Chinese E-consumer satisfaction: Insights from the online travel agency sector

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Abstract

This study investigates the key factors influencing e-consumer satisfaction (E-SAT) within China's online travel agency (OTA) industry. Specifically, it explores the impact of consumer value (CV), service innovation (SI), and brand image (BI) on user satisfaction, providing insights for enhancing competitive advantage in the digital travel ecosystem. A quantitative research design was employed using a structured questionnaire distributed to 361 Chinese OTA users. The instrument demonstrated high reliability (Cronbach's alpha ranging from 0.86 to 0.88). SPSS Version 24 was used to conduct a Pearson correlation analysis and to examine relationships among the variables CV, SI, BI, and E-SAT. The results revealed that all three predictors—CV, SI, and OTA BI—were significantly and positively correlated with E-SAT. Notably, consumer value exhibited the strongest correlation ($r = 0.92$, $p < 0.01$), followed by service innovation ($r = 0.89$, $p < 0.01$) and brand image ($r = 0.87$, $p < 0.01$). These findings underscore the strategic importance of delivering value-driven, innovative, and brand-aligned digital experiences in the OTA sector. The study confirms the critical role of consumer value and innovation in shaping consumer satisfaction in OTAs. OTAs can drive sustained user engagement and loyalty by aligning platform design and service delivery with user expectations. Integrating CV and SI into consumer experience strategies offers a pathway toward sustainable digital competitiveness. This research provides actionable insights for OTA managers, developers, and marketers aiming to improve consumer satisfaction. Emphasizing consumer value creation, continuous innovation, and coherent brand messaging can enhance user trust and platform loyalty. The study contributes to the broader e-service quality and consumer experience management field in emerging digital travel markets.

Keywords: Brand image, China, Consumer value, E-customer satisfaction, Online travel agencies (OTAs), Service innovation.

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Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki, and the protocol was approved by the authors' University Research Ethics Committee. At every step, the anonymity of the participants was considered and ensured, with all interviewees informed that no information concerning their private or corporate information would be used without their knowledge and permission.

1. Introduction

The global tourism and travel industry has experienced significant digital advancements, particularly following the advent of COVID-19, as travelers sought greater flexibility, convenience, and the best value when booking online. Online Travel Agencies (OTAs) are key intermediaries in this process, transforming consumer travel planning and purchases [1]. With a large digitally proficient middle class in China, technology-driven OTAs such as Trip.com, Qunar, and Fliggy support self-service expedience for travelers [2-4].

The origins of OTAs can be traced back to the mid-1990s and the market upheaval that began with Microsoft's launch of its digital travel agency, Expedia Travel Services, in the mid-1990s [5]. Since this foundational stage, the landscape has changed quickly [6] with rapid developments in digital and Internet technologies and a growing expectation of frictionless service delivery modified to the individual. From their modest origins as digital intermediaries, OTAs have become market hubs for various services such as accommodation, transportation, and activities, becoming a central service for many consumers [7]. OTAs offer curated customer journeys developed by refining technologies such as big data and artificial intelligence [8, 9].

With intensifying competition, customer retention and satisfaction have become important performance indicators. However, in an industry with low switching costs and with consumers of diverse preferences, sustaining customer satisfaction will always be a perennial challenge [10]. In this context, both academia and industry have called for attention to the role played by Service Innovation (SI) and Consumer Value (CV), which have been identified as key enablers of consumer perceptions and experiences [11, 12]. Rather than meet functionality concerns, consumers increasingly expect brands to provide emotionally engaging and culturally relevant experiences [13]. Particularly in a culturally complex market (e.g., China) where consumers' decisions are characterized by personalization and trust [14], the service provider must consider these factors because their impacts profoundly impact consumers' buying intentions.

Another important player in this mix is the Brand Image (BI) associated with an OTA [15]. Effective brand positioning builds a sense of reliability, credibility, and value, which can affect satisfaction and subsequent re-engagement [16]. A good IM can also enhance the effects of service innovation since it can increase user confidence in the OTA's service [17].

Notwithstanding the growing academic interest, many empirical studies incorporate these constructs to study their relationships with e-customer satisfaction (E-SAT) [18, 19]. Bridging this gap in the literature, this study intends to explore how these antecedents affect E-SAT among Chinese OTA users. Based on the responses of 361 respondents, quantitative analysis is used to examine the strength and direction of these relationships, which provides pragmatic insight for digital travel marketers, OTA platform designers, and policy decision-makers [20].

By integrating theoretical foundations with contemporary empirical evidence, this research seeks to contribute to the growing research field of digital consumer behavior in tourism, highlighting the increasing relevance of customer-centric innovation and brand-building strategies to ensure long-term success in the OTA ecosystem.

2. Literature Review

2.1. Consumer Value (CV)

Consumer value (CV) has emerged as a pivotal construct in understanding user satisfaction and behavioral outcomes in digital platforms, especially within the online travel agency (OTA) domain. Unlike traditional Consumer Value models emphasizing transactional trade-offs [21], CV in e-commerce reflects a broader experiential evaluation, encompassing emotional, functional, and relational dimensions [22].

In the OTA context, CV is often co-created through interactive processes involving ease of booking, real-time support, visual interfaces, and post-purchase service [23]. These experiences translate into perceived value-in-use, a central concept within Service-Dominant Logic [24] where the consumer actively contributes to realizing value beyond the moment of transaction.

Recent research by Molinillo et al. [25] explored how website quality and trust influence perceived value and satisfaction in digital travel platforms, showing that hedonic value, such as enjoyment and control during the booking process, significantly affects e-loyalty. Similarly, Niu et al. [26] found that perceived personalization and informativeness on platforms like Trip.com strongly predict perceived CVs, especially for millennial travelers.

Moreover, in competitive e-commerce environments, value dimensions such as social recognition, customization, and emotional attachment play crucial roles. Zhuoqun et al. [27] emphasized that OTAs that foster a sense of community or identity (e.g., through gamified loyalty tiers or personalized messages) enhance symbolic value, which correlates strongly with e-satisfaction and positive word of mouth. Ultimately, measuring consumer value in OTAs requires a multi-dimensional approach. Scholars advocate for models that include utilitarian, hedonic, epistemic, and conditional values to capture the digital consumer experience's richness fully. Thus, a significant number of studies have indicated that CV plays an important role in influencing online travel services user satisfaction, which leads to the proposed hypothesis.

H_1: Consumer value (CV) positively influences OTA e-satisfaction (E-SAT).

2.2. Service Innovation (SI)

Service innovation (SI) can be interpreted as the creation and introduction of new or improved services [28], with

creativity being a starting point for innovation [29]. In the OTA context, SI has become indispensable for achieving and sustaining competitive advantage in a rapidly changing environment where low consumer loyalty and expectations shift quickly, Raad et al. [30]. Chubchuwong [31] noted that good management of SI allows OTAs to stay nimble and meet the changing needs of their consumers. This perspective is in keeping with disruptive innovation theory, which posits that business must continually innovate their services to provide more value for a customer [32]. Moreover, Potjanajaruwit [33] has reported that groups must embrace technological innovation to remain competitive.

Focusing on the hospitality and tourism industry, Chen et al. [34] concluded that SI is key to building stronger customer relationships by enhancing quality and efficiency. Similarly, Leong et al. [35] verified that such an innovative service model improves customer satisfaction by improving the provider's proactive responsiveness to customer needs. In a similar empirical context, Oyner and Korelina [36] illustrated the role of SI in driving the satisfaction of bed and breakfast accommodation guests.

SI significantly improves perceived value by integrating personalization, convenience, and technology [37]. This positions SI as a direct and indirect contributor to e-satisfaction in digital travel. Accordingly, the authors propose the second hypothesis.

H₂: Service Innovation (SI) has a positive and direct relationship with E-satisfaction (E-SAT).

2.3. OTA Brand Image (BI)

Brand Image (BI) refers to the set of perceptions and associations that consumers form about a company or service. Within OTAs, brand image shapes user trust, expectations, and satisfaction [38]. A strong, positive BI communicates reliability and quality, which are key in online travel's intangible, trust-dependent environment [39]. Research consistently shows that customers who perceive an OTA as credible and customer-focused report higher satisfaction and are likelier to remain loyal [40, 41].

Zhuoqun et al. [27] emphasized website quality as an extension of BI, asserting that a well-designed and user-friendly interface enhances perceived professionalism and satisfaction. Similarly, Ponte et al. [42] noted that BI contributes to trust and long-term relationship development in digital service environments. Given its foundational role in consumer perceptions and decision-making, OTA BI is positioned as a key determinant of e-satisfaction. Thus, the authors propose this final hypothesis.

H₃: The OTA's Brand Image (BI) has a positive and direct relationship with E-satisfaction (E-SAT).

2.4. E-Customer Satisfaction (E-SAT)

E-customer satisfaction (E-SAT) is a consumer's post-purchase judgment and evaluation of online services based on expectations, performance, and value [43], which is generally recognized as an essential antecedent of consumer loyalty and ultimate long-term business success in the OTA industry [24]. E-service quality has also been reported to be an essential factor in E-SAT [44] and OTA services' frictionless and timely features [45, 46]. Moreover, according to expectation-disconfirmation theory, E-SAT is formed when perceived performance exceeds expectations [23], as satisfaction is the basis of ECL [16]. Previous studies have proved that e-satisfied consumers are more likely to repurchase and give positive word of mouth to other consumers Huang and Lan [16] and Fu et al. [10]. Kourtesopoulou et al. [47] and Srivastava and Kaul [48] noted that enhancing E-SAT is crucial to achieving competitive differentiation and attaining customer loyalty in the OTA industry. Finally, online reviews, service co-creation, and digital customization play increasingly important roles in establishing E-SAT outcomes [49].

2.5. Problem Statement and Research Gap

In recent years, the digitalization of travel services has accelerated with the resultant market shift, rendering OTAs one of the most indispensable consumer platforms, with travelers growing to rely on OTAs to fulfill needs associated with everything from convenience, customization, navigation simplicity, price, product variety, and overall value.

In China, where competition is rife, E-SAT is pivotal to the retention of customers in order to reap economic gains in the long run. Existing literature acknowledges the rising importance of the dimensions of perceived value and brand trust in digital settings, especially in post-pandemic contexts wherein consumers have shifted their expectations towards demands for safety (especially the Chinese traveler) [17], personalization, and responsiveness [38, 47, 48].

However, despite these developments, many studies treat these constructs in isolation rather than examining their combined predictive power on satisfaction outcomes in the OTA industry. Additionally, few studies focus exclusively on Chinese consumers, whose digital behaviors and service expectations may diverge from global norms due to cultural, economic, and technological differences.

Therefore, this study seeks to fill this gap by empirically investigating how CV, SI, and BI contribute to E-SAT in the Chinese OTA context. This research analyzes the foundational factors that precede and shape long-term customer relationships by narrowing the scope to satisfaction rather than loyalty.

2.6. Research Objectives

In order to fill this gap, the study aims to achieve the following research objectives.
RO1. To explore the direct effect of CV, SI, and IM on E-SAT.
RO2. To quantify the strength of these relationships using correlation analysis based on Chinese OTA users.

2.7. Research Questions

To direct the research, this study asks the following research questions.

RQ1. What is the impact of CV on e-customer satisfaction (E-SAT) in the context of the OTA sector?
RQ2. How can service Innovation (SI) affect e-customer satisfaction (E-SAT)?
RQ3. To what point does the OTA's Brand Image (BI) influence e-customer satisfaction (E-SAT)?

3. Methods

3.1. Population and Sample

This study focused on Chinese users of the OTA platform Trip.com who had experience booking or researching travel-related services. These individuals are typically more educated and digitally literate, characteristics commonly found among employees of modern, knowledge-based companies. Their familiarity with mobile Internet and digital interfaces made them an appropriate population for studying customer satisfaction in the online travel space.

Yamane's formula [48] was used to determine an appropriate sample size assuming an infinite population and a 5% margin of error, yielding a required minimum of 400 respondents. A systematic random sampling technique was employed, wherein every fifth eligible respondent was selected from Trip.com users until the desired sample size was achieved. After data cleaning and removing incomplete responses, 361 valid questionnaires were retained for analysis.

3.2. Research Instrument

A structured questionnaire was developed to capture the constructs of interest (CV, SI, BI, and E-SAT). The instrument was designed using validated item scales adapted from previous electronic commerce, marketing, and service innovation studies.

Each construct was measured through multiple observed indicators using a 5-point Likert scale, where.

- 5 = Strongly agree (Score range: 4.21–5.00, interpreted as Very High).
- 4 = Agree (Score range: 3.41–4.20, interpreted as High).
- 3 = Neither agree nor disagree (Score range: 2.61–3.40, interpreted as Moderate).
- 2 = Disagree (Score range: 1.81–2.60, interpreted as Low).
- 1 = Strongly Disagree (Score range: 1.00–1.80, interpreted as Very Low).

This scale facilitated the classification of satisfaction and perception levels across a standardized interval system, aiding in the clarity and interpretability of the findings [50]. The scale's reliability was assessed through Cronbach's alpha, yielding values between 0.86 and 0.88 across all latent variables, indicating strong internal consistency.

Five university professors with Ph.D.s in e-commerce, business administration, and consumer behavior reviewed the questionnaire to ensure each item's content validity. The Item-Objective Congruence (IOC) index was used to evaluate each item's clarity, relevance, and completeness, with accepted values ranging from 0.60 to 1.00 [51]. Items below the acceptable threshold were revised or removed following expert feedback.

A pilot test involving 30 respondents not included in the main sample was also conducted to assess instrument usability, clarity, and overall reliability. The results confirmed the questionnaire's appropriateness for the full-scale study.

3.3. Data Collection

The primary data were collected over two months (February–March 2023) through an online survey distributed via Trip.com. This platform was selected due to its dominance in the Chinese OTA market and its extensive user base, particularly among middle-class and tech-savvy travelers.

Nonprobability purposive sampling ensured that only individuals who had recently interacted with OTAs specifically Trip.com were included, allowing for targeted insight into current consumer satisfaction trends. This approach enabled the study to capture the specific behaviors, values, and expectations of actual OTA users within a real-world context.

3.4. Data Analysis

Data analysis was conducted in two stages. First, descriptive statistics determined participant responses' central tendencies (means) and variability (standard deviations). Interpretation of these responses adhered to the Likert scale classifications embedded in the instrument design, where scores from 4.21–5.00 indicated *very high* agreement, while scores from 1.00–1.80 indicated *very low* agreement.

In the second phase, Pearson's correlation coefficient examined the relationships among the independent variables (CV, SI, and BI) and the dependent variable (E-SAT). This statistical approach was selected to assess the direction and strength of linear associations between variables.

While more complex models, such as Structural Equation Modeling (SEM), can account for latent constructs and mediation, this study prioritized a direct-effect model, emphasizing understanding bivariate relationships relevant to satisfaction in digital travel services.

4. Results

4.1. User Demographics

Data were collected from 361 Chinese users of OTAs, primarily through Trip.com (Table 1). Most of the participants were women (60.47%), with the majority between 20–30 years old (55.55%) or 31–40 years old (42.29%), suggesting that younger digital natives dominate the OTA market. Most participants had secondary education (68.06%), and 85.62% reported a monthly income under 6,000 CNY, indicating that OTA usage is particularly high among budget-conscious and value-seeking consumers. Regarding usage behavior, 89.47% of respondents indicated that OTAs were their preferred booking

method, highlighting the dominance of digital platforms in China's travel industry and their integral role in facilitating online tourism experiences.

Table 1.
OTA user characteristics (*n*=361).

Characteristic	Category	Participants	%
Sex	Women	219	60.47%
	Men	142	39.28%
Age	20 to 30	201	55.55%
	31 to 40	153	42.29%
	41 to 50	5	1.38%
	51 or over	2	0.55%
Education	High School	246	68.06%
	BA/BS or graduate studies	62	31.94%
Income in CNY/USD	6,000 CNY or less ($828)	310	85.62%
	6,001-10,000 ($828-$1,380)	47	13.02%
	10,001-20,000 ($1,380-$2,760)	3	0.83%
	Over 30,001 ($4,139)	1	0.28%
Number of OTA Brands Used	0	27	7.47%
	1	81	22.40%
	2	144	39.78%
	3	87	24.04%
	4	14	3.87%
	5	3	0.83%
	6	1	0.28%
	8	1	0.28%
OTA Booking Methods	Both	7	1.94%
	Accommodation's Website	27	7.47%
	None	3	0.83%
	OTA Website	323	89.47%

4.2. E-Customer Satisfaction (E-SAT) Levels

The mean scores for E-SAT dimensions suggest that respondents held consistently favorable opinions of their OTA experiences (Table 2).

- Product satisfaction (Mean = 4.10, SD = 0.80).
- Service satisfaction – Support & staff (mean = 4.05, SD = 0.79).
- Service satisfaction – Travel perception (mean = 4.15, SD = 0.82).

All items were rated within the "high" satisfaction range (3.41–4.20) based on the five-point Likert scale used. These results indicate that OTA users perceive the services to be reliable, well-structured, and aligned with their expectations, particularly regarding product quality, customer support, and booking convenience.

Table 2.
Mean, standard deviation (SD), and interpretation of E-SAT variables.

E-satisfaction (E-SAT)	Mean	SD
1. Product Satisfaction	4.10	0.80
1) Meeting needs through OTA's travel products	4.00	0.82
2) Good quality of tourism products booked from OTA	4.20	0.78
3) Happy booking and using experience	4.10	0.80
2. Service Satisfaction (Support & Staff)	4.05	0.79
4) High quality of OTA's support function	4.00	0.81
5) Qualified service staff of OTA	4.10	0.77
6) Satisfaction with OTA compared to expectations	4.05	0.79
3. Service Satisfaction (Travel Perceptions)	4.15	0.82
7) Meeting needs through OTA's travel perceptions	4.15	0.83
8) Satisfactory quality perceptions of OTA's tourism services	4.20	0.80
9) Satisfaction throughout the e-booking procedure of OTA services	4.10	0.82

Note: All items were rated within the "high" satisfaction range (3.41–4.20).

4.3. Hypothesis Testing via Correlation Analysis

The central aim of this study was to explore the impact of CV, SI, and OTA BI on E-SAT. Using Pearson correlation analysis, all three hypothesized relationships were found to be statistically significant at the 0.01 level (Table 3).

Table 3.
Hypothesis testing correlation coefficients.

Hypotheses	Correlation Coefficient	Result	Significance
H1: CV → E-SAT	0.92	Accept	$p < .01$
H2: SI → E-SAT	0.89	Accept	$p < .01$
H3: BI → E-SAT	0.87	Accept	$p < .01$

These strong correlations support all three hypothesis:
- Consumer Value ($r = 0.92$) emerged as the most potent predictor, confirming that satisfaction increases substantially when travelers perceive high functional, emotional, and cost-based value from an OTA.
- Service Innovation ($r = 0.89$) also demonstrated a strong influence, indicating that travelers appreciate OTAs offering modern, tech-enabled, personalized services.
- Brand Image ($r = 0.87$) had a significant yet slightly weaker relationship, suggesting that a trustworthy and well-perceived brand reinforces the customer's confidence and satisfaction in an otherwise intangible, risk-sensitive digital environment.

Results show consistency with earlier studies, King and Baatartogtokh [32]; Da Silva and Syed Alwi [38], and Oh and Kim [52], which emphasize the crucial role of perceived value, innovation, and trust in driving satisfaction in digital service contexts [53, 54].

4.4. Cross-Construct Relationships

The intercorrelations among constructs also confirmed the theoretical coherence of the model (Table 4).

Table 4.
Cross-construct correlation and global performance indices.

Factors	CV	SI	BI	E-SAT
CV	1			
SI	0.88**	1		
BI	0.90**	0.87**	1	
E-SAT	0.92**	0.89**	0.87**	1

Note: $**p < .01$.

These high inter-factor correlations suggest that CV, SI, and BI are individually important and synergistically connected, reinforcing their collective impact on customer E-SAT. Although the analysis is limited by the use of bivariate correlation rather than multivariate modeling, the strength of the observed associations suggests that.
- Consumer Value (CV) is a central driver of satisfaction, especially in a price-sensitive and competitive travel market.
- Service Innovation (SI) remains crucial in capturing digitally native users accustomed to seamless tech-based experiences.
- Brand Image (BI) plays a supportive but essential role in establishing trust, particularly in online environments where service evaluation is intangible.

The high satisfaction ratings and strong correlations indicate that OTAs, particularly Trip.com, deliver effectively in these key areas, but further model-based validation is recommended for future studies.

Based on the correlation evidence, all three hypotheses (H1–H3) are supported, and the study confirms that CV, SI, and BI significantly relate to E-SAT among Chinese OTA users. However, the findings would benefit from enhanced statistical depth using SEM or regression to isolate causal directions and interaction effects better.

5. Discussion

5.1. Consumer Value (CV)

Table 5 presents the participants' evaluations of CV, SI, BI, and E-SAT in their use of OTAs.

Table 5.
Summary of latent variables and item means.

Aspect/Items	Mean	SD
1. Consumer Value (CV)		
1.1 Function	4.15	0.85
1) OTAs establishing effective and efficient channels	4.20	0.80
2) OTAs providing authentic and trustworthy information	4.10	0.90
3) OTA's strong track record in various areas	4.10	0.70
1.2 Monetary	4.00	0.90
4) OTA charges a fair rate	4.00	0.90
5) OTA offering cost-effective resources	4.00	0.80
6) Benefiting from special offers through OTA	4.00	1.00
1.3 Social	3.90	0.90
7) Gaining social recognition through OTA use	3.90	0.90
8) Expanding social network through OTA use	3.90	0.90
9) Altered perception by tourism resource suppliers through OTA use	3.90	0.80
1.4 Psychological	3.95	0.85
10) Creating empathy with OTAs more conveniently	3.90	0.90
11) It is easy to find products on OTA platforms that satisfy psychological desires	4.00	0.80
12) OTA platforms inspire improvement in world acknowledgment	4.00	0.80
2. Service Innovation (SI)		
2.1 New Service	4.10	0.80
1) Continuous service innovation discovery in OTAs	4.00	0.85
2) Useful new services experienced in OTAs	4.20	0.80
3) Belief in the improvement of journey experience through OTA's new services	4.10	0.75
2.2 New Process	4.05	0.78
4) More efficient OTA booking process	4.00	0.80
5) Observation of continuous process optimization in OTAs	4.10	0.77
6) Belief in consumer benefits through OTA's differentiated processes	4.05	0.79
2.3 New Technology	4.15	0.82
7) Rising integration of new technology in OTA's functions	4.15	0.81
8) Aiding in more convenient choice and booking through new technology	4.20	0.83
9) Belief in the safety of personal information through new technology	4.10	0.82
3. OTA Brand Image (BI)		
3.1 Concept	4.10	0.80
1) Knowledge of the benefits difference between OTA and traditional channels	4.00	0.82
2) Preference for OTA for booking tourism resources	4.20	0.78
3) Consistency of previous OTA experience with perception of its benefits	4.10	0.80
3.2 Quality	4.05	0.79
4) OTA information accuracy compared to other channels	4.00	0.81
5) Smoothness of the OTA booking process compared to other channels	4.10	0.77
6) High-quality travel resources presented by OTA compared to other channels	4.05	0.79
3.3 Reputation	4.15	0.82
7) Prioritizing OTA's reputation when deciding to employ it	4.15	0.83
8) Influence of OTA's reputation in choosing tourism resources	4.20	0.80
9) Perception of OTA's better reputation compared to other booking channels	4.10	0.82
3.4 Relationship	4.10	0.81
10) Creation of a multi-faceted customer relationship by OTAs	4.10	0.80
11) Long-term relationships fostered through OTA	4.10	0.82
12) Reciprocal relationship between the respondent and OTA	4.10	0.81
4. E-satisfaction (E-SAT)		
4.1 Product Satisfaction	4.10	0.80
1) Meeting needs through OTA's travel products	4.00	0.82
2) Good quality of tourism products booked from OTA	4.20	0.78
3) Happy booking and using experience	4.10	0.80
4.2 Service Satisfaction (Support & Staff)	4.05	0.79
4) High quality of OTA's support function	4.00	0.81
5) Qualified service staff of OTA	4.10	0.77
6) Satisfaction with OTA compared to expectations	4.05	0.79
4.3 Service Satisfaction (Travel Perceptions)	4.15	0.82
7) Meeting needs through OTA's travel perceptions	4.15	0.83

Aspect/Items	Mean	SD
8) Satisfactory quality perceptions of OTA's tourism services	4.20	0.80
9) Satisfaction throughout the e-booking procedure of OTA services	4.10	0.82

Note: All items were rated within the "high" satisfaction range (3.41–4.20).

Consumer Value emerged as a dominant predictor of e-satisfaction, with a particularly strong correlation (r = 0.92, $p <$ .01). Across the four dimensions functional, monetary, social, and psychological the overall perception was highly favorable (overall mean scores ≥ 3.90). The functional dimension stood out with the highest mean (4.15), specifically the OTAs' ability to establish effective and efficient service channels (Item 1, mean = 4.20). This supports the literature emphasizing usability and operational reliability as drivers of digital satisfaction [21, 26].

The monetary value dimension (mean = 4.00) was also significant. Participants appreciated cost-effective offerings and special discounts, aligning with the "value-for-money" principle highlighted in Zeithaml's [21] model of Consumer Value. While slightly lower, the social value (mean = 3.90) still indicated that users derive social benefit and recognition from OTA use, supporting [22] experiential value theory.

The psychological dimension (mean = 3.95) suggests that OTAs fulfill emotional needs like identity expression and empathy. These findings are aligned with Vargo and Lusch [24] Service-Dominant Logic, which emphasizes co-created value embedded in personalized user experiences.

5.2. Service Innovation (SI)

Service Innovation was perceived as highly impactful, with all three sub-dimensions scoring above 4.0: new services (M = 4.10), new processes (mean = 4.05), and new technologies (mean = 4.15). Participants responded especially favorably to technological features that enhance convenience, such as automated booking tools and real-time updates (Item 8, mean = 4.20).

These findings validate innovation-led satisfaction models [25], indicating that perceived innovation drives trust and enhances digital experience. Participants also noted confidence in data security through technology (Item 9, mean = 4.10), reinforcing the need for continuous investment in tech-driven service design.

5.3. OTA Brand Image (BI)

OTA brand image was another decisive factor positively correlated with E-SAT (*r* = 0.87). Among its four dimensions, reputation (mean = 4.15) and relationship building (mean = 4.10) were the most impactful. Participants highly valued brand reliability (Item 8, mean = 4.20) and perceived a long-term relational dynamic with their OTA (Items 10–12, all mean = 4.10). These dimensions align with brand equity and relational value, often cited in digital branding literature [50]. Interestingly, participants also clearly preferred OTA channels over traditional booking platforms (Item 2, mean = 4.20), suggesting a shift in consumer perception about value delivery and convenience in digital tourism.

5.4. E-Satisfaction (E-SAT)

E-satisfaction was generally high, especially in the travel perception satisfaction sub-dimension (mean = 4.15). Participants expressed contentment with the quality of tourism products (Item 2, mean = 4.20) and the end-to-end booking experience (Item 9, mean = 4.10). The results reveal the importance of what OTAs provide and how the service is delivered.

Also noteworthy is the intense satisfaction with OTA support functions and staff (mean = 4.05), reflecting operational reliability and human factor importance in e-service delivery. The results support the broader literature in e-commerce and service systems design, where user trust, service recovery, and consistency are vital for long-term user retention [24].

5.5. OTA E-SAT User Dimensions Analysis

Figure 1 details the mean scores of latent variable dimensions related to OTA user satisfaction.

The highest-rated dimensions were Functional Value (mean = 4.15), New Technology (mean = 4.15), and Perception Satisfaction (mean = 4.15), reflecting strong user appreciation for platform efficiency, technological integration, and experiential quality [54]. The lowest-scoring dimension, though still positive, was Social Value (mean = 3.90), suggesting a comparatively lower emphasis on social recognition and network expansion through OTA use.
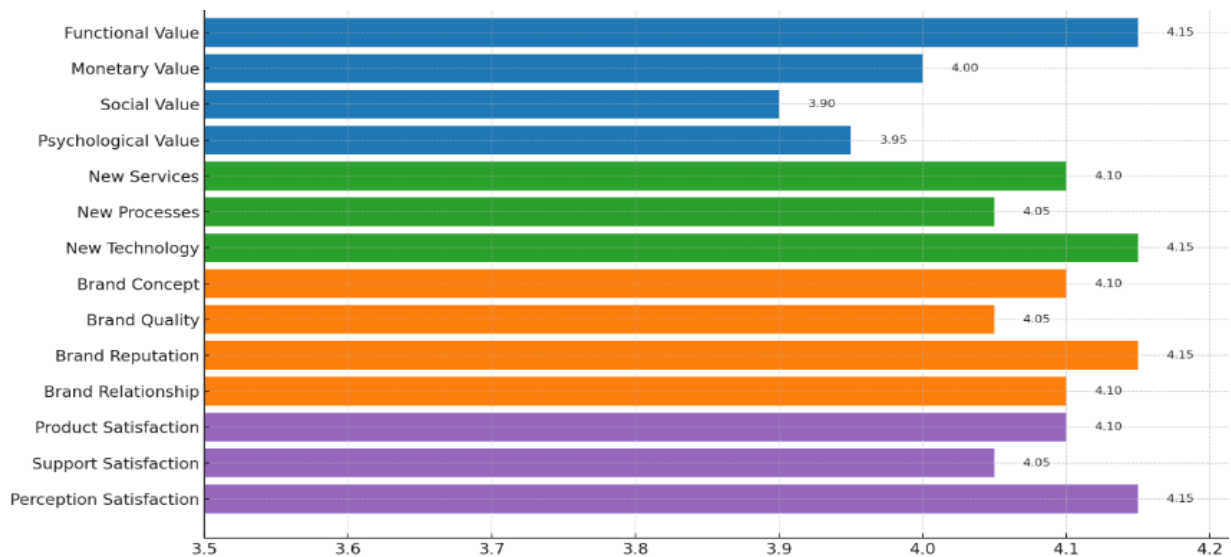
Figure 1.
Mean scores of latent variable dimensions related to OTA user satisfaction (E-SAT).
 Note: All items were rated within the "high" satisfaction range (3.41–4.20).

6. Limitations

While this study offers meaningful insights into the predictors of e-satisfaction within China's online travel agency (OTA) industry, several limitations should be acknowledged:

Sample Scope and Representativeness - The data was collected exclusively from Chinese users of OTAs, which may limit the generalizability of the findings across other cultural or national contexts. Consumer expectations, technological familiarity, and trust in digital platforms vary across regions.

Cross-Sectional Design - This method was used to capture user perceptions simultaneously. As user satisfaction can evolve with experience, longitudinal studies offer a more dynamic understanding of satisfaction trends over time.

Self-Reported Data - All measures were based on self-reported perceptions, subject to biases such as social desirability or recent experiences. Triangulating with behavioral or platform usage data could enhance the robustness of future studies.

Focus on Perceptual Constructs Only - While the study successfully explored consumer value, innovation, brand image, and satisfaction, it did not include external variables such as competitive pricing, peer reviews, or macroeconomic factors that may influence satisfaction.

Model Scope - The study tested correlations but did not employ structural equation modeling (SEM) or mediation/moderation analysis to explore causal pathways or indirect effects. Future research could apply more advanced modeling techniques to examine inter-variable dynamics.

References

[1]   T. Pencarelli, "The digital revolution in the travel and tourism industry," *Information Technology & Tourism,* vol. 22, no. 3, pp. 455-476, 2020. https://doi.org/10.1007/s40558-019-00160-3

[2]   K.-M. Chu, "Innovation practices of new technology adoption for the business survival strategy of online travel agencies during the COVID-19 pandemic: Two case studies in Taiwan," *Journal of the Knowledge Economy,* vol. 15, no. 2, pp. 9556-9575, 2024. https://doi.org/10.1007/s13132-023-01480-w

[3]   L. Hollebeek and R. A. Rather, "Service innovativeness and tourism customer outcomes," *International Journal of Contemporary Hospitality Management,* vol. 31, no. 11, pp. 4227-4246, 2019. https://doi.org/10.1108/IJCHM-03-2018-0256

[4]   L. Hu and L. Hu, "Chinese digital and mobile platforms," *International Digital Marketing in China: Regional Characteristics and Global Challenges,* pp. 31-47, 2020. https://doi.org/10.1007/978-3-030-38160-8_3

[5]   R. Leung, N. Au, J. Liu, and R. Law, "Do customers share the same perspective? A study on online OTAs ratings versus user ratings of Hong Kong hotels," *Journal of Vacation Marketing,* vol. 24, no. 2, pp. 103-117, 2018. https://doi.org/10.1177/1356766716679483

[6]   C. Nantha, K. Siripongdee, S. Siripongdee, P. Pimdee, T. Kantathanawat, and K. Boonsomchuae, "Enhancing ICT literacy and achievement: A TPACK-based blended learning model for Thai business administration students," *Education Sciences,* vol. 14, no. 5, p. 455, 2024. https://doi.org/10.3390/educsci14050455

[7]   J.-L. Chang, H. Li, and J. Wu, "How tourist group books hotels meeting the majority affective expectations: A group selection frame with kansei text mining and consensus coordinating," *Group Decision and Negotiation,* vol. 32, no. 2, pp. 327-358, 2023. https://doi.org/10.1007/s10726-022-09810-0

[8]   F. P. S. Surbakti, A. Perdana, M. Indulska, J. Liono, and I. B. Arief, "From data to decisions: Leveraging AI to enhance online travel agency operations," *Journal of Information Technology Teaching Cases,* p. 20438869241279130, 2024. https://doi.org/10.1177/20438869241279130

[9]   M. B. Talukder and M. Hoque, *Navigating the digital horizon: Transforming travel agencies in the digital era* (Perspectives on Digital Transformation in Contemporary Business). IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-3693-5966-2.ch014, 2025.

[10]   H.-P. Fu, T.-H. Chang, K.-Y. Hsu, and P.-S. Chen, "A study on factors that increase customer value when conducting television shopping," *International Journal of Business and Systems Research,* vol. 10, no. 2-4, pp. 403-419, 2016.

[11]   M. G. Lins, L. P. Zotes, and R. Caiado, "Critical factors for lean and innovation in services: from a systematic review to an empirical investigation," *Total Quality Management & Business Excellence,* vol. 32, no. 5-6, pp. 606-631, 2021. https://doi.org/10.1080/14783363.2019.1624518

[12]   L. Xie, X. Guan, Q. Cheng, and T.-C. T. Huan, "Using customer knowledge for service innovation in travel agency industry," *Journal of Hospitality and Tourism Management,* vol. 45, pp. 113-123, 2020. https://doi.org/10.1016/j.jhtm.2020.08.001

[13]   S. Shahid, J. Paul, F. G. Gilal, and S. Ansari, "The role of sensory marketing and brand experience in building emotional attachment and brand loyalty in luxury retail stores," *Psychology & Marketing,* vol. 39, no. 7, pp. 1398-1412, 2022. https://doi.org/10.1002/mar.21661

[14]   X. Chen, J. Sun, and H. Liu, "Balancing web personalization and consumer privacy concerns: Mechanisms of consumer trust and reactance," *Journal of Consumer Behaviour,* vol. 21, no. 3, pp. 572-582, 2022. https://doi.org/10.1002/cb.1947

[15]   P. Garg and A. Pandey, "Decomposing the effect of brand image in influencing information adoption: The case of online travel agents," *Business Perspectives and Research,* vol. 11, no. 1, pp. 11-27, 2023. https://doi.org/10.1177/22785337211034104

[16]   C.-C. Huang and Y.-C. Lan, "Collaboration and competition in the online travel industry: A comparative study of China and Vietnam," *Asia Pacific Journal of Tourism Research,* vol. 26, no. 3, pp. 277-293, 2021. https://doi.org/10.1080/10941665.2020.1862883

[17]   L. Sun, W. Chamsuk, A. Saengnoree, and P. Sornsaruht, "An analysis of how Consumer Value, service innovation, and brand image influence Chinese online travel agency customer satisfaction and loyalty," *Pakistan Journal of Life and Social Sciences,* vol. 22, no. 2, pp. 5703–5723, 2024.

[18]   F. D. Aferi and Y. H. Yeni, "The effect of e-service quality, brand image, e-customer relationship management on e-customer satisfaction at Gojek Padang," *Journal of Business Studies and Mangement Review,* vol. 6, no. 1, pp. 38-42, 2022.

[19]   W. N. F. Wan Jasni, M. R. Jamaluddin, and M. H. Hanafiah, "Online travel agencies (OTAs) e-service quality, brand image, customer satisfaction and loyalty," *Journal of Tourism, Hospitality & Culinary Arts,* vol. 12, no. 2, pp. 96-111, 2020.

[20]   J. Magano and M. N. Cunha, "Digital marketing impact on tourism in Portugal: A quantitative study," *African Journal of Hospitality, Tourism and Leisure,* vol. 9, no. 1, pp. 1-19, 2020.

[21]   V. A. Zeithaml, "Consumer perceptions of price, quality, and value: A means-end model and synthesis of evidence," *Journal of Marketing,* vol. 52, no. 3, pp. 2-22, 1988. https://doi.org/10.2307/1251446

[22]   M. B. Holbrook, *Consumer value: A framework for analysis and research*. London: Routledge, 1999.

[23]   C. Grönroos, "Value co-creation in service logic: A critical analysis," *Marketing Theory,* vol. 11, no. 3, pp. 279-301, 2011. https://doi.org/10.1177/1470593111408177

[24]   S. L. Vargo and R. F. Lusch, "Evolving to a new dominant logic for marketing," *Journal of Marketing,* vol. 68, no. 1, pp. 1-17, 2004. https://doi.org/10.1509/jmkg.68.1.1.24036

[25]   S. Molinillo, R. Aguilar-Illescas, R. Anaya-Sánchez, and F. Liébana-Cabanillas, "Social commerce website design, perceived value and loyalty behavior intentions: The moderating roles of gender, age and frequency of use," *Journal of Retailing and Consumer Services,* vol. 63, p. 102404, 2021. https://doi.org/10.1016/j.jretconser.2020.102404

[26]   J. W. Niu, K. Wang, L. Wang, W.-Q. Ruan, and H. Xiao, "Resistance to AI-designed customized travel: The role of perceived personalization," *Tourism Review,* 2025. https://doi.org/10.1108/TR-09-2024-0824

[27]   L. Zhuoqun, H. H. Tat, and C. S. Keong, "Symbolic value, consumption ritualization and consumer loyalty towards digital platforms," in *AIP Conference Proceedings*, 2023, vol. 2827, no. 1: AIP Publishing.

[28]   F. von Wangenheim, G. von Krogh, M. Nißen, and P. Tinguely, "Technology-enabled service innovation for tomorrow's society," Retrieved: https://tinyurl.com/4cxdy4h7, 2022.

[29]   G. Gomes, L. O. Seman, A. C. Berndt, and N. Bogoni, "The role of entrepreneurial orientation, organizational learning capability and service innovation in organizational performance," *Revista de Gestão,* vol. 29, no. 1, pp. 39-54, 2022. https://doi.org/10.1108/REGE-11-2020-0103

[30]   J. Raad, A. Sharma, and J. L. Nicolau, "Performance effects of innovation in two-sided markets: The paradigmatic case of OTAs," *Tourism Management,* vol. 94, p. 104637, 2023. https://doi.org/10.1016/j.tourman.2022.104637

[31]   M. Chubchuwong, "Benefits and problems of using online travel agencies: A study of small, independent hotels in Thailand," in *WORKSHOP Proceedings*, 2018, p. 107.

[32]   A. A. King and B. Baatartogtokh, "How useful is the theory of disruptive innovation?," *MIT Sloan Management Review,* vol. 57, no. 1, pp. 1-17, 2015.

[33]   P. Potjanajaruwit, "The effect of e-service quality on the competitive advantages of tourism and hotel businesses in Thailand," *GeoJournal of Tourism and Geosites,* vol. 47, no. 2, pp. 363-369, 2023. https://doi.org/10.30892/gtg.47201-1033

[34]   J. K. Chen, A. Batchuluun, and J. Batnasan, "Services innovation impact to customer satisfaction and customer value enhancement in airport," *Technology in Society,* vol. 43, pp. 219-230, 2015.

[35]   L.-Y. Leong, T.-S. Hew, V.-H. Lee, and K.-B. Ooi, "An SEM–artificial-neural-network analysis of the relationships between SERVPERF, customer satisfaction and loyalty among low-cost and full-service airline," *Expert Systems with Applications,* vol. 42, no. 19, pp. 6620-6634, 2015. https://doi.org/10.1016/j.eswa.2015.04.043

[36]   O. Oyner and A. Korelina, "The influence of customer engagement in value co-creation on customer satisfaction: Searching for new forms of co-creation in the Russian hotel industry," *Worldwide Hospitality and Tourism Themes,* vol. 8, no. 3, pp. 327-345, 2016.

[37]   T. Dhananja, "Is Guanxi a successful business tool? A literature review on Guanxi as a relationship-making tool in business," Retrieved: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3995508, 2021.

[38]   R. V. Da Silva and S. F. Syed Alwi, "Online corporate brand image, satisfaction and loyalty," *Journal of Brand Management,* vol. 16, no. 3, pp. 119-144, 2008. https://doi.org/10.1057/palgrave.bm.2550137

[39]   W.-S. Kwon and S. J. Lennon, "What induces online loyalty? Online versus offline brand images," *Journal of Business Research,* vol. 62, no. 5, pp. 557-564, 2009. https://doi.org/10.1016/j.jbusres.2008.06.015

[40]   J. Lahap, N. S. Ramli, N. M. Said, S. M. Radzi, and R. A. Zain, "A study of brand image towards customer's satisfaction in the Malaysian hotel industry," *Procedia-Social and Behavioral Sciences,* vol. 224, pp. 149-157, 2016. https://doi.org/10.1016/j.sbspro.2016.05.430

[41]   A. Mohammed and B. Rashid, "A conceptual model of corporate social responsibility dimensions, brand image, and customer satisfaction in Malaysian hotel industry," *Kasetsart Journal of Social Sciences,* vol. 39, no. 2, pp. 358-364, 2018. https://doi.org/10.1016/j.kjss.2018.04.001

[42]   E. B. Ponte, E. Carvajal-Trujillo, and T. Escobar-Rodríguez, "Influence of trust and perceived value on the intention to purchase travel online: Integrating the effects of assurance on trust antecedents," *Tourism management,* vol. 47, pp. 286-302, 2015. https://doi.org/10.1016/j.tourman.2014.10.009

[43]   C. Phromlert, S. Deebhijarn, and P. Sornsaruht, "How website quality, e-service quality, e-satisfaction, and social value affect poshtel e-loyalty in Thailand," *African Journal of Hospitality, Tourism and Leisure,* vol. 8, no. 5, pp. 1-14, 2019. https://tinyurl.com/362x8dza

[44]   I. Masnadi, J. Claudia, and D. Rosman, "Digital comfort: Decoding e-service excellence and e-WOM influence on e-satisfaction and repeat stays through OTA platforms in Jakarta," in *2024 9th International Conference on Business and Industrial Research (ICBIR), IEEE*, 2024, pp. 1351-1356.

[45]   C. M. Tsai, Y. F. Huang, and K. R. Lou, "The effects of service quality, brand loyalty, and customer satisfaction on repurchase intention: An empirical case study of online travel agents in Taiwan," *Asia Pacific Viewpoint,* 2025. https://doi.org/10.1111/apv.12438

[46]   U. S. Grissemann and N. E. Stokburger-Sauer, "Customer co-creation of travel services: The role of company support and customer satisfaction with the co-creation performance," *Tourism Management,* vol. 33, no. 6, pp. 1483-1492, 2012. https://doi.org/10.1016/j.tourman.2012.02.002

[47]   A. Kourtesopoulou, S. D. Theodorou, A. Kriemadis, and A. Papaioannou, "The impact of online travel agencies web service quality on customer satisfaction and purchase intentions," presented at the Smart Tourism as a Driver for Culture and Sustainability: Fifth International Conference IACuDiT, Athens 2018, Springer Int. Publication, 2019.

[48]   M. Srivastava and D. Kaul, "Social interaction, convenience and customer satisfaction: The mediating effect of customer experience," *Journal of Retailing and Consumer Services,* vol. 21, no. 6, pp. 1028-1037, 2014. https://doi.org/10.1016/j.jretconser.2014.04.007

[49]   Z. Xiang, Q. Du, Y. Ma, and W. Fan, "A comparative analysis of major online review platforms: Implications for social media analytics in hospitality and tourism," *Tourism Management,* vol. 58, pp. 51-65, 2017. https://doi.org/10.1016/j.tourman.2016.10.001

[50]   T. Yamane, *Statistics: An introductory analysis*. London: John Weather Hill, Inc, 1973.

[51]   A. Binheem, P. Pimdee, and S. Petsangsri, "Thai student teacher learning innovation: A second-order confirmatory factor analysis," *TEM Journal,* vol. 10, no. 4, pp. 1849-1856, 2021. http://dx.doi.org/10.18421/TEM104-48

[52]   H. Oh and K. Kim, "Customer satisfaction, service quality, and customer value: Years 2000-2015," *International Journal of Contemporary Hospitality Management,* vol. 29, no. 1, pp. 2-29, 2017. https://doi.org/10.1108/IJCHM-10-2015-0594

[53]   P. Mbango, "The role of perceived value in promoting customer satisfaction," pp. 1–8, 2019.

[54]   A. Giovanis, I. Rizomyliotis, and A. Kavoura, "On the relationships between digital brand evidence, relationship quality and behavioural intentions among online tourism agencies' customers," *European Journal of Tourism Research,* vol. 30, pp. 3005-3005, 2022. https://doi.org/10.54055/ejtr.v30i.2592