

Tourist-Centric Service Quality and Sustainable Tourism Development: Evidence from Indonesian Small Island Destinations

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ABSTRACT

Small island destinations in Indonesia have substantial tourism potential but face significant sustainability challenges. This study aims to examine the effect of tourist-centric service quality (TCSQ) on sustainable tourism development (STD) through tourist perception and to investigate the moderating role of environmental concern in this relationship. Data were collected from 477 domestic and international tourists visiting selected Indonesian small islands and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The results indicate that TCSQ significantly enhances STD both directly and indirectly through tourist perception ($p < 0.001$), highlighting the importance of positive environmental perceptions in encouraging sustainable tourism. However, the moderating effects of environmental concern on responsiveness ($b = 0.029$, $t = 1.851$, $p = 0.064$) and tangibility ($b = -0.021$, $t = 1.330$, $p = 0.183$) were not statistically significant, suggesting that environmentally concerned tourists value long-term sustainability commitments over operational service attributes. This study extends sustainable tourism literature by proposing an integrated moderated-mediation framework and offers practical guidance for destination management organizations to align service quality with environmental sustainability in small island destinations.

Keywords: Environmental Concern; Sustainable Tourism Development; Tourist Perception; Tourist-Centric Service Quality; Tourism Destinations

JEL Classification: L83; Q01; Q56

INTRODUCTION

Small island tourism has become one of the fastest-growing segments of the global tourism industry, contributing substantially to employment creation, foreign exchange earnings, regional development, and community livelihoods (United Nations Tourism [UN Tourism], 2024a). Beyond its direct economic contributions, tourism stimulates investment in transportation infrastructure, digital connectivity, destination innovation, and local entrepreneurship, thereby strengthening regional economic resilience and improving community welfare (UN Tourism, 2024a; World Travel & Tourism Council [WTTC], 2024). As the world's largest archipelagic nation, Indonesia possesses more than 17,000 islands with exceptional marine biodiversity, unique coastal ecosystems, and diverse cultural heritage, positioning small island destinations as strategic assets for national tourism development (Ministry of Tourism and Creative Economy of the Republic of Indonesia, 2022). Destinations such as Bali, Lombok, Raja Ampat, Belitung, and the Seribu Islands continue to attract increasing numbers of domestic and international tourists seeking authentic marine and nature-based experiences. Consequently, ensuring the long-term sustainability of these destinations has become a strategic priority for governments, tourism businesses, and local communities.

Despite their considerable economic importance, small island destinations remain among the world's most environmentally vulnerable tourism ecosystems. Compared with mainland destinations, islands possess limited land resources, finite freshwater supplies, fragile marine ecosystems, restricted waste-management capacity, and relatively low ecological carrying capacity (Hall, 2019; Sharpley, 2022). Rapid tourism growth without effective environmental management can accelerate coral reef degradation, biodiversity loss, coastal pollution, habitat fragmentation, and freshwater shortages, thereby undermining destination resilience and long-term competitiveness (Gössling & Higham, 2021; United Nations Environment Programme [UNEP], 2023). These environmental pressures are further intensified by climate change through sea-level rise, coral bleaching, coastal erosion, and increasingly frequent extreme weather events, all of which threaten both tourism operations and community livelihoods (Intergovernmental Panel on Climate Change [IPCC], 2023). Consequently, sustainable tourism development (STD) requires balancing economic competitiveness with environmental conservation, socio-cultural preservation, and community well-being. Achieving this balance depends not only on effective destination governance but also on tourists who increasingly act as co-creators of sustainability through their travel decisions and environmentally responsible behaviors (Font & McCabe, 2017; UN Tourism, 2024a).

Within tourism literature, service quality has long been recognized as one of the strongest determinants of tourist satisfaction, destination image, loyalty, revisit intention, and positive word-of-mouth (Zeithaml et al., 2020). More recently, scholars have argued that service quality should extend beyond delivering customer satisfaction to facilitating environmentally responsible experiences and supporting sustainable destination management (Birinci et al., 2025; Sharma et al., 2021). This perspective has led to the emergence of tourist-centric service quality (TCSQ), which emphasizes designing tourism services around tourists' expectations while simultaneously encouraging responsible behaviors that support destination sustainability. High-quality services improve tourists' confidence, reduce uncertainty, increase compliance with destination regulations, enhance trust in tourism providers, and encourage environmentally responsible behaviors (Ru-Zhue et al., 2025). Nevertheless, despite extensive evidence linking service quality to traditional marketing outcomes, considerably less empirical attention has been devoted to understanding how TCSQ contributes to STD, particularly within environmentally sensitive small island destinations.

Existing theoretical frameworks also reveal an important conceptual limitation. Destination competitiveness models developed by [Dwyer and Kim \(2003\)](#) primarily explain destination performance through supply-side factors, including destination resources, infrastructure, supporting industries, governance, and destination management. While these models have substantially advanced tourism competitiveness research, they provide relatively limited attention to tourists' psychological evaluations as mechanisms through which tourism experiences generate sustainability outcomes. Contemporary sustainable tourism increasingly recognizes tourists as active stakeholders whose perceptions, values, and behaviors influence destination resilience, environmental conservation, and community well-being ([Bramwell & Lane, 2023](#)). Consequently, understanding the psychological mechanisms linking tourism service experiences with sustainable tourism outcomes has become an important research priority.

The Stimulus–Organism–Response (S–O–R) framework ([Mehrabian & Russell, 1974](#)) provides a robust theoretical foundation for explaining these relationships. Within this framework, Tourist-Centric Service Quality functions as the external stimulus that shapes tourists' cognitive evaluations and affective responses (organism), which subsequently influence behavioral and sustainability outcomes (response). Tourist perception therefore represents a critical psychological mechanism through which service experiences are translated into environmentally responsible behaviors, support for conservation initiatives, and positive evaluations of destination sustainability ([Han, 2021](#); [Hu et al., 2022](#)). Although numerous studies have confirmed the positive influence of service quality on tourist satisfaction and behavioral intentions, empirical evidence examining tourist perception as the mediating mechanism linking TCSQ and STD remains limited. Most previous studies have focused primarily on satisfaction, loyalty, revisit intention, or destination image while overlooking sustainability-oriented outcomes ([Karim & Rabiul, 2024](#); [Sharma et al., 2021](#)).

Another important research gap concerns the role of environmental concern. Environmental concern has consistently been identified as an important predictor of environmentally responsible behavior, sustainable consumption, and conservation support in tourism ([Han, 2021](#)). Tourists with stronger environmental concern are generally more willing to minimize ecological impacts, support conservation programs, comply with environmental regulations, and participate in sustainable tourism activities. However, previous studies have primarily examined environmental concern as an independent predictor or direct antecedent of sustainable behavior, with considerably less attention devoted to its potential moderating role. Specifically, limited empirical evidence exists regarding whether environmentally concerned tourists are more likely to translate positive destination perceptions into stronger sustainability-supportive behaviors. This limitation is particularly evident in small island destinations across Southeast Asia, where fragile ecosystems make tourists' environmental values especially consequential for destination sustainability ([Gössling & Higham, 2021](#); [Han, 2021](#)).

Furthermore, previous research has generally examined service quality, tourist perception, and environmental concern independently rather than integrating these constructs into a comprehensive theoretical framework capable of explaining STD. Consequently, the psychological and environmental mechanisms through which service quality contributes to sustainability remain insufficiently understood. Addressing this limitation is increasingly important because sustainable tourism outcomes emerge not only from superior destination management but also from tourists' cognitive evaluations

and environmental values that jointly shape responsible tourism behavior (Bramwell & Lane, 2023).

To address these theoretical and empirical gaps, this study develops and empirically tests a moderated-mediation model in which tourist perception mediates the relationship between TCSQ and STD, while environmental concern moderates the influence of tourist perception on sustainability outcomes. By integrating service quality, tourist psychological evaluation, environmental values, and sustainability outcomes into a unified framework, this study extends the S–O–R theory beyond its traditional application in tourism behavior research. The proposed model demonstrates how high-quality tourism services generate sustainability outcomes indirectly through tourists' psychological evaluations and how these relationships become stronger among tourists with higher levels of environmental concern. Empirically, this study contributes new evidence from Indonesian small island destinations, an underexplored yet globally significant tourism context characterized by exceptional biodiversity, increasing tourism demand, and high environmental vulnerability. Practically, the findings provide important implications for destination managers and policymakers by highlighting the strategic importance of integrating TCSQ with environmental awareness initiatives to strengthen destination resilience, encourage responsible tourist behavior, and achieve long-term STD.

LITERATURE REVIEW

Theoretical Framework

This study integrates the S–O–R framework (Mehrabian & Russell, 1974) and the New Ecological Paradigm (NEP) (Dunlap et al., 2000) to explain STD. Within the S–O–R framework, TCSQ serves as the stimulus, tourist perception as the organism, and STD as the response, whereby high-quality services foster positive perceptions that encourage sustainable behaviors. The NEP complements this framework by explaining how environmental concern strengthens the relationship between tourism service experiences and sustainable tourism outcomes. Together, these theories explain the mediating role of tourist perception and the moderating role of environmental concern in STD.

Conceptual Framework

Tourist-Centric Service Quality (TCSQ)

TCSQ refers to tourists' overall evaluation of the quality of services provided by a destination based on their experiences and expectations. Drawing on the SERVQUAL framework, TCSQ is reflected through four service dimensions (reliability, responsiveness, assurance, and tangibility) which collectively enhance tourists' experiences, strengthen destination evaluations, and support positive behavioral outcomes (Su et al., 2016).

Tourist Perception

Tourist perception reflects tourists' cognitive and affective evaluations of destination experiences, including their assessments of service quality, environmental conditions, and overall destination attractiveness. These evaluations shape tourists' behavioral intentions and serve as the psychological mechanism linking service quality with sustainable tourism development (Prayag & Ryan, 2022).

Sustainable Tourism Development (STD)

Following the Triple Bottom Line (TBL) framework (Elkington, 1997), STD reflects tourists' support for environmental conservation, local community well-being, and

responsible tourism practices that balance environmental, social, and economic sustainability. It emphasizes tourism development that preserves natural resources while generating long-term benefits for local communities and destinations (UN Tourism, 2024a).

Environmental Concern

Environmental concern represents tourists' ecological values and commitment to environmental protection, encouraging environmentally responsible behavior and support for sustainability initiatives (Dunlap et al., 2000; Han, 2021).

TCSQ should incorporate environmental values and stakeholder collaboration to support sustainable tourism. Digital service quality enhances tourists' overall experiences (Zulfahmi et al., 2022), while environmental awareness and stakeholder participation encourage responsible tourism practices (Maria et al., 2023). In addition, collaboration among tourism stakeholders and institutional support strengthen sustainable service delivery and destination resilience (Maesaroh et al., 2026; Nasoha et al., 2024). Residents' environmental responsibility also plays an important role in fostering positive attitudes toward STD (Ismulyati et al., 2026). Therefore, TCSQ can be viewed as a key driver of STD, particularly in environmentally sensitive destinations such as Indonesian small islands.

Hypotheses Development

Direct Effects

TCSQ and STD

According to the S–O–R framework, high-quality tourism services act as external stimuli that directly influence sustainable tourism outcomes by creating service experiences that encourage responsible tourist behavior and strengthen destination resilience. Reliable services, responsive assistance, professional assurance, and well-maintained physical facilities not only enhance tourists' experiences but also facilitate environmentally responsible practices, improve resource efficiency, and foster positive interactions between visitors and local communities. From the perspective of destination competitiveness theory, superior service quality represents a strategic capability that enhances environmental conservation, supports community well-being, and strengthens the long-term competitiveness of tourism destinations. These relationships are particularly important in environmentally sensitive small island destinations, where service quality plays a critical role in balancing visitor satisfaction with ecological preservation and socio-economic sustainability. Accordingly, higher levels of reliability, responsiveness, assurance, and tangibility are expected to contribute directly to STD (Mehrabian & Russell, 1974). Therefore, the following hypothesis is proposed:

H1: Reliability, responsiveness, assurance, and tangibility positively influence STD.

Tourist Perception and STD

Within the S–O–R framework, tourist perception represents the organism that transforms external service stimuli into behavioral responses. As tourists evaluate their experiences, they develop cognitive and affective perceptions regarding service quality, destination attractiveness, environmental conditions, and interactions with local communities. These positive perceptions increase tourists' willingness to support sustainable tourism practices, including respecting local culture, participating in conservation initiatives, minimizing environmental impacts, and engaging in responsible travel behaviors. Favorable tourist perceptions also strengthen destination advocacy, revisit intentions, and support for sustainable destination management, thereby contributing to the environmental, socio-cultural, and economic dimensions of STD. Previous studies have

consistently demonstrated that tourists with positive destination perceptions are more likely to adopt pro-environmental behaviors and actively support sustainability initiatives, highlighting the pivotal role of perception in achieving long-term destination sustainability (Mehrabian & Russell, 1974). Therefore, the following hypothesis is proposed:

H2: Tourist perception positively influences STD.

Moderating Effects

Drawing on the NEP, environmental concern reflects the extent to which individuals recognize the importance of environmental protection and incorporate ecological values into their attitudes and decision-making processes. Tourists with stronger environmental concern are more likely to evaluate tourism services not only in terms of functional performance but also based on their contribution to environmental conservation and responsible destination management. Consequently, when tourism services are delivered reliably, responsively, professionally, and through well-maintained facilities, environmentally concerned tourists are more likely to perceive these services as supporting sustainable tourism practices. This alignment between high-quality service delivery and pro-environmental values enhances tourists' appreciation of sustainability initiatives and strengthens the positive contribution of service quality to STD. In contrast, tourists with lower environmental concern may focus primarily on the functional benefits of the service, thereby reducing the influence of service quality on sustainability outcomes. Accordingly, environmental concern is expected to function as a boundary condition that strengthens the relationship between TCSQ and STD (Han, 2021). Therefore, the following hypothesis is proposed:

H3: Environmental concern positively moderates the relationships between reliability, responsiveness, assurance, and tangibility and STD.

Mediating Effects

Within the S–O–R framework, tourist perception serves as the organism that translates external service stimuli into behavioral outcomes. High-quality tourism services, including reliability, responsiveness, assurance, and tangibility, shape tourists' cognitive and affective evaluations of a destination, fostering favorable perceptions of its service quality, environmental responsibility, and overall attractiveness. These positive perceptions subsequently encourage tourists to engage in behaviors that support STD, such as respecting local culture, participating in conservation initiatives, adopting environmentally responsible practices, and advocating for sustainable destinations. Accordingly, the influence of TCSQ on sustainable tourism is expected to operate not only through its direct effects but also indirectly by enhancing tourists' perceptions of the destination. Previous studies likewise identify tourist perception as a critical psychological mechanism linking service experiences to destination-related behavioral outcomes and sustainability-oriented behaviors (Han, 2021; Mehrabian & Russell, 1974; Prayag & Ryan, 2022). Therefore, the following hypothesis is proposed:

H4: Tourist perception mediates the relationships between reliability, responsiveness, assurance, and tangibility and STD.

Figure 1. Conceptual Model

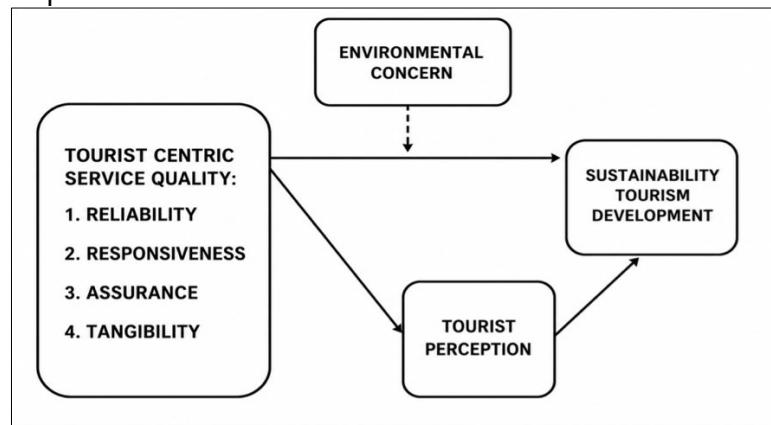


Figure 1 illustrates the proposed conceptual framework integrating the S–O–R theory and the NEP to explain STD. The model explains STD as the outcome of TCSQ through tourist perception, while environmental concern moderates this relationship. This framework explains how service quality contributes to STD in small island destinations.

RESEARCH METHOD

Research Design and Sample

This study employed a quantitative research design to examine the proposed conceptual model among domestic and international tourists visiting selected Indonesian small island destinations, including the Seribu Islands, Lombok, Bali, and Bangka Belitung. Using purposive sampling, respondents were selected based on their previous visits and tourism experiences. Data were collected through an online questionnaire via Google Forms between April and May 2026. A total of 477 valid responses were analyzed, exceeding the recommended minimum sample size for Partial Least Squares Structural Equation Modeling (PLS-SEM) analysis (Hair et al., 2022).

Measurement of Variables

The measurement instruments were adapted from established studies to ensure validity and reliability. TCSQ was measured using the SERVQUAL dimensions, tourist perception from Prayag and Ryan (2022), STD from UN Tourism (2024b), and environmental concern from the NEP (Dunlap et al., 2000). All constructs were assessed using a five-point Likert scale ranging from 1 (“strongly disagree”) to 5 (“strongly agree”).

Data Analysis

Descriptive statistics were initially conducted to summarize respondent characteristics and measurement item responses. Subsequently, PLS-SEM using SmartPLS 4 was applied to test the proposed hypotheses. PLS-SEM was selected due to its suitability for complex models involving latent constructs, mediation, and moderation effects with minimal distributional assumptions (Hair et al., 2022). The analysis followed Hair et al. (2022) through measurement model evaluation, structural model assessment, and bootstrapping procedures to examine direct, indirect, and moderating effects, including R^2 , Q^2 , and f^2 evaluations.

RESULTS

Respondent Demographic Characteristics

This study analyzed 477 valid respondents comprising domestic and international tourists visiting selected Indonesian small island destinations, including Seribu Islands,

Lombok, Bali, and Bangka Belitung. Respondents represented diverse demographic characteristics (see Table 1), providing sufficient sample variation and broad representation despite the use of purposive sampling.

Table 1. Respondents' Profiles

	Frequency (n)	Percentage (%)
Age		
<17 years	9	1.89
17-25 years	211	44.23
26-35 years	176	36.90
36-45 years	65	13.63
46-55 years	13	2.73
>55 years	3	0.63
Gender		
Male	215	45.07
Female	262	54.93
Occupation		
Civil servant	39	8.18
Private sector employee	127	26.62
Student	152	31.87
Entrepreneur/self-employ	95	19.92
State-owned enterprise employee	15	3.14
Home maker	14	2.94
Others	35	7.34
Education		
Junior high school	29	6.08
Senior high school	266	55.77
Diploma	22	4.61
Bachelor	140	29.35
Master-Doctoral	20	4.19
Tourist Expenditure at the Destination		
<IDR50.000	37	7.76
IDR50.000 - 100.000	84	17.61
IDR101.000 200.000	70	14.68
IDR201.000 -300.000	62	13.00
>IDR300.000	224	46.96
Total	477	100.00

Table 1 shows that visitors to Indonesian small island destinations were predominantly young (17–35 years), educated, and economically active. Students (31.87%) and private-sector employees (26.62%) were the largest groups, while 46.96% spent more than IDR 300,000 per visit, indicating substantial tourism value. These findings suggest that small island destinations attract young visitors who can support sustainable tourism, highlighting the need for youth-oriented and environmentally responsible tourism strategies (UN Tourism, 2024b).

Measurement Model

The measurement model was assessed for construct validity and reliability using outer loadings and Average Variance Extracted (AVE). Following Hair et al. (2022), outer loadings above 0.70 and AVE values above 0.50 indicate adequate convergent validity, confirming that the constructs reliably represent their indicators and are suitable for structural model analysis.

Table 2. Validity Test Result

Variables	Indicator	Loading Factor	T statistics	P values
Assurance	ASS1	0.881	71.410	0.000
	ASS2	0.901	85.119	0.000
	ASS3	0.905	91.860	0.000
	ASS4	0.901	86.088	0.000
	ASS5	0.862	62.853	0.000
Environmental Concern	EC1	0.901	105.253	0.000
	EC10	0.836	52.818	0.000
	EC2	0.817	40.586	0.000
	EC3	0.813	36.487	0.000
	EC4	0.835	48.307	0.000
	EC5	0.843	50.996	0.000
	EC6	0.787	39.804	0.000
	EC7	0.804	37.893	0.000
	EC8	0.822	47.208	0.000
	EC9	0.738	29.797	0.000
Reliability	REL1	0.856	48.358	0.000
	REL2	0.889	82.599	0.000
	REL3	0.847	54.803	0.000
	REL4	0.866	70.587	0.000
Responsiveness	RESP1	0.906	94.471	0.000
	RESP2	0.914	96.780	0.000
	RESP3	0.906	82.076	0.000
	RESP4	0.890	58.912	0.000
Sustainability	SUS1	0.799	46.508	0.000
	SUS2	0.856	60.842	0.000
	SUS3	0.892	86.810	0.000
	SUS4	0.831	49.525	0.000
Tangibility	TAN1	0.886	79.947	0.000
	TAN2	0.895	78.592	0.000
	TAN3	0.848	56.804	0.000
	TAN4	0.858	67.875	0.000
Tourist Perception	TP1	0.836	44.598	0.000
	TP2	0.876	66.835	0.000
	TP3	0.884	72.011	0.000
	TP4	0.884	70.024	0.000
	TP5	0.851	45.186	0.000

Table 2 confirms the validity of all measurement indicators, with high factor loadings, significant t-values (> 1.96), and p-values of 0.000. These results indicate that all indicators adequately represent their respective constructs, supporting the reliability of the measurement model for structural analysis (Hair et al., 2022).

Table 3. Reliability Test Result

Variables	Cronbach's Alpha	Composite Reliability (rho_c)	Average Variance Extracted (AVE)
1 Assurance	0.934	0.950	0.792
2 Environmental Concern	0.946	0.954	0.673

3	Reliability	0.887	0.922	0.748
4	Responsiveness	0.925	0.947	0.817
5	Sustainability	0.866	0.909	0.715
6	Tangibility	0.895	0.927	0.760
7	Tourist Perception	0.917	0.938	0.750

Table 3 confirms strong reliability and convergent validity, with all constructs exceeding the recommended thresholds (CR > 0.80; AVE > 0.50). Environmental concern showed the highest reliability (Cronbach's alpha = 0.946). These results indicate that the measurement model is reliable and suitable for structural model analysis (Hair et al., 2022).

Table 4. Discriminant Validity Fornell Larcker Criterion

Variables	ASS	EC	REL	RES	SUS	TAN	Perception
1 Assurance	0.913						
2 Environmental Concern	0.904	0.921					
3 Reliability	0.828	0.858	0.965				
4 Responsiveness	0.876	0.895	0.852	0.954			
5 Sustainability	0.831	0.853	0.896	0.926	0.946		
6 Tangibility	0.804	0.817	0.747	0.769	0.875	0.872	
7 Tourist Perception	0.909	0.834	0.868	0.905	0.853	0.818	0.866

Table 4 presents discriminant validity results using the Fornell–Larcker criterion. The square root of AVE values for all constructs exceeded their correlations with other variables, confirming that each construct is empirically distinct and captures a unique conceptual domain. For instance, assurance showed an AVE square root of 0.913, exceeding correlations with environmental concern (0.904) and reliability (0.828). These findings demonstrate satisfactory discriminant validity and support the robustness of the measurement model, consistent with Hair et al. (2022), providing a reliable foundation for subsequent structural analysis (see Figure 2).

Figure 2. Structural Model

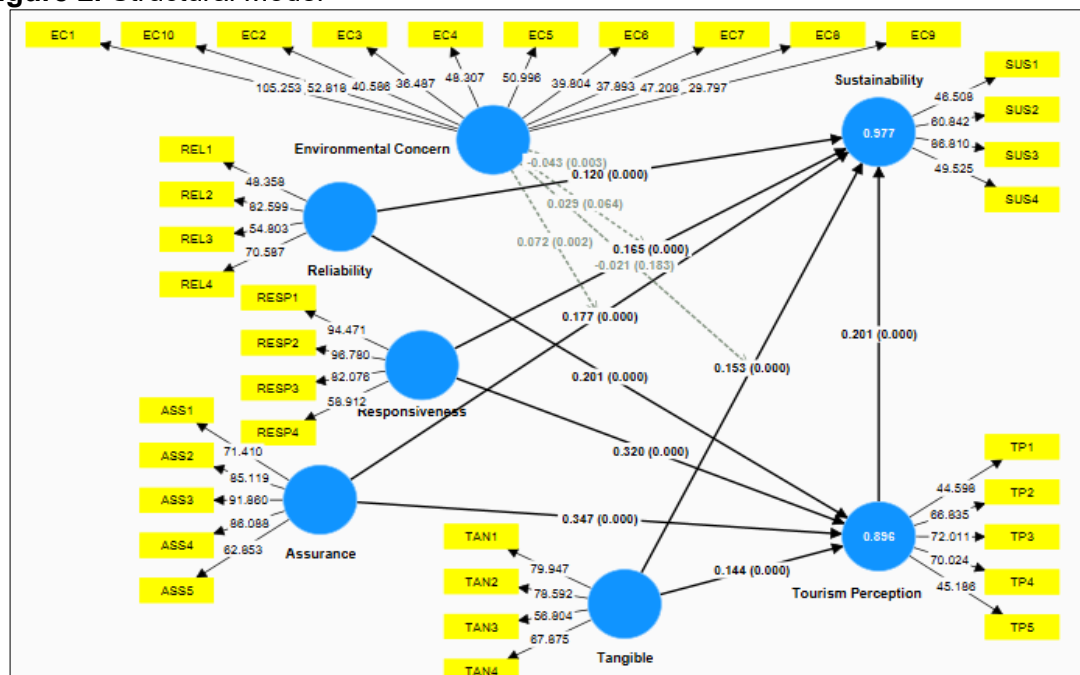


Table 5. R-Square and Q-Square Test

Variables		R ²	Q ²
1	Sustainability	0.977	0.689
2	Tourist Perception	0.896	0.667

Table 5 shows strong explanatory and predictive power, with R² values of 0.977 for STD and 0.896 for tourist perception. The Q² values of 0.689 and 0.667, respectively, further confirm the model's strong predictive relevance (Hair et al., 2022), supporting its suitability for explaining STD.

Table 6. Effect Size (F-Square Test)

Hypotheses		f-square
1	Assurance -> Sustainability	0.183
2	Assurance -> Tourist Perception	0.207
3	Environmental Concern -> Sustainability	0.346
4	Reliability -> Sustainability	0.128
5	Reliability -> Tourist Perception	0.093
6	Responsiveness -> Sustainability	0.163
7	Responsiveness -> Tourist Perception	0.175
8	Tangibility -> Sustainability	0.274
9	Tangibility -> Tourist Perception	0.065
10	Tourist Perception -> Sustainability	0.152
11	Environmental Concern x Reliability -> Sustainability	0.018
12	Environmental Concern x Responsiveness -> Sustainability	0.006
13	Environmental Concern x Tangibility -> Sustainability	0.006
14	Environmental Concern x Assurance -> Sustainability	0.029

Table 6 shows that environmental concern had the largest effect on STD ($f^2 = 0.346$), followed by tangibility ($f^2 = 0.274$) and tourist perception ($f^2 = 0.152$). In contrast, the interaction terms exhibited only small effect sizes, indicating limited moderating effects. These findings identify environmental concern, tangibility, and tourist perception as the strongest predictors of STD.

Table 7. Fit Model Summary

	Saturated Model	Estimated Model
SRMR	0.044	0.047
d _{ULS}	1.269	1.482
d _G	1.402	1.422
Chi-square	5548.677	5802.535
NFI	0.831	0.824

Table 7 shows that the structural model achieved a good fit, with SRMR values of 0.044 (saturated model) and 0.047 (estimated model), both below the recommended threshold of 0.08. The NFI value of 0.831 indicates acceptable model fit, confirming that the proposed model adequately represents the observed data and is suitable for hypothesis testing.

Hypothesis Testing

Hypothesis testing was conducted using PLS-SEM in SmartPLS. Hypotheses were supported when the bootstrapping results showed t-values > 1.96 and p-values ≤ 0.05,

indicating significant relationships between constructs. This procedure provides robust empirical evidence for evaluating the proposed model.

Table 8. Hypothesis Testing: Direct and Indirect Effects

Hypotheses		Path Coeff	T Statistics	P Values
Direct Effect				
H1a	Reliability -> Sustainability	0.120	8.993	0.000
H1b	Responsiveness -> Sustainability	0.165	10.598	0.000
H1c	Assurance -> Sustainability	0.177	9.575	0.000
H1d	Tangibility -> Sustainability	0.153	12.681	0.000
H2	Tourist Perception -> Sustainability	0.201	10.311	0.000
H3a	Environmental Concern x Reliability -> Sustainability	-0.043	2.988	0.003
H3b	Environmental Concern x Responsiveness -> Sustainability	0.029	1.851	0.064
H3c	Environmental Concern x Assurance -> Sustainability	0.072	3.148	0.002
H3d	Environmental Concern x Tangibility -> Sustainability	-0.021	1.330	0.183
Indirect Effect				
H4a	Reliability -> Tourist Perception -> Sustainability	0.040	5.506	0.000
H4b	Responsiveness -> Tourist Perception -> Sustainability	0.064	7.036	0.000
H4c	Assurance -> Tourist Perception -> Sustainability	0.070	8.022	0.000
H4d	Tangibility -> Tourist Perception -> Sustainability	0.029	5.549	0.000

Table 8 presents the results of the direct, moderating, and mediating effect analyses.

Direct Effects

The results indicate that H1 and H2 are accepted. Specifically, reliability has a positive and significant effect on STD ($\beta = 0.120$, $t = 8.993$, $p < 0.001$), indicating that consistently delivering promised services and effectively resolving visitor concerns contributes to destination sustainability by enhancing operational stability and long-term tourism performance. Likewise, responsiveness positively influences STD ($\beta = 0.165$, $t = 10.598$, $p < 0.001$), suggesting that prompt and proactive responses to tourists' needs strengthen sustainable destination management by fostering positive visitor experiences and long-term destination competitiveness.

Similarly, assurance exerts a positive and significant effect on STD ($\beta = 0.177$, $t = 9.575$, $p < 0.001$). Employees' professionalism, courtesy, and ability to provide a safe and trustworthy environment enhance tourists' confidence, thereby reinforcing destination sustainability. In addition, tangibility positively affects STD ($\beta = 0.153$, $t = 12.681$, $p < 0.001$), demonstrating that well-maintained facilities, attractive infrastructure, and a high-quality physical environment improve destination appeal and long-term competitiveness. These findings support H1, indicating that all four service quality dimensions positively influence STD.

Furthermore, tourist perception has a positive and significant effect on STD ($\beta = 0.201$, $t = 10.311$, $p < 0.001$), indicating that favorable destination perceptions encourage tourists

to support sustainability through positive behavioral intentions, such as recommending the destination to others. Therefore, H2 is accepted.

Moderating Effects

The moderating effect analysis reveals mixed results; therefore, H3 is partially supported. Environmental concern significantly moderates the relationship between reliability and STD ($\beta = -0.043$, $t = 2.988$, $p = 0.003$). However, the negative interaction coefficient indicates that the positive influence of reliability on STD becomes weaker as tourists' environmental concern increases, contrary to the hypothesized positive moderating effect.

In contrast, environmental concern does not significantly moderate the relationships between responsiveness and STD ($\beta = 0.029$, $t = 1.851$, $p = 0.064$) or between tangibility and STD ($\beta = -0.021$, $t = 1.330$, $p = 0.183$). However, environmental concern significantly strengthens the relationship between assurance and STD ($\beta = 0.072$, $t = 3.148$, $p = 0.002$), indicating that the positive effect of assurance is stronger among tourists with greater environmental concern.

Mediating Effects

The mediation analysis demonstrates that tourist perception significantly mediates the relationships between all service quality dimensions and STD. Specifically, significant indirect effects are observed for reliability ($\beta = 0.040$, $t = 5.506$, $p < 0.001$), responsiveness ($\beta = 0.064$, $t = 7.036$, $p < 0.001$), assurance ($\beta = 0.070$, $t = 8.022$, $p < 0.001$), and tangibility ($\beta = 0.029$, $t = 5.549$, $p < 0.001$). These findings indicate that improvements in each service quality dimension enhance positive tourist perception, which subsequently contributes to STD. Therefore, H4 is accepted.

DISCUSSION

Effects of Service Quality Dimensions on STD

The findings support H1, indicating that reliability, responsiveness, assurance, and tangibility positively influence STD. This confirms that service quality functions not merely as an operational factor but as a strategic capability that contributes to environmental, social, and economic sustainability. In small island destinations characterized by limited resources and fragile ecosystems, high-quality tourism services improve operational efficiency, reduce tourism-related negative impacts, enhance visitor value creation, and support a transition from mass tourism toward higher-value and lower-impact tourism models. This finding aligns with [Sharpley \(2022\)](#), who emphasized that sustainable destination development requires strategic capabilities that balance economic benefits with ecological preservation.

The findings further extend the SERVQUAL framework developed by [Parasuraman et al. \(1988\)](#) by demonstrating that service quality influences not only satisfaction and loyalty but also destination-level sustainability outcomes. Previous studies also support this relationship by showing that service quality influences destination evaluations and sustainability-oriented behaviors ([Li & Huang, 2026](#)). The analysis also reveals that professionalism, trust, safety, and hospitality are the most influential elements shaping tourists' evaluations. Although Tangibility produced the smallest coefficient, physical facilities and destination aesthetics remained important contributors to positive destination perceptions.

From a practical perspective, destination managers should consider service quality as a long-term strategic investment rather than merely an operational improvement. Priority

should be given to improving transportation reliability, strengthening local hospitality, enhancing visitor safety, developing responsive community-based tourism services, and maintaining environmentally sustainable facilities (Liu, 2025). These improvements can generate stronger tourist perceptions, revisit intentions, positive word-of-mouth, and community economic benefits.

The Role of Tourist Perception in STD

The findings for H2 demonstrate that tourist perception has a positive and statistically significant direct effect on STD. This result confirms that tourists' cognitive and affective evaluations of destination experiences represent an important determinant of sustainability outcomes. Positive tourist perceptions contribute not only to satisfaction and destination competitiveness but also to environmentally responsible behaviors, positive word-of-mouth, and long-term support for tourism destinations (Chen et al., 2025).

Theoretically, this finding extends the conventional understanding of tourist perception, which has traditionally been viewed as an outcome of service experiences. This study demonstrates that tourist perception also functions as a psychological mechanism that transforms tourism experiences into sustainability-supportive behaviors. Tourists with positive perceptions are more likely to participate in conservation activities, support responsible tourism products, recommend destinations to environmentally conscious visitors, and demonstrate willingness to support sustainable destination management (Lee et al., 2021; Li & Huang, 2026). These findings support the S–O–R framework, in which service quality represents the stimulus, tourist perception represents the internal psychological process, and sustainable behaviors represent the response. Recent studies further confirm the relevance of this framework in explaining sustainable tourist behavior (Paul & Roy, 2025; Wang et al., 2024).

The importance of tourist perception is particularly evident in Indonesian small island destinations, where environmental vulnerability requires active participation from visitors. Positive perceptions strengthen tourists' emotional attachment to destinations and encourage voluntary conservation behaviors, community participation, and support for responsible tourism practices (Mandić et al., 2025). Therefore, improving tourist perceptions should become a strategic priority for destination management organizations seeking to achieve both competitiveness and ecological resilience.

The Moderating Role of Environmental Concern

The findings partially support H3, indicating that environmental concern significantly moderates the relationships between reliability and assurance and STD. However, the moderation effect is negative for reliability and positive for assurance, indicating that environmental concern weakens the positive effect of reliability on STD while strengthening the positive effect of assurance on STD. In addition, environmental concern does not significantly moderate the relationships between responsiveness and STD or between tangibility and STD. The moderation analysis reveals that environmental concern functions as a selective moderator in the relationship between TCSQ and STD.

The significant moderation effects indicate that environmental concern influences how tourists evaluate reliability and assurance from a sustainability-oriented perspective. However, the direction of the effect differs across dimensions, weakening the influence of reliability while strengthening the influence of assurance on STD. In small island destinations, reliability represents not only consistent service delivery but also dependable environmental management systems, sustainable resource utilization, and responsible operational practices. Similarly, assurance reflects professionalism, trust,

safety, and environmental competence among tourism providers. These findings support [Han \(2021\)](#), who argued that environmental values influence tourists' evaluations of responsible tourism practices.

Conversely, the absence of significant moderation effects for responsiveness and tangibility suggests that these dimensions are evaluated more universally among tourists. Environmentally conscious tourists may prioritize ecological authenticity rather than highly developed infrastructure because excessive physical development can threaten island ecosystems through habitat destruction and landscape modification ([Wu & Yao, 2025](#)). This finding aligns with [Sihombing \(2026\)](#), who emphasized that ecological preservation and low-impact development are increasingly important components of sustainable tourism preferences.

From a theoretical perspective, this study contributes to the NEP perspective by demonstrating that environmental concern does not universally strengthen all service quality dimensions. Instead, environmental values selectively influence how tourists interpret service attributes related to ecological responsibility, operational credibility, and destination stewardship.

Tourist Perception as a Mediating Mechanism

The finding also supports H4. This finding indicates that service quality contributes to sustainability through two complementary pathways: directly, by improving destination operations and service delivery, and indirectly, by shaping tourists' cognitive and affective evaluations.

Recent empirical evidence supports this mechanism. [Alsiehemy \(2023\)](#) found that service quality influenced tourism sustainability both directly and indirectly through tourist satisfaction and delight, confirming that tourists' psychological evaluations transmit the effects of service experiences into sustainable outcomes. Similarly, [Sahabuddin et al. \(2026\)](#) demonstrated that employee service quality significantly enhanced tourist satisfaction, which subsequently increased environmentally responsible behavior, environmental commitment, and destination loyalty. Research in ecotourism also shows that eco-service quality promotes tourist engagement through internal psychological and ecological processes, reinforcing the applicability of the S-O-R framework to sustainability-oriented tourism behavior ([Paul & Roy, 2025](#)).

These findings strengthen the S-O-R framework by confirming that tourists do not respond mechanically to service attributes; instead, they interpret service encounters through cognitive and affective evaluations before exhibiting sustainability-supportive responses. The present study therefore extends traditional destination competitiveness models by positioning tourist perception as a psychological mechanism through which service quality contributes to STD. In environmentally fragile small island destinations, this mechanism is particularly important because operational improvements may not generate sustainable outcomes unless tourists recognize, value, and respond positively to responsible destination management.

Practically, destination managers should not only improve service quality but also actively communicate sustainability achievements, conservation initiatives, and community involvement to strengthen tourists' perceptions of destination responsibility. Investments should focus on sustainable waste management, renewable energy systems, environmental monitoring, eco-certification, and conservation-based tourism practices. Rather than pursuing excessive infrastructure development, small island

destinations should emphasize ecological credibility, authentic experiences, and high-value low-impact tourism.

Overall, this study contributes to sustainable tourism literature by demonstrating that TCSQ, tourist perception, and environmental concern represent interconnected mechanisms shaping STD. The proposed moderated-mediation model provides a comprehensive framework for understanding how operational capabilities, tourist psychology, and environmental values jointly contribute to resilient and sustainable small island tourism development.

CONCLUSION

This study developed and empirically validated a moderated-mediation model explaining the determinants of STD in Indonesian small island destinations. The findings demonstrate that TCSQ extends beyond its conventional role in improving tourist satisfaction and destination competitiveness. Consistent with the SERVQUAL perspective proposed by [Parasuraman et al. \(1988\)](#), service quality represents a strategic capability that contributes directly to sustainable tourism outcomes by encouraging environmentally responsible practices and reducing negative tourism impacts in fragile island ecosystems.

A significant finding is that environmental concern did not moderate the relationships between the responsiveness and tangibility dimensions of TCSQ and STD. This suggests that environmentally conscious tourists may not necessarily prioritize advanced infrastructure or physical facilities, as excessive development can threaten ecological integrity through coastal ecosystem degradation. Similarly, responsiveness mainly reflects short-term service efficiency rather than long-term environmental stewardship. Therefore, tourists' environmental values appear to be more strongly influenced by service dimensions associated with operational reliability, environmental governance, and destination responsibility.

Furthermore, this study confirms the important role of tourist perception as a psychological mechanism linking service quality with STD. Based on the S–O–R framework ([Mehrabian & Russell, 1974](#)), service quality functions as the stimulus, tourist perception represents the internal psychological process, and sustainability-supportive behavior represents the response. These findings demonstrate that service experiences generate sustainability outcomes only when tourists interpret them positively as evidence of responsible destination management.

This study provides several theoretical contributions. First, it extends sustainable tourism research by demonstrating that TCSQ is not only related to satisfaction and loyalty but also serves as an important determinant of STD. Second, it expands the application of the S–O–R framework by incorporating sustainability outcomes at the destination level. Third, the integration of environmental concern contributes to the NEP ([Dunlap et al., 2000](#)) and Value–Belief–Norm (VBN) theory ([Stern, 2000](#)) by showing that environmental values selectively influence how tourists interpret service experiences rather than uniformly strengthening all service dimensions.

From a practical perspective, the findings suggest that Indonesian small island destinations should move from mass tourism strategies toward quality-oriented and environmentally responsible tourism development. Destination Management Organizations should prioritize reliable services, environmental stewardship, and sustainability-oriented experiences that align with tourists' ecological values.

LIMITATION

Despite these contributions, several limitations provide directions for future research. First, this study adopted a cross-sectional design; therefore, future studies should employ longitudinal approaches to examine whether the relationships among TCSQ, tourist perception, environmental concern, and STD remain consistent across different tourism seasons.

Future research should also incorporate socio-cultural factors, including indigenous governance systems such as Sasi in Maluku and Papua and Awig-Awig in Bali and Lombok, to better understand community-based sustainable tourism management. Future studies should adopt a multi-stakeholder perspective by integrating tourists, local communities, tourism businesses, and policymakers to provide a more comprehensive understanding of sustainable destination governance (Sharpley, 2023). Finally, integrating Geographic Information System, remote sensing, and AI-based sentiment analysis with survey data may improve the accuracy of sustainability assessments and predictive tourism models (Buhalis et al., 2024).

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DECLARATION OF CONFLICTING INTERESTS

The authors declare that there are no conflicts of interest regarding the publication of this paper.

REFERENCES

- Alsiehem, A. (2023). Events-based service quality and tourism sustainability: The mediating and moderating role of value-based tourist behavior. *Sustainability*, 15(21), 15303. <https://doi.org/10.3390/su152115303>
- Birinci, H., Esenyel, I., & Obeng, H. A. (2025). Sustainable destination management in luxury tourism: Balancing economic development and environmental responsibility. *Sustainability*, 17(15), 6815. <https://doi.org/10.3390/su17156815>
- Bramwell, B., & Lane, B. (2023). *The Routledge Handbook of Sustainable Tourism*. Routledge.
- Buhalis, D., Leung, D., & Lin, M. S. (2024). Artificial intelligence and big data analytics in destination management: Transforming small island tourism experiences. *Journal of Destination Marketing & Management*, 31, 100842. <https://doi.org/10.1016/j.jdmm.2023.100842>
- Chen, T., Liu, G., Sui, X., & Solangi, Y. A. (2025). Influencing consumer perceptions in green tourism: criteria and strategies for effective destination branding. *PLoS one*, 20(2), e0319254. <https://doi.org/10.1371/journal.pone.0319254>
- Dunlap, R. E., Van Liere, K. D., Mertig, A. G., & Jones, R. E. (2000). Measuring endorsement of the New Ecological Paradigm: A revised NEP scale. *Journal of Social Issues*, 56(3), 425–442. <https://doi.org/10.1111/0022-4537.00176>
- Dwyer, L., & Kim, C. (2003). Destination competitiveness: Determinants and indicators. *Current Issues in Tourism*, 6(5), 369–414. <https://doi.org/10.1080/13683500308667962>
- Elkington, J. (1997). *Cannibals with Forks: The Triple Bottom Line of 21st Century Business*. Capstone.

- Font, X., & McCabe, S. (2017). Sustainability and marketing in tourism: Its contexts, paradoxes, approaches, challenges and potential. *Journal of Sustainable Tourism*, 25(7), 869-883. <https://doi.org/10.1080/09669582.2017.1301721>
- Gössling, S., & Higham, J. (2021). The low-carbon imperative: Destination management under urgent climate change. *Journal of Travel Research*, 60(6), 1167-1179. <https://doi.org/10.1177/0047287520933679>
- Hair, J. F., Jr., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)* (3rd ed.). SAGE
- Hall, C. M. (2019). Constructing sustainable tourism development: The 2030 agenda and the managerial ecology of sustainable tourism. *Journal of Sustainable Tourism*, 27(7), 1044-1060. <https://doi.org/10.1080/09669582.2018.1560456>
- Han, H. (2021). Consumer behavior and environmental sustainability in tourism and hospitality: A review of theories, concepts, and latest research. *Journal of Sustainable Tourism*, 29(7), 1021-1042. <https://doi.org/10.1080/09669582.2021.1903019>
- Hu, M., Li, H., Song, H., Li, X., & Law, R. (2022). Tourism demand forecasting using tourist-generated online review data. *Tourism management*, 90, 104490. <https://doi.org/10.1016/j.tourman.2022.104490>
- Intergovernmental Panel on Climate Change (IPCC). (2023). *Climate change 2023: Synthesis report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (Core Writing Team, H. Lee, & J. Romero, Eds.). IPCC. <https://doi.org/10.59327/IPCC/AR6-9789291691647>
- Ismulyati, S., Ngarbingan, H. K., Janita, I., & Ginting, G. (2026). Understanding the antecedents and consequences of residents' attitudes toward tourism development and environmental responsibility in community-based tourism villages: A sustainable tourism perspective. *International Journal of Tourism and Hospitality in Asia Pasific*, 9(1), 1-22. <https://doi.org/10.32535/ijthap.v9i1.4316>
- Karim, R. A., & Rabiul, M. K. (2024). The relationships of corporate sustainability, customer loyalty, and word of mouth: the mediating role of corporate image and customer satisfaction. *Journal of Quality Assurance in Hospitality & Tourism*, 25(3), 421-441. <https://doi.org/10.1080/1528008X.2022.2135054>
- Lee, C. K., Olya, H., Ahmad, M. S., Kim, K. H., & Oh, M. J. (2021). Sustainable intelligence, destination social responsibility, and pro-environmental behaviour of visitors: Evidence from an eco-tourism site. *Journal of Hospitality and Tourism Management*, 47, 365-376. <https://doi.org/10.1016/j.jhtm.2021.04.010>
- Li, J., & Huang, J. (2026). Assessing the inbound tourism service quality and competitiveness under the concept of sustainable development. *Sustainability*, 18(13), 6607. <https://doi.org/10.3390/su18136607>
- Liu, X. (2025). Research on the coupled dynamics and prediction of island tourism-economy-ecosystem from a policy perspective. *PLOS ONE*, 20(2), e0321957. <https://doi.org/10.1371/journal.pone.0321957>
- Maesaroh, I., Ngarbingan, H. K., Dewi, I. J., & Ginting, G. (2026). External support and supply-side strategies for sustaining halal tourism: An integrated analysis. *International Journal of Tourism & Hospitality in Asia Pasific*, 9(1), 23-49. <https://doi.org/10.32535/ijthap.v9i1.4317>
- Mandić, A., Knight, D. W., Vuković, M., & Thomsen, B. (2025). Place attachment, awareness of environmental responsibility and pro-environmental behaviour of visitors in protected natural areas. *Tourism Planning & Development*, 22(5), 705-730. <https://doi.org/10.1080/21568316.2024.2353596>
- Maria, M., Akbara, A. Z., Ngarbingan, H. K., & Ginting, G. (2023). Strategies to encourage the acceleration of circular economic practices among youth play as

- agents of change. *International Journal of Applied Business and International Management*, 8(3), 322–340. <https://doi.org/10.32535/ijabim.v8i3.2529>
- Mehrabian, A., & Russell, J. A. (1974). *An Approach to Environmental Psychology*. MIT Press.
- Ministry of Tourism and Creative Economy of the Republic of Indonesia. (2022). *Rencana Strategis Kementerian Pariwisata dan Ekonomi Kreatif/Badan Pariwisata dan Ekonomi Kreatif Tahun 2020–2024*. Kementerian Pariwisata dan Ekonomi Kreatif/Badan Pariwisata dan Ekonomi Kreatif. <https://api.kemenpar.go.id/storage/app/uploads/public/67d/92a/fde/67d92afde231c904840769.pdf>
- Nasoha, M., Ngarbingan, H. K., Ginting, G., Maria, M., & Zulfahmi, Z. (2024). Optimizing the use of social crowdfunding in SMEs to encourage the implementation of circular economy (CE) practices. *International Journal of Applied Business and International Management*, 9(2), 164–181. <https://doi.org/10.32535/ijabim.v9i2.3401>
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64(1), 12–40.
- Paul, I., & Roy, G. (2025). How eco-service quality affects tourist engagement behaviour in ecotourism: Eco-consciousness, eco activity-based learning, and S-O-R theory. *Tourism Recreation Research*, 50(2), 385–401. <https://doi.org/10.1080/02508281.2023.2275240>
- Prayag, G., Ryan, C. (2022). Antecedents of tourists' loyalty to Mauritius: The role and influence of destination image, place attachment, personal involvement, and satisfaction. *Journal of Travel Research*, 51(3), 342–356. <https://doi.org/10.1177/0047287511410321>
- Ru-Zhue, J., Rakangthong, N. K., Kim, L., & Issayeva, G. (2025). Green service quality and tourist engagement: Moderating impacts of social influence in green hotels. *Cleaner and Responsible Consumption*, 100385. <https://doi.org/10.1016/j.clrc.2025.100385>
- Sahabuddin, M., Alam, M. S., & Nekmahmud, M. (2026). How do perceived and environmental values influence tourist satisfaction, loyalty, and environmental awareness?. *Environment, Development and Sustainability*, 28(3), 7817-7840. <https://doi.org/10.1007/s10668-024-05094-3>
- Sharma, G. D., Thomas, A., & Paul, J. (2021). Reviving tourism industry post-COVID-19: A resilience-based framework. *Tourism Management Perspectives*, 37, 100786.
- Sharpley, R. (2022). *Sustainable Tourism: A Global Perspective* (3rd ed.). Routledge.
- Sharpley, R. (2023). *Tourism Development and the Environment: Beyond Sustainability?* (2nd ed.). Routledge.
- Sihombing, J. R. (2026). The influence of environmental certification and waste management practices on tourist preferences at green hotels. *Journal of Environment and Sustainability Education*, 4(1), 131–143. <https://doi.org/10.62672/joease.v4i1.129>
- Stern, P. C. (2000). New environmental theories: toward a coherent theory of environmentally significant behavior. *Journal of Social Issues*, 56(3), 407-424. <https://doi.org/10.1111/0022-4537.00175>
- Su, L., Swanson, S. R., & Chen, X. (2016). The impact of perceived service fairness and quality on the behavioral intentions of Chinese hotel guests: the mediating role of consumption emotions. *Journal of Travel & Tourism Marketing*, 33(sup1), 88-102. <https://doi.org/10.1080/10548408.2015.1008668>

- United Nations (UN) Tourism. (2024a). *Tourism for People and Planet: Annual Report 2024*. UN Tourism. <https://annualreport.jointsdgfund.org/2024-accelerating-together-our-collective-journey-in-2024/>
- United Nations (UN) Tourism. (2024a). *World Tourism Barometer*. UN Tourism. <https://www.untourism.int/un-tourism-world-tourism-barometer-data>
- United Nations Environment Programme (UNEP). (2023). *Global Environment Outlook 7: Healthy Planet, Healthy People*. UNEP. <https://www.unep.org/geo/global-environment-outlook-7>
- Wang, X., Wang, L. J., Wu, W., Chen, Y., & Tian, R. (2024). Tourists' environmentally responsible behavior: A new path of sustainable development of grassland tourism. *Business Strategy and the Environment*, 33(3), 2143-2158. <https://doi.org/10.1002/bse.3590>
- World Travel & Tourism Council (WTTTC). (2024). *Economic Impact Research 2024*. WTTTC. <https://wttc.org/research/economic-impact>
- Wu, Y., & Yao, R. (2025). Supporting sustainable island tourism through infrastructuring co-design: A case study from Mayu Island. *Island Studies Journal*, 21(1). <https://doi.org/10.24043/001c.142953>
- Zeithaml, V. A., Bitner, M. J., & Gremler, D. D. (2020). *Services Marketing: Integrating Customer Focus Across the Firm* (8th ed.). McGraw-Hill.
- Zulfahmi, Z., Radeswandri, R., Ngarbingan, H. K., & Ginting, G. (2022). A comprehensive structural model of online/website experience. *International Journal of Applied Business and International Management*, 7(3), 83–96. <https://doi.org/10.32535/ijabim.v7i3.1965>

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