2%) have used GenAI tools 3–5 times for travel planning purposes, indicating repeated engagement rather than one-off experimentation. Notably, 24% are power users with more than five such interactions, reflecting a growing habitual reliance on GenAI for travel itinerary planning. Travel frequency to the Belagavi region is robust, with 38.8% visiting 2–3 times per year, reinforcing the relevance of AI-assisted itinerary planning for this destination.

7.3 Descriptive Statistics: Construct-Level Analysis

Table 3: Descriptive Statistics — GenAI-SQ Constructs (N = 250)

Construct / Dimension	No. of Items	Mean ($\bar{x}$)	Std. Dev. (σ)	Interpretation
Information Accuracy (IA)	4	3.71	0.68	High Positive Perception
Personalisation Quality (PQ)	4	3.84	0.63	High Positive Perception
Conversational Naturalness (CN)	4	3.59	0.72	Moderately Positive
System Reliability (SR)	4	3.47	0.79	Moderately Positive
User Satisfaction (US)	4	3.69	0.65	High Positive Perception
Revisit Intention (RI)	4	3.62	0.70	Moderately Positive

Source: Authors Calculation

Interpretation: Personalisation Quality emerges as the highest-rated GenAI-SQ dimension (Mean = 3.84, SD = 0.63), indicating that respondents are particularly impressed with the ability of GenAI tools to tailor travel itineraries to individual preferences. Information Accuracy ranks second (Mean = 3.71), reinforcing the centrality of factual reliability in AI-mediated travel guidance. User Satisfaction (Mean = 3.69) and Revisit Intention (Mean = 3.62) register above-neutral levels, suggesting a broadly positive evaluative trajectory. System Reliability scores lowest (Mean = 3.47), indicating that technical performance consistency — including availability, response speed, and output stability — remains the weakest perceived dimension among Belagavi users, pointing to an area requiring immediate product improvement.

7.4 Item-Level Descriptive Analysis

Table 4: Item-Level Mean and Standard Deviation (N = 250, Scale: 1–5)

Item Code	Statement (Abbreviated)	Mean	Std. Dev.
IA1	GenAI provides accurate destination information for Belagavi	3.79	0.71
IA2	Travel details generated are current and up to date	3.68	0.74

Item Code	Statement (Abbreviated)	Mean	Std. Dev.
IA3	GenAI provides reliable factual information I can trust	3.73	0.69
IA4	Information is free from errors and inconsistencies	3.64	0.74
PQ1	GenAI tailors itineraries to my individual preferences	3.92	0.61
PQ2	Recommendations align with my budget and travel style	3.81	0.66
PQ3	GenAI personalises suggestions for specific requirements	3.80	0.65
PQ4	Personalised itinerary meets my needs better than guides	3.83	0.64
CN1	Interacting with GenAI feels natural and easy	3.68	0.70
CN2	GenAI responds in a coherent, contextually appropriate way	3.62	0.73
CN3	GenAI understands follow-up questions and context	3.51	0.78
CN4	Language and tone feel natural and human-like	3.55	0.77
SR1	GenAI is consistently available when needed	3.54	0.80
SR2	GenAI responds quickly without significant delays	3.50	0.82
SR3	Output quality remains stable across multiple sessions	3.44	0.81
SR4	I rarely experience technical errors or system failures	3.40	0.85
US1	Overall satisfied with itineraries/info provided by GenAI	3.74	0.64
US2	GenAI meets my expectations as a travel planning assistant	3.67	0.67
US3	Pleased with my overall experience using GenAI for travel	3.71	0.66
US4	GenAI for travel planning is satisfying compared to expectations	3.64	0.68
RI1	I intend to use GenAI again for future trips to Belagavi	3.70	0.69
RI2	I would recommend GenAI to friends and family for travel	3.65	0.72
RI3	Likely to revisit Belagavi based on GenAI suggestions	3.52	0.74

Item Code	Statement (Abbreviated)	Mean	Std. Dev.
RI4	I plan to continue using GenAI as primary travel resource	3.61	0.71

Source: Authors Calculation

Interpretation: At the item level, PQ1 ('GenAI tailors itineraries to individual preferences') scores highest overall (Mean = 3.92), while SR4 ('I rarely experience technical errors or system failures') records the lowest mean (3.40). This pattern reveals a consistent theme: respondents highly value and perceive the personalisation capabilities of GenAI tools, but remain apprehensive about technical reliability and error consistency. Items related to conversational coherence (CN3, CN4) also cluster at relatively lower means (3.51–3.55), suggesting that while language fluency is broadly satisfactory, contextual memory and human-like tone are areas where current GenAI models underperform user expectations in the tourism domain

7.5 Pearson Correlation Analysis

Table 5: Pearson Correlation Matrix (N = 250) $p < 0.01$

Construct	IA	PQ	CN	SR	US	RI
Information Accuracy (IA)	1.000	0.612	0.534	0.481	0.631	0.548
Personalisation Quality (PQ)	0.612	1.000	0.578	0.503	0.672	0.591
Conversational Naturalness (CN)	0.534	0.578	1.000	0.549	0.588	0.514
System Reliability (SR)	0.481	0.503	0.549	1.000	0.541	0.477
User Satisfaction (US)	0.631	0.672	0.588	0.541	1.000	0.683
Revisit Intention (RI)	0.548	0.591	0.514	0.477	0.683	1.000

Source: Authors Calculation

Interpretation: All bivariate correlations among the six constructs are positive, statistically significant ($p < 0.01$), and moderate-to-strong in magnitude, confirming the theoretical relationships posited in the conceptual model. User Satisfaction exhibits the strongest correlations with Personalisation Quality ($r = 0.672$) and Information Accuracy ($r = 0.631$), underscoring these two dimensions as the primary quality antecedents of satisfaction. The correlation between User Satisfaction and Revisit Intention ($r = 0.683$) is the highest in the matrix, empirically confirming the satisfaction-intention pathway central to both Expectation-Confirmation Theory and the SERVQUAL-to-behavioural-intentions chain. Notably, System Reliability shows the weakest correlations across the matrix, consistent with its lower mean scores and suggesting that technical performance reliability is a hygiene factor rather than a motivating quality driver.

7.6 Hypothesis Testing: Chi-Square Analysis

Table 6: Chi-Square Test Results for Research Hypotheses (*p < 0.05, p < 0.01)

Hypothesis	Variables Tested	Chi-Square (χ^2)	df	p-value	Decision
H1	IA × User Satisfaction	38.47	16	0.001	Accepted
H2	PQ × User Satisfaction	42.83	16	0.000	Accepted
H3	CN × User Satisfaction	35.12	16	0.004	Accepted
H4	SR × User Satisfaction	29.74	16	0.020*	Accepted
H5	User Satisfaction × Revisit Intention	44.59	16	0.000	Accepted

Source: Authors Calculation

Interpretation: All five hypotheses are statistically supported by the Chi-square analysis. The highest chi-square value is recorded for the User Satisfaction Revisit Intention relationship ($\chi^2 = 44.59$, $p = 0.000$), providing strong support for H5 and confirming that satisfaction with GenAI travel planning tools is a powerful determinant of users' intention to revisit both the platform and the recommended destinations. The Personalisation Quality User Satisfaction relationship (H2: $\chi^2 = 42.83$, $p = 0.000$) ranks second, reinforcing the primacy of personalisation in GenAI service quality evaluation. System Reliability User Satisfaction (H4) registers the lowest chi-square value but remains statistically significant ($\chi^2 = 29.74$, $p = 0.020$), confirming that while reliability is the weakest GenAI-SQ driver of satisfaction, it nonetheless exerts a meaningful independent effect.

7.7 One-Sample t-Test Against Neutral Midpoint

Table 7: One-Sample t-Test (Test Value = 3.0, Neutral Midpoint) p < 0.01

Construct	Mean ($\bar{x}$)	Test Value (μ_0)	t-statistic	df	p-value	Decision
Information Accuracy	3.71	3.0	16.52	249	0.000	Significant
Personalisation Quality	3.84	3.0	21.08	249	0.000	Significant
Conversational Naturalness	3.59	3.0	12.99	249	0.000	Significant
System Reliability	3.47	3.0	9.43	249	0.000	Significant
User Satisfaction	3.69	3.0	16.77	249	0.000	Significant
Revisit Intention	3.62	3.0	13.98	249	0.000	Significant

Source: Authors Calculation

Interpretation: One-sample t-tests confirm that mean scores for all six constructs are significantly above the neutral midpoint of 3.0 ($p < 0.001$ for all), indicating that respondents' perceptions of GenAI service quality, satisfaction, and

revisit intention are uniformly positive rather than neutral or negative. Personalisation Quality registers the highest t-statistic (t = 21.08), indicating the most decisively above-neutral perception, while System Reliability records the lowest t-value (t = 9.43), consistent with its position as the least positively perceived GenAI-SQ dimension. These results collectively confirm that Belagavi's GenAI travel planning users hold favourable evaluative perceptions across all dimensions of the GenAI service experience.

7.8 Cross-Tabulation: Age Group × Revisit Intention

Table 8: Cross-Tabulation — Age Group vs. Revisit Intention (N = 250)

Age Group	Low RI (1–2)	Moderate RI (3)	High RI (4–5)	Total
18–24 years	8 (11.1%)	22 (30.6%)	42 (58.3%)	72 (100%)
25–34 years	7 (7.9%)	27 (30.3%)	55 (61.8%)	89 (100%)
35–44 years	9 (16.7%)	18 (33.3%)	27 (50.0%)	54 (100%)
45 years and above	10 (28.6%)	13 (37.1%)	12 (34.3%)	35 (100%)
Total	34 (13.6%)	80 (32.0%)	136 (54.4%)	250 (100%)

Source: Authors Calculation

Interpretation: The cross-tabulation reveals a clear age gradient in revisit intention: younger users (18–24 years: 58.3%; 25–34 years: 61.8%) are significantly more likely to express high revisit intention, while the proportion declines markedly among users aged 45 and above (34.3%). This pattern suggests that GenAI travel planning tools are most strongly resonating with digitally native younger demographics who are comfortable with AI-mediated service encounters and more likely to translate satisfactory GenAI experiences into positive revisit intentions. The finding has direct implications for GenAI platform developers and tourism marketers targeting Belagavi's visitor demographic, suggesting differentiated communication and onboarding strategies for older tourist segments to foster comparable levels of revisit intention.

8. Key Findings

The empirical analysis yields the following principal findings:

1. Personalisation Quality (Mean = 3.84) is the highest-rated GenAI-SQ dimension among Belagavi users, confirming that the ability of GenAI tools to generate individualised travel itineraries aligned with personal preferences is the most valued capability in this tourism context.
2. System Reliability (Mean = 3.47) is the lowest-rated GenAI-SQ dimension, indicating that consistent availability, fast response times, and stable output quality represent the most critical performance gap between user expectations and actual GenAI platform performance in Belagavi.
3. User Satisfaction is most strongly correlated with Personalisation Quality (r = 0.672) and Information Accuracy (r = 0.631), identifying these two dimensions as the primary quality levers for achieving user satisfaction in GenAI-mediated travel planning.
4. The satisfaction–revisit intention correlation (r = 0.683) is the strongest dyadic relationship in the correlation matrix, empirically validating the centrality of the ECT-based satisfaction-intention chain in the GenAI tourism context.
5. All five research hypotheses (H1–H5) are statistically supported at $p < 0.05$, with H2 (Personalisation Quality → Satisfaction) and H5 (Satisfaction → Revisit Intention) demonstrating the strongest chi-square values.
6. Younger users (18–34 years) exhibit significantly higher revisit intentions (58–62% in the high RI category) compared to users aged 45 and above (34.3%), highlighting a significant age-based divergence in GenAI-facilitated tourism behavioural intentions.

7. ChatGPT is the most widely used GenAI platform (45.2%), followed by Google Gemini (31.6%), reflecting the global dominance of these two platforms in the Indian Tier-2 market as well.

9. Suggestions

9.1 For GenAI Platform Developers

Given that System Reliability is the lowest-rated dimension, developers must prioritise infrastructure investments to ensure consistent platform availability, reduce response latency, and maintain output quality stability during periods of high demand conditions that frequently occur during festive travel seasons in Indian cities like Belagavi. Model fine-tuning for Indian Tier-2 destinations, incorporating hyper-local data about Belagavi's attractions, transport infrastructure, and seasonal tourism patterns, would meaningfully enhance Information Accuracy scores.

9.2 For Tourism Marketers and Destination Management

Karnataka Tourism and local tourism stakeholders in Belagavi should actively partner with GenAI platform providers to ensure that destination-specific content covering heritage sites, adventure tourism offerings, local cuisine, and transport connectivity is accurately and richly represented in these models' training and retrieval systems. Tourism boards could develop structured destination data repositories specifically formatted for GenAI system integration.

9.3 For Hospitality and Travel Trade

Hotels, tour operators, and travel agencies in Belagavi should optimise their digital presence and metadata to ensure accurate representation in GenAI-generated travel content. Offering GenAI-friendly booking interfaces and structured data markup would ensure that GenAI-generated itineraries seamlessly convert into actual bookings, enhancing the commercial return on GenAI-mediated travel discovery.

9.4 For Older Tourist Segments

Given the significantly lower revisit intention among users aged 45 and above, targeted digital literacy initiatives and simplified GenAI onboarding experiences designed specifically for older users unfamiliar with conversational AI tools could help bridge the age-based digital divide in GenAI adoption and improve revisit intentions across all demographic segments.

10. Conclusion

This study presents the first empirically validated assessment of Generative AI Service Quality (GenAI-SQ) in the tourism context of Belagavi, Karnataka a Tier-2 Indian city of growing tourism significance that has remained entirely absent from the AI-tourism literature to date. Drawing on a primary dataset of 250 respondents and a multi-framework theoretical foundation integrating SERVQUAL, Expectation-Confirmation Theory, and the Information Systems Success Model, the study empirically validates that all four GenAI-SQ dimensions Information Accuracy, Personalisation Quality, Conversational Naturalness, and System Reliability exert significant positive effects on User Satisfaction, which in turn strongly predicts Revisit Intention.

Personalisation Quality emerges as the most valued and most highly perceived GenAI service quality dimension, confirming the primacy of individualised, preference-driven travel content in driving user satisfaction in the Indian domestic tourism context. System Reliability, though statistically significant, represents the weakest dimension and the most prominent performance gap, identifying a clear avenue for product improvement by GenAI platform developers. The strong satisfaction-revisit intention relationship ($r = 0.683$) validates the theoretical centrality of the ECT framework in AI-mediated tourism service contexts.

The findings carry practical significance for tourism stakeholders, GenAI developers, and policymakers operating in India's rapidly growing domestic tourism market. As GenAI tools become increasingly embedded in the travel planning ecosystem, understanding and improving the specific dimensions of their service quality particularly in the underserved Tier-2 city context represents both a commercial imperative and a policy opportunity for inclusive AI-enabled tourism development.

11. Limitations

This study acknowledges several limitations that qualify the generalisability of its findings. First, the convenience sampling methodology, though appropriate given the absence of a sampling frame, introduces selection bias and limits

representativeness. The sample over-represents young, educated, urban users and may not accurately reflect the perceptions of older or less digitally fluent tourist populations. Second, the cross-sectional research design captures a single temporal snapshot; longitudinal data would more accurately capture how GenAI-SQ perceptions and revisit intentions evolve with increasing platform familiarity. Third, the study is geographically confined to Belagavi; replication across multiple Tier-2 Indian tourism destinations would strengthen the external validity of the GenAI-SQ framework. Fourth, social desirability bias is an inherent risk in self-reported questionnaire data. Fifth, the study focuses exclusively on the demand side; a supply-side analysis incorporating GenAI platform analytics and tourism operator perspectives would provide a more complete picture of GenAI's tourism ecosystem impact.

12. Scope for Future Research

Several productive avenues for future research emerge from the current study. A full structural equation modelling (SEM) approach using SmartPLS or AMOS would enable simultaneous testing of direct and mediated pathways and yield path coefficients and effect sizes beyond what the current correlational and chi-square framework provides. Cross-city comparative studies replicating the GenAI-SQ framework across multiple Tier-2 Indian tourism destinations such as Mysuru, Coimbatore, Vadodara, and Pondicherry would reveal the extent to which the Belagavi findings are destination-specific versus indicative of broader Tier-2 tourism dynamics. Future research should examine the moderating roles of technology readiness, digital literacy, and prior travel experience on the GenAI-SQ Satisfaction Revisit Intention pathway. A longitudinal study tracking how user satisfaction with specific GenAI platforms evolves over time and across multiple travel planning interactions would provide dynamic insights into GenAI quality perception formation.

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