Complaint Handling and Satisfaction Effects on OTA User Retention in Indonesia

Susi Indriyani[1*], Dewi Silvia[2], Hasbullah Hasbullah[3]
Universitas Mitra Indonesia, Bandar Lampung, Indonesia[1,2,3]
susiindri@umitra.ac.id[1*], dewisilvia@umitra.ac.id[2], hasbullah@umitra.ac.id[3]

Abstract

Purpose: This study aimed to investigate the impact of complaint handling service quality and user satisfaction on customer retention within Indonesia's Online Travel Agent (OTA) industry.

Research Methodology: A quantitative survey was conducted, collecting data from 160 OTA users with complaints. The data were analyzed using multiple linear regression to assess the relationships between complaint handling and satisfaction and user retention.

Results: The results show that both complaint handling service quality ($\beta = 0.579$) and user satisfaction ($\beta = 0.647$) significantly and positively affect user retention, explaining 53.4% of its variance (Adj. $R^2 = 0.534$, $p < 0.001$). Effective complaint handling and high satisfaction levels are critical for sustaining customer loyalty.

Conclusion: The study concludes that OTAs must prioritize transparent complaint management, empathetic customer service, and personalized satisfaction programs to enhance user retention. These factors contribute significantly to maintaining customer loyalty in the competitive digital tourism market.

Limitations: The study is limited by the use of snowball sampling, which affects generalizability. It also relied on self-reported data, which may have introduced bias. Future research could employ mixed-methods designs and expand to cross-cultural contexts.

Contributions: This study contributes to the digital service recovery literature by integrating complaint handling and satisfaction factors to explain OTA user retention in Indonesia, offering new insights into the strategic importance of service recovery for customer loyalty.

Keywords: *Complaint Handling, Indonesia, OTA, Retention, Satisfaction*

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1. Introduction

The global tourism industry has entered a new era of transformation shaped by digital innovation, evolving consumer behavior, and the long-lasting impact of the COVID-19 pandemic (Gössling, Scott, & Hall, 2020). While tourism has historically been a dynamic sector, the disruptions caused by the global health crisis triggered accelerated digital adoption, forcing both providers and consumers to adapt. This digital acceleration is not merely an optional upgrade but a strategic imperative for survival (Aman, Papp-Váry, Kangai, & Odunga, 2024). One of the most visible transformations is the growing reliance on Online Travel Agencies (OTAs), which provide consumers with convenient, efficient, and customizable options for planning and booking their travel experiences.

This shift is not merely a trend but a fundamental restructuring of the global consumption of travel services (Baptista & Pereira, 2025). This transformation aligns with broader digital transformation trajectories, where platform-based services reshape value creation, customer experience, and competitive dynamics in the tourism industry (Sigala, 2020; Verhoef et al., 2021). The post-pandemic landscape has solidified technology's role. Research confirms that advanced technologies like Artificial

Intelligence (AI) and big data are critical in optimizing destination management and improving tourist experiences, further embedding digitalization into the core of tourism operations (Aguiar-Costa, Cunha, Silva, & Abreu, 2022).

Consequently, the boundaries between physical and digital tourism experiences continue to blur, making the digital ecosystem the primary point of customer interaction and service delivery (Chen & Zuo, 2024). In Indonesia, the resilience of the tourism industry is evident in the robust rebound of domestic and international travel in 2022. Following the strict mobility restrictions during the pandemic, tourism quickly became a pillar of economic recovery. According to the e-Conomy SEA 2022 report, Indonesia's online travel market expanded by 60% compared to 2021, reflecting both pent-up demand and a structural shift toward digital booking platforms. Market leaders such as Traveloka, Tiket.com, and Pegipegi have emerged as dominant players, leveraging high Internet penetration, e-commerce familiarity, and integrated digital ecosystems to attract millions of users.

This rapid expansion underscores the strategic role of OTAs in shaping the future of the tourism industry. As users increasingly rely on mobile applications and web platforms for flights, accommodations, car rentals, and bundled travel packages, OTAs have become indispensable intermediaries that bridge consumers and service providers (Hwang, 2024). However, alongside this growth, OTAs face challenges in maintaining service quality and customer trust, as service failures remain inevitable in digital interactions (Zhang, 2024). Despite their technological sophistication and competitive differentiation, OTAs are often associated with service failures that frustrate users.

These include misleading or fluctuating pricing, rigid refund or cancellation processes, inconsistent product descriptions, hidden fees, delayed responses, and inadequate customer support issues. Such failures are particularly damaging in a competitive digital environment, where switching costs are low, alternatives are abundant, and consumers can voice dissatisfaction instantly through online reviews and social media. The prevalence of these issues highlights a critical gap between the promises of convenience and the realities of service delivery in the digital space of the banking sector. The ability to manage these failures is paramount (Nanggong & Mohammad, 2020). In highly competitive digital platforms, such service failures are particularly detrimental because low switching costs enable dissatisfied users to easily migrate to alternative providers (Ciuchita, Mahr, & Odekerken-Schröder, 2019; L. Su & Swanson, 2019).

Scholars have long argued that the ability to retain customers is more cost-effective than the ability to continuously acquire new customers (Pereira et al., 2025; Reichheld & Schefter, 2000). Retention, however, is heavily dependent on customer satisfaction (Zhengmeng, Malik, Hussain, & Hussain, 2024). In digital environments, retention is increasingly shaped by cumulative customer experiences across interconnected customer journeys rather than isolated transactions (Verhoef, 2020). When consumers perceive a service experience positively, they are more likely to maintain a long-term relationship with the company. Conversely, dissatisfaction often leads to churn and negative publicity for the brand. Research consistently shows that a positive customer experience, particularly after service failure, is crucial for building long-term loyalty.

The unique nature of digital services introduces an additional layer of complexity: service recovery issues. Unlike traditional face-to-face service encounters, OTAs rely on digital communication, automated systems, and multiparty coordination (airlines, hotels, and payment providers). Consequently, when problems arise, complaint handling is a decisive factor in shaping satisfaction and retention in digital services (Mir, Ashraf, Syed, Ali, & Nawaz, 2023; Van Vaerenbergh, Orsingher, Vermeir, & Larivière, 2014). Complaint handling is often referred to as a "moment of truth" (Dwita, Sudiantini, Agustine, Sedyoningsih, & Channa, 2023), during which the company has an opportunity to restore trust or risk losing the customer entirely. The importance of effective complaint handling in the digital realm has been a growing area of focus, with studies confirming its direct impact on customer perception and loyalty.

The literature consistently highlights the pivotal role of complaint handling in digital-service ecosystems. Studies have confirmed that well-executed service recovery efforts can restore satisfaction and even create a service recovery paradox, wherein customers view the company more positively after a well-handled failure than if no failure had occurred at all (Lim, Saha, & Das, 2025). Recent empirical findings support this perspective. Hwang (2024) found that proactive recovery strategies significantly enhance post-recovery attitudes and repurchase intentions in OTA contexts, especially when pricing issues are involved. A structural equation modeling (SEM) study in Indonesia demonstrated that e-recovery service quality positively influences loyalty, although its relationship with satisfaction is more complex, mediated in part by e-commitment.

Qualitative analyses of negative reviews from Indonesian OTA users further emphasize the prevalence of complaints about refund delays, cancellations, and third-party service inconsistencies, suggesting that unresolved issues pose a substantial risk to customer retention. Specifically, within the OTA and e-commerce contexts, research on e-service quality and loyalty also reinforces that customer satisfaction acts as a critical mediator leading to e-customer loyalty (Naufal, Millanyani, & Trianasari, 2024). Similarly, case studies in the hospitality sector illustrate that complaint handling has both direct and indirect effects on consumer behavior. At Hotel Artotel Thamrin Jakarta, for example, complaint handling directly influenced revisit intention, while satisfaction mediated this effect, highlighting the intertwined relationship between recovery, satisfaction, and behavioral intention.

These findings align with the broader service marketing literature that associates effective recovery with enhanced word-of-mouth, brand trust, and loyalty. The ability to effectively manage and resolve customer issues is a key differentiator in crowded digital marketplaces. Recent studies have highlighted the growing importance of effective complaint handling in shaping customer perceptions and loyalty on digital platforms (Van Vaerenbergh et al., 2014). Indonesia represents a particularly fertile context for studying complaint handling and retention in online OTAs. Indonesia is not only the largest digital economy in Southeast Asia but also one of the fastest-growing tourism markets in the region. Between 2015 and 2018, Indonesia's OTA sector grew by approximately 20% annually, supported by over 50 emerging OTA startups. Surveys indicate that over 71% of Indonesians use OTAs to plan their trips, demonstrating widespread adoption across socioeconomic segments.

However, rapid adoption also magnifies risks: high user expectations of seamless service mean that even small failures can lead to significant dissatisfaction; low switching costs encourage users to abandon a platform after a single negative experience; vocal digital consumers amplify complaints through reviews, social media, and public forums, influencing other potential customers; and third-party dependency on airlines, hotels, and payment systems increases the probability of failure outside the OTA's direct control, yet users typically blame the OTA as the intermediary. Thus, while OTAs have become indispensable, their long-term sustainability hinges not only on pricing or convenience but also on their ability to handle complaints effectively and cultivate user satisfaction (Pradiatiningtyas, Dewa, & Safitri, 2025).

The novelty of this research lies in its integrated examination of complaint handling service quality and user satisfaction as joint determinants of retention within the Indonesian OTA context, offering a focused perspective on the sustainability of digital tourism. Problem Statement: How do complaint handling service quality and user satisfaction affect customer retention in Indonesia's OTA industry? Research Objective: To empirically test the effects of complaint handling service quality and user satisfaction on OTA user retention in Indonesia.

2. Literature Review and Hypothesis Development
2.1. Service Quality in Complaint Handling
Service quality in complaint handling is no longer framed only as "fixing the problem," but as a multi-stage, journey-like process in which fairness perceptions are formed before, during, and after the recovery effort (Van Vaerenbergh et al., 2014). Recent work affirms that the three justice dimensions remain the most reliable levers of perceived service quality in recovery: distributive (fair outcomes/compensation), procedural (fair, timely, and accessible processes), and interactional

(respectful and empathic treatment). Longitudinal evidence suggests that customers continuously update their evaluations of complaint handling quality over time, influencing their trust and future behavioral intentions (Maxham & Netemeyer, 2002; Z. Su & Ha, 2025). Contemporary evidence also shows that procedural justice is increasingly salient in digital contexts, where customers expect seamless, self-service complaint flows and clear status visibility.

Beyond the "whether" of compensation, new research refines the "how." For instance, compensation calibrated to customer preferences (a "demand-what-you-want" strategy) can elevate satisfaction and word-of-mouth relative to fixed offers, so long as it is implemented transparently and respectfully. Syntheses from 2015–2025 conclude that well-designed recovery systems consistently enhance satisfaction and loyalty intentions across channels and sectors, with interactional quality (apology, courtesy, and empathy) acting as a frequent tie-breaker when outcomes are equivalent. These refinements complement classic justice logic (Maxham & Netemeyer, 2002; Mir et al., 2023; Z. Su & Ha, 2025). In digital contexts, procedural justice, such as transparent and efficient processes, has become increasingly salient. Effective recovery, including personalized compensation, enhances customer satisfaction and loyalty.

2.2. User Satisfaction (Customer Satisfaction)

User satisfaction reflects post-consumption evaluations shaped by expectation confirmation, perceived value, and emotional responses during service encounters (Aguiar-Costa et al., 2022). Post-recovery satisfaction is influenced by perceived justice and can mediate the path to customer loyalty. The service recovery paradox, in which post-recovery satisfaction exceeds pre-failure levels, is possible with effective handling. The Service Recovery Paradox (SRP) satisfaction after a well-handled failure exceeding satisfaction when no failure occurs remains context contingent. Contemporary reviews and conceptual updates indicate that SRP is most plausible when failures are moderate (not severe), recovery is swift and generous, and firms learn and signal improvements post-recovery (Khamitov, Grégoire, & Suri, 2020).

2.3. Customer Retention

Recent studies have confirmed that customer retention on digital platforms is primarily driven by satisfaction, trust, and effective service recovery mechanisms (Naufal et al., 2024; Ozdemir, Erkmen, & Han, 2023). In platform-based tourism services, satisfaction enhances retention by fostering trust, perceived value, and customer engagement, which collectively strengthen repeat usage intentions (Liu, Han, Nicolau, & Li, 2022; Simamora, 2004). In digital and omnichannel settings, justice perceptions shape repatronage both directly and indirectly via engagement, with apologies strengthening the justice → satisfaction pathway. Meta and mapping reviews confirm that distributive, procedural, and interactional justice contribute to recovery satisfaction and, downstream, to loyalty and advocacy intentions. In travel and hospitality, dynamic justice and learning-oriented recovery capabilities (e.g., visible process fixes) bolster loyalty over time (Ozdemir et al., 2023). Industry tracking echoes these patterns, with sector-level satisfaction fluctuations in travel highlighting the strategic importance of robust recovery to keep customers in the fold.

In OTA contexts, specifically, 2024–2025 studies show that fair recovery and user-friendly complaint flows interact with pricing, assortment, and interface quality to sustain repeat usage. Synthesizing classic and recent evidence yields clear and directional expectations. High complaint-handling service quality operationalized through distributive, procedural, and interactional justice and supported by transparent, preference-sensitive compensation enhances recovery satisfaction. Together, these factors predict stronger retention and advocacy in both general and OTA settings.

The study hypotheses are explicitly stated as follows:
H_1: The complaint-handling service quality positively affects OTA user retention.
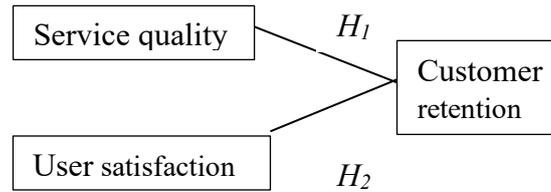H_2: User satisfaction positively affects OTA user retention.

Figure 1. Research framework

3. Methodology

This study used a quantitative approach with a cross-sectional survey design to examine the effect of complaint handling service quality and user satisfaction on OTA user retention in Indonesia.

3.1. Research Design

Data were collected using an online questionnaire distributed via Google Forms. This questionnaire consisted of several sections: respondents' demographic data (age, gender, location), OTA usage information (platforms used, frequency of complaints, products purchased), and statement items to measure the research variables. All latent variable items (Complaint Handling Service Quality, User Satisfaction, User Retention) were measured using a 5-point Likert Scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree) (Koo & Yang, 2025). Item development was based on a literature review (e.g., adapting SERVQUAL or Justice Theory dimensions for complaint handling quality, general satisfaction items, and loyalty behavioral intention items for retention). Validity (e.g., item-total correlation) and reliability (e.g., Cronbach's alpha) tests were conducted on the instruments prior to the main analysis, and the results indicated that the instruments were valid and reliable (Nindya, Listiana, & Afifah, 2024; Silalahi, Sitopu, & Sihite, 2024).

3.2. Population of the Study

The study population consisted of 7,451 employees drawn from four major mobile telecommunications firms in Nigeria: MTN, GLO, Airtel, and 9mobile. These companies were selected because they have a nationwide presence, a large subscriber base, and extensive network coverage, making them the most representative of the Nigerian mobile telecommunications industry. Their scale and operational diversity provide a robust foundation for examining how digital transformation influences employee productivity in the sector.

3.3. Sample Size and Sampling Technique

The sample size for the study was 366 employees, determined using the Krejcie and Morgan (1970) sample size determination formula, which is suitable for large populations. A stratified random sampling technique was adopted to ensure fair representation across sectors. The population comprises employees from four major telecommunications companies: MTN, GLO, Airtel, and 9mobile. Each company serves as a separate stratum. After creating the strata, participants were randomly selected from each company in proportion to their staff size, ensuring that the final sample accurately reflected the distribution of employees across the industry.

3.4. Data Analysis Techniques

The collected data were analyzed using statistical software (SPSS). The main analysis technique was multiple linear regression to test the simultaneous effects of X_1 and X_2 on Y. Before conducting the regression analysis, classical assumption tests (normality, multicollinearity, heteroscedasticity, and autocorrelation) were conducted to ensure the feasibility of the model, and the results showed that all assumptions were met. The F-test was used to test the significance of the model, while the t-test was used to test the significance of the partial effect of each independent variable. The coefficient of determination (Adj. R^2) was used to determine the proportion of variance in the dependent variable that could be explained by the independent variable.
conditions.

4. Result and Discussions

4.1. Respondent Characteristics

The demographic and behavioral analysis of the 160 respondents provided a crucial foundation for interpreting the subsequent regression findings. This section moves beyond a simple presentation of numbers to offer a deeper, more nuanced understanding of the profile of Online Travel Agent (OTA) users in Indonesia who have encountered and acted upon service issues. The data paints a picture of a digitally native and engaged consumer base, whose expectations and behaviors are central to the study's core inquiry into user retention (Hien, Vo, Ngan, & Ghi, 2024). Our findings indicate that the majority of respondents fall within the young productive age range, with 37.50% aged 18-28 and 28.13% aged 29-39.

This demographic profile was highly significant. This aligns with the global trend of digital platform adoption being most prevalent among millennials and Generation Z, who are not only frequent travelers but also highly accustomed to digital transactions and, critically, to voicing their experiences online. Their high expectations for seamless, instantaneous service and low tolerance for friction in the customer journey make their responses particularly valuable. This group's engagement with OTAs is not merely transactional; it is embedded in their lifestyle, making satisfaction and loyalty paramount for long-term business sustainability. The slight male majority (53.1%) over female respondents (46.9%) is also noteworthy, although the difference is not substantial enough to suggest a significant gender-based disparity in OTA usage or complaint behavior in this sample.

A key insight emerged from the OTA platform usage data. Traveloka, a home-grown Indonesian giant, dominates the market among respondents, with a commanding 50% share. This was followed by other prominent players such as Tiket.com (23%), Pegipegi (11%), and Agoda (5%). This concentration of usage on a few key platforms underscores the highly competitive and consolidated nature of Indonesia's OTA market. For these market leaders, user retention is a critical strategic imperative, as their existing user base represents a significant portion of their market capitalization and future revenue streams. Therefore, the findings of this study have direct and immediate relevance to the strategic planning of these dominant platforms.

Perhaps one of the most compelling pieces of data is the complaint frequency. The majority of respondents (72.7%) reported experiencing complaints two or more times previously. This high frequency challenges the notion that service issues are rare aberrations. Instead, it suggests that service failures, whether due to system glitches, third-party vendor issues (e.g., airlines, hotels), or human error, are relatively common in the OTA ecosystem. This reality elevates the importance of effective complaint handling from a mere customer service function to a critical determinant of user experience and, ultimately, of business success. The high number of repeat complainants indicates that users are willing to give platforms a second chance, but this trust is not infinite and can be lost. The data pose a direct question: What happens during these complaint experiences that encourage users to stay rather than switch to a competitor? The regression analysis was performed to answer this question.

The most frequently purchased products were airline tickets (43.75%) and hotel vouchers (28.15%). This is consistent with the primary services offered by OTAs. The high value and often time-sensitive nature of these purchases means that when something goes wrong, the stakes are high for the user. A canceled flight or a nonexistent hotel booking is not just an inconvenience; it can be a major disruption to travel plans, leading to significant user distress. This emotional component of service failure reinforces the need for a highly effective and empathetic complaint-handling process. Finally, the diverse geographical distribution of respondents, with concentrations in major urban centers such as Jakarta, Bandung, and Yogyakarta, suggests that the findings are not limited to a single regional market but reflect a broader pattern of OTA user behavior across Indonesia's key economic and social hubs. This enhances the generalizability and relevance of the study's conclusions.

4.2. Multiple Linear Regression Analysis: Model Results and Interpretation

The statistical analysis employed in this study, multiple linear regression, provides a robust framework for examining the relationship between Complaint Handling Service Quality (X_1) and User Satisfaction

(X_2) as independent variables and User Retention (Y) as the dependent variable. The results of this analysis yielded a statistically significant and interpretable model, as detailed below.

Table 1. Regression result

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.264	1.355		2.171	0.031
	Service quality	0.579	0.04	0.35	4.061	0
	User satisfaction	0.647	0.106	0.403	4.677	0
a. Dependent Variable: retention						

The regression model is expressed as follows:

$$Y = 6.264 + 0.579\,X1 + 0.647\,X2 + e \tag{1}$$

This equation serves as a mathematical representation of the relationship identified in the data. The constant, 6.264, represents the predicted value of User Retention when both Complaint Handling Service Quality (X_1) and User Satisfaction (X_2) are zero. While it provides a baseline, its practical significance is limited because the variables are measured on a scale where a zero value may not be meaningful or observable in a real-world context. Its primary purpose is to anchor the regression line and facilitate the calculation of intercepts. The regression coefficients are of paramount importance to the core hypotheses of this study. The coefficient for Complaint Handling Service Quality (X_1) was 0.579, and for User Satisfaction (X_2) was 0.647.

Both coefficients were positive, which is a key finding. A positive coefficient indicates that as the value of the independent variable increases, the value of the dependent variable also increases, assuming that all other variables remain constant. Specifically, a one-unit increase in the perceived quality of Complaint Handling Service is associated with a 0.579-unit increase in User Retention. Similarly, a one-unit increase in User Satisfaction was associated with a 0.647-unit increase in User Retention. These findings directly support the hypothesis that both factors positively influence the likelihood of a user being retained by the OTA platform. The slightly higher coefficient for User Satisfaction suggests that, in this model, a positive experience and general feeling of contentment with the platform have a slightly stronger impact on retention than an effective resolution of a complaint, although both are highly significant.

The overall significance of the model was confirmed using an F-test. The F-count value of 32.903 with a significance of 0.000 ($p < 0.05$) is a crucial indicator. The F-test assesses the overall predictive power of the model by testing the null hypothesis that all regression coefficients are equal to zero. In this case, the F-count is substantially larger than the F-table value (e.g., 3.05 at (e.g., 3.05 at df1=2, df2=157, α=0.05), allowing us to reject the null hypothesis with a high degree of confidence. This result unequivocally demonstrates that the two independent variables Complaint Handling Service Quality and User Satisfaction have a statistically significant and meaningful effect on User Retention. The probability of this result occurring by chance was virtually zero, reinforcing the robustness of the model.

Furthermore, the Coefficient of Determination (Adjusted R-Square) provides insight into the model's explanatory power. The adjusted R-squared value was 0.534 (R-squared = 0.593). R-Square represents the proportion of the variance in the dependent variable that can be explained by the independent variables. In this study, 59.3% of the variation in User Retention is explained by the combined effect of Complaint Handling Service Quality and User Satisfaction. The adjusted R-squared value, which accounts for the number of predictors in the model, provides a more conservative and accurate estimate, suggesting that 53.4% of the variance in retention is explained by these two factors. This is a substantial figure in social science research, indicating that these two variables are fundamental drivers of user

retention within the context of OTA platforms. However, this also means that 46.6% of the variation is attributed to other factors not included in this study, opening avenues for future research.

Finally, the Durbin-Watson statistic of 1.961 is well within the acceptable range (typically 1.5–2.5), indicating the absence of serious positive or negative autocorrelation in the residuals. This is an important assumption check for regression analysis, as a significant degree of autocorrelation suggests that the model's assumptions are violated and the results may be unreliable. The acceptable Durbin-Watson value adds to the statistical validity of the regression model and its results.

4.3. Discussions
The findings of this study are not merely statistical observations but represent a robust empirical confirmation of the established theoretical frameworks in service management, relationship marketing, and consumer behavior. This section elaborates on the theoretical underpinnings of our results, explores their significance within the context of the Indonesian OTA market, and identifies the study's key contributions.

4.3.1. The Power of Service Recovery: Justice Theory and The Service Recovery Paradox
The significant positive effect of Complaint Handling Service Quality on User Retention is a cornerstone finding of this research. This directly supports the central tenets of Justice Theory, a foundational framework for understanding consumer evaluations of service recovery.

Justice Theory posits that consumers assess their complaint experiences based on three key dimensions:
1. Distributive Justice: Pertains to the fairness of the outcome or compensation received. For an OTA user, this could be a full refund for a canceled flight, partial credit for a hotel booking issue, or the successful rebooking of a ticket at no additional cost. The user's perception of the fairness of this tangible outcome is a critical determinant of their satisfaction with the resolution of the complaint.
2. Procedural Justice: Focuses on the fairness of the policies and processes used to handle complaints. This includes the speed of resolution, ease of communication with the support team, clarity of the process, and perceived level of control the user has over the complaint journey. A long wait time, confusing system, or being transferred between multiple agents can severely undermine a user's perception of procedural fairness, regardless of the final outcome.
3. Interactional Justice:Relates to the interpersonal treatment received during the complaint process. This is where empathy, politeness, and sincere apologies from customer service representatives play a vital role. A user who feels heard, respected, and genuinely cared for is more likely to view the interaction positively, even if the final outcome is imperfect.

These findings are consistent with contemporary service recovery research, which emphasizes that fair and empathetic recovery encounters are critical in shaping long-term customer experience and loyalty on digital platforms (Ciuchita et al., 2019; Hollebeek & Macky, 2019). Consistent with this perspective, our results show that an increase in perceived service quality leads to higher customer retention, suggesting that OTAs that excel in the three dimensions of justice are more successful in converting negative experiences into positive outcomes. This supports the growing body of literature on digital customer service, which highlights the critical role of responsive and human-centric recovery mechanisms in technology-mediated environments.

Moreover, in the highly competitive Indonesian OTA market, where product offerings are often similar, a superior complaint handling process is not merely a reactive measure but evolves into a powerful strategic tool for differentiation and competitive advantage. This strategic role of service recovery also provides a nuanced perspective on the Service Recovery Paradox (SRP). The theory posits that consumers who experience a service failure that is effectively and satisfactorily resolved may ultimately exhibit higher levels of loyalty and satisfaction than those who do not encounter a problem. Although this paradox remains debated, our findings offer partial support for this proposition.

Specifically, the high frequency of repeat complaints among retained users indicates that effective recovery can transform potential churn moments into opportunities for trust building. The fact that a

significant proportion of respondents reported multiple complaints but remained loyal suggests that reliable and empathetic recovery efforts enable OTAs to foster deeper and more resilient relationships with their customers. This aligns with Harun and Rokonuzzaman (2021), who argue that successful service recovery can promote "customer forgiveness" and sustained loyalty, particularly when recovery efforts are perceived as generous and sincere.

This insight is particularly critical for industries that rely heavily on third-party vendors and are inherently prone to technical disruptions. Our study demonstrates that while achieving the full-Service Recovery Paradox, where post-recovery satisfaction exceeds pre-failure satisfaction, may be challenging, effective recovery systems can nonetheless prevent churn and reinforce long-term loyalty, even after repeated failures. Consequently, in the failure-prone OTA ecosystem, service recovery should not be viewed merely as a cost center but rather as a core component of the value proposition and a key strategic differentiator for the hotel.

4.3.2. User Satisfaction as the Cornerstone of Retention: Expectation Disconfirmation Theory
The positive and significant influence of User Satisfaction on User Retention, with a slightly higher coefficient (0.647) than that of complaint handling, is also theoretically grounded. This strongly aligns with the Expectation Disconfirmation Theory, a long-standing model of consumer behavior. This theory proposes that satisfaction is determined by the gap between a user's initial expectations of a service and their perception of the actual service performance.

- Positive Disconfirmation: Occurs when the perceived service performance exceeds the initial expectations, leading to satisfaction.
- Negative Disconfirmation: Occurs when the perceived performance falls short of expectations, leading to dissatisfaction.
- Confirmation: Occurs when performance matches expectations, resulting in a neutral or moderate level of satisfaction.

In the context of OTAs, user satisfaction is not just about resolving complaints. It encompasses the entire user journey: seamlessness of the booking process, transparency of pricing, accuracy of product descriptions, ease of navigation on the app, and reliability of the platform. Our findings suggest that consistently meeting, or even better, exceeding these fundamental expectations is the single most powerful driver of user retention. While effective complaint handling is essential for mitigating negative experiences, a positive initial and ongoing experience is a proactive strategy that builds a loyal user base.

The higher regression coefficient for User Satisfaction underscores its role as the foundational driver of retention. This result reinforces contemporary customer journey theory, which emphasizes that satisfaction accumulates dynamically across digital touchpoints and serves as a central mechanism for translating service performance into long-term retention behavior (Verhoef, 2020; Verhoef et al., 2021), who established satisfaction as a key antecedent to customer loyalty. This aligns with recent studies on digital user interfaces, highlighting how a frictionless, intuitive, and trustworthy digital experience significantly shapes user behavioral intentions, including the decision to return to the platform. The data, therefore, point to a clear hierarchy: while OTAs must be prepared to manage service failures masterfully, their primary strategic focus should remain on delivering a consistently high-quality experience that builds general satisfaction and trust from the outset.

4.3.3. Unexplained Variance and Future Research Directions
The adjusted R-squared value of 0.534, while substantial, indicates that approximately 46.6% of the variance in user retention is influenced by factors not included in this study's model. This is not a limitation but an important finding that can guide future research. The remaining unexplained variance points to the complexity of consumer behavior in the digital age and the potential influence of other variables.

- Future studies could build upon this framework by incorporating a wider array of variables to create a more comprehensive model of retention. Some promising avenues for exploration include the following:
- Perceived Value: Users' assessment of the trade-off between the benefits they receive (e.g., convenience, price, rewards) and the costs they incur (e.g., money, time, effort).
- Trust: Users' belief in the platform's reliability, integrity, and benevolence. Trust is a key mediator, especially in high-stakes online transactions.
- Loyalty Program Engagement: The impact of rewards programs, tiered membership, and exclusive benefits on user retention.

Switching Costs: Both tangible (e.g., loss of loyalty points) and intangible (e.g., time and effort to learn a new platform) costs that might discourage a user from switching to a competitor are considered. Social Influence and Brand Reputation: The role of peer reviews, social media sentiment, and overall brand perception in influencing user retention decisions. A longitudinal study could also provide valuable insights by tracking user behavior over time and providing a more robust understanding of the causal relationships between these variables and retention. Additionally, experimental designs can be used to manipulate specific aspects of complaint handling or user experience to isolate their precise impact on user behavior.

5. Conclusions

5.1. Conclusion

This study demonstrates that both complaint-handling service quality and user satisfaction are significant drivers of customer retention in Indonesia's OTA industry. The findings highlight that a sustainable advantage requires a dual strategy: mastering service recovery to handle failures effectively and prioritizing overall user satisfaction to proactively build a loyal customer base. The novelty of this study lies in the quantitative establishment of this joint effect within the Indonesian digital tourism context. The significant effect of complaint handling service quality confirms the enduring relevance of Justice Theory in the digital age, highlighting that a fair, swift, and empathetic resolution can transform a moment of frustration into a loyalty-building opportunity for the organization.

Concurrently, the greater impact of user satisfaction reinforces the fundamental principle of Expectation Disconfirmation Theory that meeting and exceeding user expectations in the core service offering is the most powerful lever for encouraging repeat usage. The synergy between these two factors suggests that OTAs must adopt a holistic strategy in which service recovery is not an afterthought but an integral part of a comprehensive customer experience framework. Future research can build upon this foundation by exploring other variables and employing longitudinal designs to unravel the complex dynamics of user retention in the fast-evolving digital tourism ecosystem.

5.2. Research Limitations

This study had several limitations that should be considered when interpreting its findings. First, the use of snowball sampling limits the generalizability of the results because the sample may not fully represent the broader population. Additionally, the cross-sectional design restricts the ability to draw causal inferences because the data were collected at one point in time. Furthermore, reliance on self-reported data may introduce response bias, as participants may provide socially desirable answers rather than objective responses. Finally, this study focused on OTAs in Indonesia, which may not reflect the experiences or behaviors of users in other cultural or regional contexts, limiting the external validity of the findings.

5.3. Suggestions and Directions for Future Research

Future research could build on this study by addressing several areas for improvement, including conducting a longitudinal study to provide insights into how the relationship between complaint handling, satisfaction, and user retention evolves over time, offering stronger evidence for causality. Second, future studies should consider employing mixed-methods approaches to combine quantitative analysis with qualitative insights to provide a richer understanding of user experiences and behaviors.

Expanding the research to include cross-cultural contexts would help determine whether the findings are applicable in different countries or regions with varying customer expectations and service standards. Additionally, incorporating other variables, such as trust, brand reputation, or loyalty programs, could provide a more comprehensive model of user retention. Finally, experimental studies should be conducted to manipulate specific aspects of complaint handling or service quality to assess their direct impact on customer retention.

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