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Green Ties Bind: The Role of Sustainability Dimensions and Experience in Shaping Tourist Loyalty in Ecotourism Destinations

Zahir Osman*
Open University Malaysia
Corresponding Author Email: zahir_osman@oum.edu.my

Fairul Ifnee Othman
Open University Malaysia
Email: fairul_ifnee@oum.edu.my

Norjaya Mohd Yasin
Open University Malaysia
Email: norjaya@oum.edu.my

Hazalina Hashim
Open University Malaysia
Email: Hazalina@oum.edu.my

Zorah Abu Kassim
Open University Malaysia
Email: zorah_abukassim@oum.edu.my

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Abstract

This study emphasises the vital role of tourist loyalty in ensuring the sustainable growth and long-term success of the ecotourism sector. Recognising that loyal visitors contribute to repeat business, positive word-of-mouth, and destination stability, the research aims to explore how various sustainability dimensions, economic, environmental, social, tourists' experiences, and tourist satisfaction influence loyalty. Data were collected through structured surveys distributed via email, resulting in a total of 289 valid responses from a diverse sample set. The analysis employed Partial Least Squares Structural Equation Modelling (PLS-SEM) to evaluate the relationships among variables, with hypotheses tested to determine the significance of each predictor. The results indicated that tourist experience, satisfaction, and social sustainability significantly positively influence tourist loyalty, with the highest impact observed for experience. Conversely, economic and environmental sustainability showed limited or non-significant effects, suggesting a need for better integration of these factors in

practice. The study highlights practical strategies such as enhancing eco-friendly activities, improving service quality, and fostering community involvement to strengthen loyalty. For future research, exploring longitudinal relationships, regional differences, and tourist segmentation is recommended to deepen the understanding of loyalty drivers. The findings provide valuable implications for ecotourism managers and policymakers, emphasising a holistic approach to sustainability that prioritises authentic experiences and community engagement to foster long-term tourist loyalty.

Keywords: Economics Sustainability, Environmental Sustainability, Social Sustainability, Tourist Experience, Tourist Satisfaction, Tourist Loyalty

Introduction

Tourist loyalty is a critical element in the ecotourism sector as it directly influences sustainable growth, visitor retention, and positive word-of-mouth, which are vital for the sector's long-term viability. Loyalty encourages repeat visitation, reduces marketing costs, and enhances the reputation of ecotourism destinations (Ali et al., 2024). Moreover, loyal tourists are more likely to participate in environmentally responsible behaviours, thus supporting sustainable practices that benefit local ecosystems and communities (Ramos & Byrne, 2024). Currently, global trends indicate a growing emphasis on sustainable tourism practices, with tourists increasingly valuing environmental conservation, cultural integrity, and authentic experiences. However, challenges persist, such as over tourism, environmental degradation, and sometimes superficial sustainability claims by tourism operators (Vergara Romero et al., 2025; Baloch et al., 2023). These issues threaten tourists' trust and loyalty if their expectations for genuine, sustainable experiences are unmet. Furthermore, the lack of standardised measures and consistent communication about sustainability practices hampers the development of committed tourist loyalty (Fennell & de Grosbois, 2023). Despite extensive research, significant gaps remain. Many studies focus on general tourism sustainability, but fewer explicitly analyse the specific factors influencing loyalty in ecotourism, such as cultural engagement, ecological integrity, and service quality (Ali et al., 2024; Jalalabadi & Ramezanzade Lasboyee, 2024). Additionally, there is insufficient understanding of how socio-economic factors, like community involvement and destination management, impact tourists' loyalty behaviours (Vergara Romero et al., 2025; Gajić et al., 2025). One major problem is the inconsistency in fostering authentic, sustainable experiences that build lasting loyalty amidst the pressure of rapid tourism development. Many destinations struggle to balance conservation efforts with economic gains, which can lead to disillusionment among environmentally conscious tourists (Betari et al., 2025). Such issues pose risks of declining tourists' satisfaction and loyalty over time. This study's significance is profound for policymakers, ecotourism operators, and tourists themselves. Policymakers can utilise insights to formulate regulations promoting genuine sustainability, reducing over-tourism, and fostering community participation (Zhu et al., 2025). Ecotourism operators can leverage findings to design authentic and engaging experiences that foster loyalty while maintaining ecological and cultural integrity (Fennell & de Grosbois, 2023). For tourists, understanding the factors influencing loyalty encourages more responsible travel choices and enhances their overall satisfaction with ecotourism experiences. Ultimately, this research aids in developing a more sustainable, loyal, and resource-conserving ecotourism sector globally. This study aims to assess the direct impact of economic sustainability, environmental sustainability, social sustainability, tourist experience, and tourist satisfaction on tourist loyalty in Malaysian ecotourism.

Literature Review

Underpinning Theories

Stakeholder Theory posits that a destination's success depends on effectively managing relationships with all relevant stakeholders, including tourists, local communities, governments, and businesses (Freeman, 1984). In the context of ecotourism, this theory emphasises how collective efforts toward economic, environmental, and social sustainability influence tourists' perceptions and loyalty; when stakeholders collaborate to implement sustainable practices, tourists perceive the destination as responsible and trustworthy, which fosters positive attitudes and encourages repeat visits. Such initiatives involving community participation and environmental conservation directly impact tourists' satisfaction and loyalty. Complementing this, Expectancy-Value Theory suggests that tourists' behavioural intentions, such as loyalty, are driven by their expectations of benefits and the value they assign to these benefits (Vroom, 1964). Tourists anticipate positive experiences, environmental benefits, and social interactions, and when these expectations are fulfilled, their satisfaction increases, strengthening their loyalty. The perceived value of sustainable practices, like eco-friendly facilities and community engagement, further influences their commitment to revisit and recommend the destination. This theory underscores that the greater the value tourists place on environmental and social benefits, the stronger their loyalty becomes, provided these expectations are met or exceeded (Osman et al., 2023). Together, these theories explain how stakeholder collaborations ensure genuine sustainability practices, which positively affect tourists' perceptions, while expectancy-value processes elucidate how fulfilling experiences and perceived benefits motivate sustained loyalty. The combined framework thus offers a comprehensive understanding of how sustainability, experience, and satisfaction influence tourist loyalty (Freeman, 1984; Vroom, 1964).

Relationship between Economic Sustainability & Tourist Loyalty

Economic sustainability plays a crucial role in fostering tourist loyalty in ecotourism by ensuring the long-term viability and profitability of tourism destinations. When ecotourism practices promote local economic development, such as creating employment opportunities, supporting local businesses, and encouraging equitable resource distribution, tourists perceive the destination as being committed to sustainable growth (Kusumah, 2024). This fosters a sense of purpose and ethical consumption, making tourists more likely to develop loyalty. Additionally, economic sustainability supports infrastructure development, quality services, and competitive pricing, which collectively improve the overall tourist experience, increasing satisfaction and encouraging repeat visits (Rigelsky et al., 2025). Tourists tend to be more loyal when they observe that their visits contribute positively to local communities, fostering trust and a sense of shared benefit (Musa et al., 2025). Furthermore, policies promoting economic sustainability can help reduce negative sentiments associated with over-reliance on tourism, such as inflation or inequality, which might otherwise diminish loyalty (Naparin, 2025). By fostering economic sustainability, destinations build trust and long-term commitment among tourists, making it a vital component in cultivating sustained loyalty and ensuring the resilience of ecotourism destinations (Surya et al., 2024). Therefore, the following hypothesis was proposed for this study:

H1: There is a relationship between economic sustainability and tourist loyalty in ecotourism.

Relationship between Environmental Sustainability & Tourist Loyalty

Environmental sustainability is a fundamental aspect of ecotourism, significantly influencing tourist loyalty. When ecotourism destinations prioritise protecting natural resources, conserving biodiversity, and implementing eco-friendly practices, tourists perceive a genuine commitment to environmental preservation (Shahabuddin et al., 2024). This perception enhances their satisfaction, as they feel they are contributing to meaningful conservation efforts through their visit. Tourists who experience well-preserved natural settings, clean surroundings, and responsible waste management are more likely to develop emotional bonds with the destination, fostering loyalty (Novitaningtyas et al., 2024). Additionally, environmentally sustainable practices such as reducing carbon footprints, supporting renewable energy, and involving local communities in conservation efforts reinforce tourists' trust and confidence in the destination's integrity (Zhang, 2024). When tourists recognise that their presence supports ecological preservation, they are more motivated to revisit and recommend the destination to others (Lampreia et al., 2024). Conversely, environmental degradation or superficial sustainability claims can diminish trust, leading to negative perceptions and reduced loyalty. Effective environmental management not only safeguards the destination's natural beauty but also enhances the overall visitor experience, creating a sense of shared responsibility and satisfaction that encourages repeat visits (Ossman et al., 2023). Ultimately, environmental sustainability strengthens tourists' perceived value and emotional connection, fostering long-term loyalty to ecotourism destinations (Naparin, 2025). Thus, the following hypothesis was proposed for this study:

H2: There is a relationship between environmental sustainability and tourist loyalty inEcotourism.

Relationship between Tourist Experience & Tourist Loyalty

The relationship between tourist experience and tourist loyalty in ecotourism is both significant and interconnected. A positive and memorable experience during an ecotourism trip often serves as the foundation for developing loyalty towards a destination (Naparin et al., 2024). When tourists engage in authentic, immersive, and well-managed experiences that highlight environmental conservation and cultural integrity, they tend to feel more satisfied and emotionally connected to the destination (Nasution et al., 2025). This emotional bond encourages them to revisit and recommend the destination to others. The quality of the experience, including aspects like personalised service, accessibility, safety, and meaningful interactions with nature and local communities, plays a crucial role in shaping tourists' perceptions and their overall satisfaction (Wan & Apritado, 2024). Furthermore, unique eco-friendly activities and educational components enrich the experience, making it more impactful. When tourists leave with a sense of fulfilment and a desire to support sustainable practices, they are more likely to develop long-term loyalty (Othman et al., 2024). Conversely, poor experiences, such as a lack of authenticity, overcrowding, or environmental neglect, can quickly diminish trust and discourage future visits (Tulung et al., 2025). Therefore, enhancing the tourist experience through responsible management, cultural sensitivity, and eco-friendly initiatives is vital in fostering loyalty, ensuring repeat visits, and strengthening the overall sustainability of ecotourism destinations (Adhitama et al., 2025). Hence, the following hypothesis was proposed for this study:

H3: There is a relationship between tourist experience and tourist loyalty in Ecotourism.

Relationship between Tourist Satisfaction & Tourist Loyalty

The relationship between tourist satisfaction and loyalty in ecotourism is strongly interconnected, with higher satisfaction levels often leading to increased loyalty. Research indicates that tourists' perceptions of the destination's environmental integrity, overall quality, and the authenticity of their experiences significantly influence their satisfaction. For example, a positive destination image enhances satisfaction, which in turn fosters loyalty by encouraging repeat visits and positive recommendations (Mbira, 2024). Environmental values also play a crucial role; when tourists perceive that eco-friendly practices align with their values, their satisfaction deepens, strengthening their commitment to revisit. Moreover, tourist satisfaction acts as a mediating factor between their overall experiences and their loyalty decisions (Shahabuddin et al., 2024). Satisfied tourists are more likely to develop emotional attachments to the destination, resulting in repeat behaviour. Creating memorable experiences, ensuring good service quality, and protecting environmental and cultural assets are key contributors to satisfaction (Sarangi & Gosh, 2025). When tourists' needs and expectations are met or exceeded, they tend to develop long-term loyalty, making satisfaction a critical component for sustainable ecotourism development (Muhammad et al., 2025). Thus, destination managers should focus on enhancing satisfaction through authentic, sustainable, and culturally sensitive approaches to foster loyalty and ensure the longevity of ecotourism ventures (Le et al., 2025). Therefore, the following hypothesis was proposed for this study:

H4: There is a relationship between tourist satisfaction and tourist loyalty in Ecotourism.

Relationship between Social Sustainability & Tourist Loyalty

The relationship between social sustainability and tourist loyalty in ecotourism is fundamental, as socially responsible practices foster a sense of trust and connection between tourists and destinations. When ecotourism initiatives promote local community involvement, cultural preservation, and social equity, tourists often perceive the destination as authentic and ethically responsible (Suhartanto et al., 2025). This perception enhances their overall experience and emotional attachment, encouraging loyalty. Tourists are more likely to revisit and recommend destinations that demonstrate genuine respect for local cultures and prioritise community benefits (Yang et al., 2025). Social sustainability practices such as supporting local businesses, respecting cultural traditions, and ensuring social inclusion create a positive social atmosphere that aligns with tourists' values, further strengthening loyalty (Singh et al., 2025). Additionally, tourists tend to develop loyalty when they see that their visit contributes to local development and community well-being, fostering a sense of shared purpose. Conversely, neglecting social aspects and failing to involve local communities can lead to negative perceptions, reduce satisfaction, and diminish loyalty (Isa & Joo, 2024). Therefore, integrating social sustainability into ecotourism strategies not only promotes ethical tourism but also builds long-term trust and loyalty among tourists, ensuring the destination's sustainable growth and community resilience (Bathla et al., 2024). Therefore, the following hypothesis was proposed for this study:

H5: There is a relationship between social sustainability and tourist loyalty in Ecotourism.

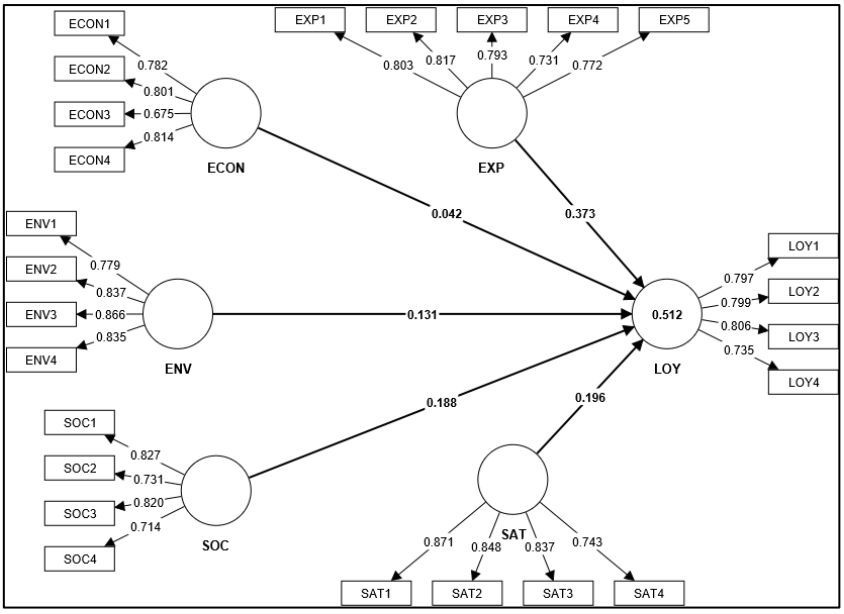

Figure 1: Research Model

Notes: ECON=Economic Sustainability ENV=Environmental Sustainability SOC=Social Sustainability SAT=Tourist Satisfaction EXP=Tourist Experience LOY=Tourist Loyalty

Methodology

This research aimed to examine rural tourists' perceptions concerning the direct relationships among tourist experiences, and sustainability dimensions, economic, environmental, and social, as well as tourist satisfaction and loyalty within the Malaysian ecotourism framework. Data collection was carried out through surveys, with measurement items carefully selected after an extensive review of existing literature to ensure reliability. Due to the absence of a comprehensive population list, participants were purposively sampled, and surveys were distributed via email. The analysis focused on 25 observed variables, including independent variables such as economic sustainability (measured with four items based on Oh et al., 2007), environmental sustainability (assessed using four items from Quoquab et al., 2019), social sustainability (evaluated with four items adapted from Larimian & Sadeghi, 2021), tourist satisfaction (measured by four items from Carlos Castro et al., 2017), and tourist experience (assessed using a five-item scale from Zatori et al., 2018). The dependent variable, tourist loyalty, was measured with four items as outlined by Cronning et al. (2000). All constructs employed a 5-point Likert scale from strongly disagree to strongly agree. From 381 distributed surveys, 308 responses were collected, producing an 81% response rate suitable for structural equation modelling (SEM). After data screening, 289 responses were validated for further analysis. Data processing and hypothesis testing were conducted using SmartPLS 4 software, following Ringle et al. (2022), to facilitate an in-depth evaluation of measurement and structural models.

Data Analysis

Respondents' Profiles

The section provides a comprehensive demographic overview of the survey respondents. Concerning gender, 151 individuals (52.2%) identified as male, whereas 138 (47.8%) identified as female. The age distribution shows that 12 respondents (4.2%) were under 20 years old, 137 (47.4%) fell within the 21-40 age group, 128 (44.3%) were between 41 and 60 years old, and another 12 (4.2%) were over 60. Ethnic diversity is evident in the sample, with 168

participants (58.1%) identifying as Malay, 74 (25.6%) as Chinese, 40 (13.8%) as Indian, and 7 (2.4%) belonging to other ethnic groups. In terms of marital status, 200 respondents (69.2%) were single, 88 (30.4%) were married, and 1 (0.3%) reported being divorced. The educational background shows that 42 individuals (14.5%) completed secondary education, 157 (54.3%) attended college, and 90 respondents (31.1%) held university degrees. Income levels varied, with 154 participants (53.3%) earning RM1000 or less, 89 (30.8%) earning between RM1001 and RM5000, and 46 (15.9%) earning between RM5001 and RM10,000.

Common Method Bias

Based on the Full Collinearity (VIF) values presented in Table 1, all variables demonstrate scores well below the commonly accepted threshold of 3.3, as recommended by Kock and Lynn (2012) and Kock (2015). The highest VIF value observed is 2.199 for Environmental Sustainability, indicating that multicollinearity among variables is not problematic. This low level of collinearity suggests that common method bias, which can occur when measurement artefacts inflate correlations among constructs, is unlikely to threaten the validity of the findings. The results confirm that the data's shared method variance is minimal, supporting the robustness of both the measurement model and the structural relationships examined. These findings reassure that the observed relationships among variables are not significantly distorted by common method bias, thereby reinforcing confidence in the study's conclusions based on the data analysed.

Table 1
Full Collinearity (VIF)

	LOY	ENV	EXP	ECON	SAT	SOC
LOY		1.467	1.61O	1.742	1.714	1.633
ENV	2.199		2.112	1.638	1.652	1.874
EXP	1.474	1,652		1.472	1.744	1.582
ECON	1.621	1.468	1.723		1.682	1.362
SAT	1.287	1.481	1.634	1.662		1.693
SOC	1.821	1.762	1.698	1.785	1.863	

Measurement Model

The analysis of construct reliability and validity based on the data from Table 2 indicates that all constructs demonstrate both high reliability and good convergent validity, consistent with the criteria recommended by Hair et al. (2019). The Cronbach's alpha (CA) values for all constructs exceed the threshold of 0.70, with values ranging from 0.768 for Economic Sustainability to 0.844 for Tourist Satisfaction, indicating solid internal consistency. The composite reliability (CR) values are all above 0.80, ranging from 0.781 for Social Sustainability to 0.868 for Environmental Sustainability, confirming that the constructs are consistently measured. The average variance extracted (AVE) values are all above the 0.50 cutoff, spanning from 0.593 for Economic Sustainability to 0.683 for Tourist Satisfaction, demonstrating adequate convergent validity. Furthermore, all item loadings are above the 0.70 benchmark, with the lowest being 0.675 for ECON3, still considered acceptable given the overall AVE and reliability indices. Collectively, these findings suggest that the measurement model displays strong construct reliability and validity, ensuring that the constructs are accurately and consistently capturing the underlying latent variables as recommended by Hair et al. (2019). The HTMT ratios, as presented in Table 3, are all below the recommended threshold of 0.85,

indicating good discriminant validity among the constructs as per Henseler et al. (2015). This confirms that the constructs are sufficiently distinct, supporting the measurement model's validity.

Table 2
Construct Reliability and validity & Items loadings

Constructs	Items	Loadings	CA	CR	AVE
Economic Sustainability	ECON1	0.782	0.768	0.773	0.593
	ECON2	0.801			
	ECON3	0.675			
	ECON4	0.814			
Environmental Sustainability	ENV1	0.779	0.850	0.868	0.689
	ENV2	0.837			
	ENV3	0.866			
	ENV4	0.835			
Tourist Experience	EXP1	0.803	0.843	0.848	0.614
	EXP2	0.817			
	EXP3	0.793			
	EXP4	0.731			
	EXP5	0.772			
Tourist Loyalty	LOY1	0.797	0.793	0.801	0.616
	LOY2	0.799			
	LOY3	0.806			
	LOY4	0.735			
Tourist Satisfaction	SAT1	0.871	0.844	0.853	0.683
	SAT2	0.848			
	SAT3	0.837			
	SAT4	0.743			
Social Sustainability	SOC1	0.827	0.779	0.781	0.600
	SOC2	0.731			
	SOC3	0.820			
	SOC4	0.714			

Notes: CA=Cronbach Alpha CR=Composite Reliability AVE=Average Variance Extracted

Table 3
Heterotrait-Monotrait (HTMT) Ratios

	ECON	ENV	EXP	LOY	SAT
ENV	0.736				
EXP	0.525	0.565			
LOY	0.550	0.627	0.741		
SAT	0.458	0.435	0.432	0.569	
SOC	0.587	0.761	0.564	0.666	0.466

Structural Model

This study adopted the approach suggested by Hair et al. (2017) to evaluate the structural model, which involved concurrently analysing the pathway coefficients (β) and the R-squared (R^2) values. The Partial Least Squares (PLS) technique was utilised, with 5,000 bootstrap

samples to determine the significance of the path coefficients. The detailed outcomes of hypothesis testing are provided in Table 4, including confidence intervals, beta coefficients, t-statistics, and p-values. This comprehensive analysis offers meaningful insights into the magnitude and statistical relevance of the relationships among the variables within the model. The hypotheses testing results indicate that *H1*, which posits that economic sustainability (ECON) influences tourist loyalty (LOY), should be rejected, as the beta coefficient is 0.042 with a T-statistic of 0.698 and a p-value of 0.485, all falling short of significance at the 0.05 level. Conversely, *H2*, suggesting that environmental sustainability (ENV) impacts LOY, is accepted, with a beta of 0.131, a T-statistic of 1.961, and a p-value exactly at 0.050, indicating marginal significance. The strongest support is found for *H3*, which hypothesises that tourist experience (EXP) affects loyalty; with a beta of 0.373, a high T-statistic of 7.098, and a p-value of 0.000, this hypothesis is accepted, demonstrating a significant and positive relationship. Similarly, *H4*, proposing that tourist satisfaction (SAT) influences loyalty, is accepted, with a beta of 0.196, a T-statistic of 3.911, and a p-value of 0.000, indicating a significant effect. Finally, *H5*, which suggests that social sustainability (SOC) impacts loyalty, is also accepted, with a beta of 0.188, a T-statistic of 3.138, and a p-value of 0.002, confirming a statistically significant positive relationship. Overall, apart from ECON, all other factors significantly influence tourist loyalty in this model.

Table 4
Hypothesis Testing Results

Hypotheses	Beta	T-statistics	P-values	2.50%	97.50%	Decision
H1: ECON -> LOY	0.042	0.698	0.485	-0.074	0.157	*Rejected*
H2: ENV -> LOY	0.131	1.961	0.050	0.002	0.263	*Accepted*
H3: EXP -> LOY	0.373	7.098	0.000	0.267	0.473	*Accepted*
H4: SAT -> LOY	0.196	3.911	0.000	0.095	0.290	*Accepted*
H5: SOC -> LOY	0.188	3.138	0.002	0.066	0.296	*Accepted*

Note: Significant at p<0.05

Effect Sizes (f^2)

Based on Cohen's (1992) guidelines, the effect sizes (f^2) in Table 5 reveal that tourist experience (EXP) has a large effect size of 0.194 on tourist loyalty (LOY), indicating a substantial impact. Environmental sustainability (ENV) exhibits a small effect size of 0.016, while social sustainability (SOC) and tourist satisfaction (SAT) demonstrate small to medium effects with values of 0.040 and 0.061, respectively. Economic sustainability (ECON) shows a negligible effect size of 0.002, suggesting it has minimal influence on loyalty. Overall, the results highlight that tourist experience significantly influences loyalty, while other factors have relatively modest effects.

Table 5
Effect Sizes (f^2)

	LOY
ECON	0.002
ENV	0.016
EXP	0.194
SAT	0.061
SOC	0.040

PLSpredicts

Following the guidance of Shmueli et al. (2016, 2019), the results in Table 6 show that PLS-SEM predictions, as indicated by the RMSE values, generally outperform the Linear Model benchmarks, with all PLS-RMSEs being lower than LM-RMSEs. Specifically, for each dependent variable related to loyalty (LOY1, LOY2, LOY3, LOY4), the PLS-RMSE values are 0.572, 0.595, 0.632, and 0.679, respectively, while the LM-RMSE values are slightly higher at 0.602, 0.613, 0.651, and 0.703. Overall, all four PLS RMSEs are smaller than their corresponding LM RMSEs, demonstrating the superior predictive performance of the PLS model in this analysis.

Table 6
PLSpredicts

	Q^2predict	PLS-RMSE	LM-RMSE	PLS-LM
LOY1	0.381	0.572	0.602	-0.030
LOY2	0.258	0.595	0.613	-0.018
LOY3	0.300	0.632	0.651	-0.019
LOY4	0.233	0.679	0.703	-0.024

Cross-Validated Predictive Ability Test (CVPAT)

Based on the CVPAT results in Table 7 and following the guidelines by Hair et al. (2022) and Liengaard et al. (2021), the negative average loss difference of -0.159 for LOY and -0.146 overall indicates that the PLS-SEM model has superior predictive ability compared to benchmark models. The high t-values of 6.791 (LOY) and 6.531 (overall), coupled with p-values of 0.000, suggest these differences are statistically significant, confirming that the model reliably predicts loyalty outcomes beyond chance. These findings demonstrate that the model possesses strong cross-validated predictive power, validating its effectiveness in capturing the underlying relationships in the data.

Table 7
Cross-Validated Predictive Ability Test (CVPAT)

	Average loss difference	t-value	p-value
LOY	-0.159	6.791	0.000
Overall	-0.146	6.531	0.000

Importance-Performance Ability Test (IPMA)

Based on the Importance-Performance Map Analysis (IPMA) outlined in Table 8 and guided by Ringle and Sarstedt (2016) and Hair et al. (2018), tourist experience (EXP) exhibits the highest importance (0.373) but the lowest performance (60.596), indicating it has the most substantial influence on loyalty but requires improvements to enhance its impact. Other constructs, such as environmental sustainability (ENV) and tourist satisfaction (SAT), show moderate importance (0.131 and 0.196) but relatively high-performance levels (67.140 and 67.389), signifying they are functioning well but could benefit from further enhancement. To improve the construct with the lowest performance and importance, tourist experience, destinations should focus on personalised, memorable, and engaging activities, possibly through cultural immersion or eco-friendly excursions. Training staff in service quality, ensuring authentic experiences, and investing in infrastructure could elevate satisfaction levels, thereby strengthening loyalty. Enhancing the tourist experience will likely yield the

most significant positive change in overall loyalty, as it holds the greatest potential for influence based on its importance and current performance.

Table 8
Importance-Performance Ability Test (IPMA)

	Importance	Performance
ECON	0.042	66.505
ENV	0.131	67.140
EXP	0.373	60.596
SAT	0.196	67.389
SOC	0.188	66.735

Discussion & Conclusion

Discussion

The findings from this study provide crucial insights for the ecotourism sector, emphasising the necessity to implement targeted strategies to strengthen various sustainability dimensions and, ultimately, enhance tourist loyalty. The hypothesis testing results reveal that tourist experience (β=0.373), tourist satisfaction (β=0.196), and social sustainability (β=0.188) significantly influence loyalty, highlighting the importance of delivering authentic, engaging experiences and maintaining high service quality and community involvement. Conversely, economic sustainability (β=0.042) and environmental sustainability (β=0.131) did not have a significant effect, indicating a need for strategic improvements. For the ecotourism sector, practical actions include continuously crafting immersive, eco-friendly activities to elevate tourist experiences, investing in staff training to boost service quality, and fostering community-based tourism initiatives that authentically reflect local cultures and contribute to local livelihoods (Mbira, 2024). The low significance of economic sustainability may be attributed to tourists' perception that economic benefits are already sufficient or that they undervalue the direct economic impacts, suggesting the need to better communicate conservation earnings and community benefits to visitors (Sarangi & Gosh, 2025). Similarly, environmental sustainability's borderline significance could be due to tourists' focus on tangible experiences over ecological concerns, implying the sector should emphasise visible conservation efforts and environmental education. Incorporating eco-friendly practices and effective storytelling can bridge this gap, making sustainability more tangible to tourists (Zhu et al., 2025). Ultimately, aligning these strategies with the significant predictors identified, tourist experience, satisfaction, and social sustainability, will foster stronger loyalty, ensuring the ecotourism industry's long-term resilience and growth.

Theoretical Implications

The above study significantly contributes to the existing body of knowledge by advancing the theoretical understanding of stakeholder engagement and consumer behaviour in ecotourism, thereby extending both Stakeholder Theory and Expectancy-Value Theory (Vroom, 1964. It reinforces Stakeholder Theory (Freeman, 1984) by illustrating how social sustainability, the involvement and benefits of local communities, serve as a critical determinant of tourist loyalty, emphasising the importance of integrating community stakeholders into sustainable tourism frameworks to foster positive perceptions and commitment. The findings highlight that social initiatives directly influence tourists' loyalty, thus suggesting a nuanced expansion of stakeholder engagement that explicitly incorporates

tourists' perceptions of community integration. Simultaneously, the study bolsters Expectancy-Value Theory (Vroom, 1964) by demonstrating how tourists' perceptions of experiential value, satisfaction, and the tangible benefits of ecotourism influence their loyalty intentions, aligning with the premise that perceived benefits and value drive behavioural intention. An innovative insight emerging from this research is the differential impact of sustainability dimensions; while social sustainability significantly affects loyalty, economic and environmental sustainability demonstrated lesser influence, prompting a refinement of the expectation that all sustainable factors uniformly shape tourist loyalty (Musa et al., 2025). This suggests that tourists may assign different weights to various sustainability facets based on perceived immediacy and visibility of benefits, a concept that warrants further exploration (Naparin, 2025). By integrating these nuanced perspectives, the study offers a more comprehensive framework that can refine current theoretical models, encouraging future research to consider the complex interplay between stakeholder engagement and perceived value in shaping loyalty within sustainable ecotourism contexts.

Practical Implications

The findings of this study have important practical implications for the ecotourism industry, highlighting key strategies to enhance tourist loyalty through targeted improvements in sustainability practices. Given the significant impact of tourist experience, ecotourism operators should prioritise creating authentic, immersive, and memorable experiences that align with tourists' expectations of conservation and cultural enrichment. Enhancing staff training, offering eco-friendly activities, and ensuring accessible and well-maintained facilities can elevate overall visitor satisfaction and strengthen loyalty. Additionally, involving local communities in tourism activities and promoting social sustainability initiatives can foster positive perceptions among tourists, encouraging repeat visits and recommendations. While economic and environmental sustainability showed lesser influence, they remain vital; operators should focus on visibly conserving the environment and communicating the economic benefits generated from tourism, such as local employment and community development, to increase perceived value. Environmental education programs that demonstrate conservation efforts can also boost tourists' awareness and attachment. Overall, these practical strategies emphasise the importance of holistic sustainability approaches that integrate social, experiential, and educational elements. This can reinforce tourists' emotional connection with the destination, ultimately fostering a loyal customer base that supports sustainable growth, enhances reputation, and sustains the long-term viability of ecotourism enterprises.

Suggestions for Future Studies

Future research can build on the findings of this study by exploring the nuanced roles of different sustainability dimensions, economic, environmental, and social, across diverse ecotourism settings and cultural contexts to understand their varying impacts on tourist loyalty. Longitudinal studies would be valuable to assess how these relationships evolve over time and with increasing awareness of sustainability issues. Further investigation is needed into the underlying psychological mechanisms that mediate tourists' perceptions of sustainability and how these influence behavioural intentions. Additionally, future research could examine the role of destination branding and communication strategies in enhancing tourists' perceived value of sustainability efforts. Incorporating qualitative methods, such as interviews or focus groups, might provide deeper insights into tourists' motivation and

expectations related to sustainability and loyalty. Exploring the influence of different tourist segments, such as eco-conscious vs. casual travellers, can also yield valuable insights. Finally, comparative studies across regions or countries can help identify contextual factors that shape the applicability of sustainability strategies and their effectiveness in fostering tourist loyalty.

Conclusion

This study highlights the critical role of various sustainability dimensions, particularly tourist experience, satisfaction, and social sustainability, in fostering tourist loyalty within ecotourism. The findings confirm that immersive, authentic experiences and strong community involvement significantly influence tourists' commitment to revisit and recommend destinations. Although economic and environmental sustainability showed limited direct impact, their importance should not be underestimated, as they contribute to the overall sustainability framework. Practical strategies such as enhancing eco-friendly activities, improving service quality, and promoting community-based tourism are essential to strengthen loyalty. The nuanced understanding of how different sustainability aspects influence tourist behaviour provides valuable insights for industry practitioners aiming to implement targeted improvements. Overall, this research advances the theoretical understanding of sustainable tourism, emphasising that a holistic approach, integrating experience, social, and sustainability practices, is vital for long-term industry growth. Future research can expand on these insights, exploring broader contexts and longitudinal effects, to further refine strategies for building resilient, loyalty-driven ecotourism destinations.

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