Journal of Sustainable Tourism and Entrepreneurship (JoSTE)
ISSN: 2714-6480, Vol 6, No 2, 2025, 113-124 https://doi.org/10.35912/joste.v6i2.2427

Influence of tour operator's sustainability practices on tourists' spending and trip duration

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Article History
Received on 19 September 2024
1st Revision on 25 September 2024
2nd Revision on 8 October 2024
3rd Revision on 12 October 2024
4th Revision on 14 October 2024
5th Revision on 15 October 2024
6th Revision on 24 October 2024
Accepted on 24 October 2024

Abstract
Purpose: This study examines how sustainability practices influence tourists' propensity to spend more time and extend their stay.
Research Methodology: The study involved 114 tour firms and 342 tourists in Nairobi City County, Kenya. Tour operators' sustainability adoption levels were categorized using Z-scores from a compliance checklist, while tourist behavior was assessed through questionnaires. General Linear Models (GLM) were used to analyze the relationship between adoption levels and tourist behavior.
Results: The findings of the study reveal that higher levels of sustainability - specifically Very High (VH), high (H), and moderate (M)–are positively associated with increased spending and longer stays. In contrast, low (L) and Very Low (VL) sustainability levels did not significantly affect these behaviors.
Limitations: The use of Z-scores for categorization reduces complex data to a single dimension, which may oversimplify subtle differences in the adoption of sustainability practices among tour operators.
Contribution: These results offer valuable insights for tour operators and stakeholders, demonstrating that integrating sustainability into business operations not only benefits the environment and local cultures, but also enhances economic outcomes for businesses and destinations.
Keywords: *Sustainable Tourism, Tourist Spending, Average Length of Stay (ALoS)*
How to Cite: Ronoh, K. S., Kipkosgei, B., Ndolo, U. M., Mutiga, M., & Chemutai, N. (2025). Influence of tour operator's sustainability practices on tourists' spending and trip duration. *Journal of Sustainable Tourism and Entrepreneurship*, 6(2), 113-124.

1. Introduction

Tourism plays a pivotal role in the global economy, significantly contributing to the GDP of many countries, creating jobs, and fostering cultural exchanges (Gofurova, 2023). For many nations, especially developing countries, tourism is a key driver of economic growth, generating foreign exchange earnings and boosting local industries, such as hospitality, transport, and retail (Mujačević, 2024). The sector's expansive reach allows both urban and rural regions to benefit, lifting entire communities out of poverty by providing employment and business opportunities (Tola, Minga, & Muca, 2024).

However, despite its economic advantages, tourism can lead to negative environmental and sociocultural impacts if not sustainably managed. Unregulated tourism growth can result in environmental degradation, such as the overuse of natural resources, loss of biodiversity, and increased waste and pollution (Dauti, Dauti, Krasniqi, & Nishiqi, 2021). Overcrowding in popular destinations, often referred to as "overtourism," can strain infrastructure and reduce the quality of life of local

residents, leading to resentment and cultural erosion (Gupta & Chomplay, 2021). Socioeconomic inequality can also arise if the benefits of tourism are not equally distributed, with some local communities receiving little benefit from tourist spending (Chi, 2021). These negative impacts highlight the need for sustainable tourism practices to ensure long-term benefits for both destinations and visitors (Sulaiman, Fitralisma, Fata, & Nawawi, 2023).

Tour operators play a crucial role in mitigating these negative effects by implementing sustainability practices. By adopting eco-friendly initiatives, such as reducing carbon footprints, supporting local communities, and promoting cultural preservation, tour firms can actively contribute to the conservation of natural and cultural resources (Pasape, 2022). These practices not only protect the environment and local heritage but also enhance the overall experience for tourists, making destinations more appealing in the long run (Elshaer, Azazz, & Fayyad, 2024).

Sustainable tourism practices can help preserve a destination's attractiveness, ensuring its viability for future generations while safeguarding the socioeconomic well-being of local populations (Xing, 2024). When natural beauty and cultural heritage are compromised, tourists may choose to visit other locations, leading to a decline in revenue and shorter length of stay (Barnes, 2022). Destinations that fail to manage the negative consequences of tourism may experience decreased competitiveness, which in turn affects local businesses and jobs dependent on the sector (Wu, Li, & Wang, 2023). Therefore, the integration of sustainability into tourism management is critical not only for the preservation of destinations, but also for their economic sustainability.

In terms of tourist behavior, factors such as spending and trip duration are influenced by various elements, including destination attractiveness, available amenities, and perceived value (Akhi, Sarker, & Fakir, 2023; Torres-Moraga, Rodriguez-Sanchez, & Sancho-Esper, 2021). Tourists may be willing to spend more and extend their stay if they believe their visits support sustainable practices or if they feel they are contributing to the preservation of the environment and local culture (Mihai et al., 2023). While evidence shows that sustainability influences tourist decisions, its specific impact on spending and trip duration remains underexplored. Understanding how sustainability shapes these behaviors is vital for destinations and tour operators to maximize economic benefits and ensure long-term viability.

1.1 Research Objective and Hypothesis

This study aims to assess the role of sustainability practices in influencing tourists' propensity to spend more and extend their trips. The research hypothesis (H_0) posited that there is no statistically significant difference in the influence of sustainability practices across tour operator categories on tourist spending and trip duration.

2. Literature review

The relationship between tourists' trip duration, spending behavior, and sustainability practices has received growing attention in recent research. Various studies have explored factors that influence tourists' length of stay (LoS), consistently highlighting socio-demographic characteristics, travel distance, and destination attributes as key determinants (Atsız, Leoni, & Akova, 2022; Boto-García, Baños-Pino, & Álvarez, 2019). Elements such as hospitality and local consumption have been shown to contribute to extended stays (Martinez-Roget, Moutela, & Rodriguez, 2020). However, while these studies provide insights into general trip-related factors, they lack a direct focus on sustainability practices and how they might influence the LoS. This creates a gap in the empirical evidence, despite the growing trend of environmentally conscious tourists who may be inclined to prolong their stays to engage more deeply with eco-friendly and sustainable tourism offerings (Hanna et al., 2019; Poort, Persson-Fischier, Martinsson-Wallin, Elf Donaldson, & Schaub, 2021). Thus, it is crucial to investigate the potential relationship between sustainability and the LoS.

Tourists' spending behavior reflects growing awareness and willingness to invest in sustainability-related experiences. Several studies have demonstrated that tourists are prepared to pay premiums for experiences that align with their sustainability value (Kang, Stein, Heo, & Lee, 2012; Pulido-Fernández

& López-Sánchez, 2016). This willingness signals the importance of sustainability as a key market differentiator, influencing consumer spending decisions (Dodds, Graci, & Holmes, 2010; Nelson, Partelow, Stäbler, Graci, & Fujitani, 2021). Furthermore, tourists who prioritize sustainability are more likely to support eco-friendly initiatives by spending, encouraging destinations, and travel providers to adopt and promote such practices (Han, Chen, Lho, Kim, & Yu, 2020). However, despite the positive correlations between sustainability and tourists' willingness to pay (WTP), most studies have focused on the hotel sector, leaving the specific influence of tour operators' sustainability practices underexplored. This gap, along with contradictory findings from Weber (2019), highlights the need for further investigation to understand how tour operators‘ sustainability practices influence tourist-spending behavior.

Research on the connection between sustainable tourism practices and consumer behavior has yielded valuable insights, although much of the focus remains on the hospitality sector. Pulido-Fernández and López-Sánchez (2016) found that tourists with higher "sustainable intelligence" are more likely to choose sustainable destinations, but only 26.6% expressed a willingness to pay premium prices for such experiences. Several factors influence WTP, as Sidali, Huber, and Schamel (2017) identified, including tourists’ age, hotel ratings, and overall expenditures. Similarly, Modica, Altinay, Farmaki, Gursoy, and Zenga (2020) highlighted that economic sustainability practices, such as supporting local economies, directly enhance consumer satisfaction, loyalty, and willingness to pay (WTP). Environmental and social sustainability practices, while important, tend to influence spending behavior indirectly through increased satisfaction. Other studies, such as those by Pereira, Mykletun, and Hippolyte (2012), have emphasized the role of tourists’ positive beliefs about sustainability, which foster greater appreciation for sustainable tourism offerings.

Boronat-Navarro and Pérez-Aranda (2020) expanded this understanding by showing that tourists' predisposition toward sustainability significantly influences their WTP for sustainable accommodations. This finding is consistent with Gupta, Sharma, and Sinha (2023), who examined sustainable practices in Fiji’s hotels and found that guests' WTP for these services directly correlated with their intent to revisit. Similarly, de Araújo, Andrés Marques, Candeias, and Vieira (2022) demonstrated that tourists with favourable attitudes toward sustainability are more inclined to pay for eco-friendly destinations, highlighting the increasing demand for sustainable tourism options.

Despite these valuable contributions, much of the literature remains hotel-centric, with limited attention paid to the specific role of tour operators in promoting sustainability. Weber (2019) highlighted this gap by noting conflicting findings on the impact of sustainability on tourist-spending behavior. While some studies suggest that sustainability plays a key role in spending decisions, others indicate that practical considerations such as cost and convenience often take precedence. However, tour operators occupy a unique position in shaping sustainable tourism experiences through their activities, local engagement, and environmental initiatives. Understanding how these efforts influence tourists’ decisions to extend their trips or spend more on sustainable experiences is essential to promote sustainable tourism practices and expand eco-friendly options in the marketplace. As such, the relationship between sustainability and tourist behavior remains under-researched in the context of tour operators, calling for deeper exploration to fill this gap.

2.1 Theoretical Framework

The study adopted the Triple Bottom Line (TBL) framework (introduced by John Elkington (1998) to serve as a key foundation for assessing sustainability by integrating three critical dimensions: economic, environmental, and social (Elkington, 1998). In this study, the TBL framework is highly relevant because it provides a comprehensive approach for evaluating the adoption of sustainability practices among tour operators. By assessing socioeconomic, cultural, and environmental sustainability dimensions, the study aligned with the TBL’s holistic view of sustainability, ensuring that the operators' practices are examined from multiple angles. The TBL framework’s focus on balance and long-term sustainability is essential for understanding how tour operators integrate sustainable practices into their operations and how this, in turn, influences tourist behavior.

Similarly, the study adopted the motivation-opportunity-ability (MOA) model was developed by Deborah MacInnis and Bernard Jaworski in 1989. The MOA model can be used to explain consumer behavior by outlining how motivation, opportunity, and ability shape decision-making processes (MacInnis & Jaworski, 1989). In the context of tourism, the MOA model is particularly relevant as it helps explain why and how tourists engage in sustainable practices. Motivation reflects tourists' desire to make sustainable choices; opportunity refers to the availability of sustainable options, such as eco-friendly tour operators; and ability indicates the resources or knowledge that enables tourists to act on these motivations. This model was adopted to better understand the influence of tour operators' sustainability practices on tourists' travel choices. By exploring how these factors correlate with tourist spending and average length of stay (ALoS)or trip duration, the MOA model offered valuable insights into the behavioral drivers behind sustainable tourism travel.

2.2 Conceptual Framework

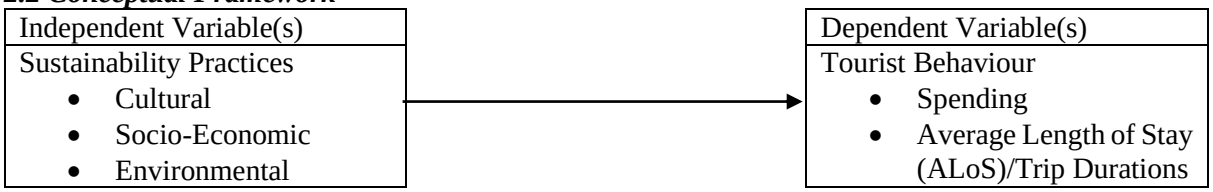

Figure 1. Conceptual Framework

The conceptual framework in Figure 1 illustrates the relationship between sustainability practices and tourist behavior. The independent variables include three key dimensions of sustainability: cultural, socioeconomic, and environmental practices adopted by tour operators. These practices are expected to influence the dependent variables, which are aspects of tourist behavior, particularly spending patterns and average length of stay (ALoS). It is hypothesized that when tour operators integrate sustainability practices, tourists may be more inclined to spend more and extend their trips as these practices align with their values, enhancing their overall experience and engagement with the destination.

3. Research methodology

First, it examined the levels of adoption of sustainability practices among tour operators in Nairobi City County, Kenya. The adoption of sustainability practices was assessed across three key dimensions: socio-economic sustainability (SES), cultural sustainability (CS), and environmental sustainability (ENS). Each dimension is represented by a set of binary indicators: 11 for SES, 11 for CS, and 11 for ENS. For each indicator, a score of 1 indicated the adoption of the practice, whereas a score of 0 reflected non-adoption. To determine the overall score for each sustainability dimension, binary scores for all applicable indicators were summed for each tour operator. The following equation was used:

$$Composite\ CS\ Score = \sum_{j=1}^{11} \mathrm{CS}j \quad \ldots\ldots\ldots\ldots (1)$$

$$Composite\ SES\ Score = \sum_{i=1}^{11} \mathrm{SES}i \quad \ldots\ldots\ldots (2)$$

$$Composite\ ENS\ Score = \sum_{k=1}^{11} \mathrm{ENS}k \quad \ldots\ldots (3)$$

These composite scores reflected the total number of sustainability practices adopted by each tour operator in each dimension.

To enable comparisons among tour operators, the composite scores for each dimension were standardized using Z-scores. These Z-scores represent the extent to which a tour operator's score deviates from the sample's mean score, measured in standard deviations. The following formula was used:

$$Z = \frac{X-\mu}{\sigma} \quad \ldots\ldots\ldots\ldots (4)$$

Where:

Z represents the standardized Z-score.

X is the composite score for a specific dimension (CS, SES, or ENS) for a given tour operator.

μ denotes the mean composite score for that dimension across all tour operators.

σ is the standard deviation of the composite scores for that dimension.

The overall sustainability index was calculated by calculating the average Z-scores across the three dimensions.

$$\text{Overall Sustainability Index} = \frac{Z_{SES}+Z_{CS}+Z_{ENS}}{3} \quad \ldots\ldots\ldots (5)$$

This index offers a unified measure of each tour operator's overall sustainability by integrating their performance across the three dimensions into a single score. Using the Z-scores obtained, tour operators were classified into five adoption levels: Very High ($Z > 1.5$), High ($0.5 < Z \leq 1.5$), Moderate ($-0.50 \leq Z \leq 0.5$), Low ($-1.5 < Z < -0.5$), and Very Low ($Z \leq -1.5$).

Tourist data were collected through a self-administered survey questionnaire focusing on spending and average length of stay (ALoS). The aim was to analyze how these behaviors correlate with the sustainability practices of tour operators. General Linear Models (GLM) were then applied to analyze the relationship between sustainability levels and two key tourist behaviors: the propensity to spend more and average length of stay. The GLM analysis enabled the evaluation of the effects of different sustainability levels on spending and stay duration, with model fit assessed through deviance, Pearson Chi-Square, and Akaike's Information Criterion (AIC) values.

4. Results and discussions

The Kruskal–Wallis statistical test ($H (4, n = 114) = 15.2$, $p = 0.001$) revealed notable differences in tour operators' adoption of sustainability practices. The overall mean Z-score is approximately 0.000, indicating a wide range of adoption levels. A significant portion of the operators (69 out of 114) were classified under moderate adoption, indicating that most firms have adopted a fair number of sustainability practices, but have not reached the highest levels of sustainability integration. In contrast, 19 firms were categorized as high adoption, showing a greater commitment to sustainability. Only five operators fell under the very high adoption category, suggesting that fully integrating sustainability practices is relatively rare. The lower adoption categories were notably represented, with 16 firms in the low adoption group and five in the very low category, indicating that some operators had minimal engagement with sustainability practices.

These findings, summarized in Table 1, show the uneven adoption of sustainability practices across tour operators. While most firms have adopted moderate measures, there is room for improvement, particularly in encouraging more firms to reach higher adoption levels. The variability in adoption can be attributed to factors such as firm size, ownership structure, and operational years, as noted by Balasubramanian, Shukla, Mangla, and Chanchaichujit (2021). Higher adoption rates may also be linked to stronger corporate governance, as highlighted by Aguilera, Aragón-Correa, Marano, and Tashman (2021). Moreover, Cantele and Zardini (2020) suggested that both internal strategic priorities and external pressures influence the extent to which businesses implement sustainability in their operations.

Table 1. Overall Sustainability Adoption Levels

Adoption Category	Overall Sustainability (n)
Very High Adoption	5
High Adoption	19
Moderate Adoption	69
Low Adoption	16
Very Low Adoption	5

Note. n = Number of firms in each category

4.1 Sustainability Practices and Spending Behaviour

As shown in Table 2, the mean Spending Behavior score was 2.80 (SD = 0.58), ranging between 2.00 and 5.00, indicating a moderate level of spending behavior across tourists. The model fit statistics suggest that the data adequately fit the model, with a deviance of 1.29 (df = 109, value/df = 0.012) and

Pearson Chi-Square of 1.30 (df = 109, value/df = 0.012). These low values indicate minimal deviation from the expected model, supporting the robustness of the results. The AIC value of 54.95 further reinforces the adequacy of the model fit, as lower AIC values typically suggest a better-fitting model. The omnibus test results were highly significant, revealing that the overall variable of sustainability practice adoption level contributed significantly to predicting tourist spending behavior (χ^2 (4) = 141.24, p < .001).

Additionally, the Wald test confirmed the significance of this variable's effect on spending behavior (Wald χ^2 (4) = 266.87, p < .001). Parameter estimates indicated that higher levels of sustainability adoption were strong predictors of increased spending behavior. Specifically, Very High (B = 0.470, p < .001), high (B = 0.447, p < .001), and moderate (B = 0.124, p = .012) levels of sustainability adoption is significantly associated with increased spending among tourists. These findings suggest that tourists are more likely to spend more time when tour operators engage in higher levels of sustainable practices. In contrast, low levels of sustainability (B = -0.046, p = .402) were not statistically significant, indicating that the minimal adoption of sustainable practices does not influence spending behavior. This result emphasizes the importance of meaningful sustainability initiatives, as only moderate to very high levels of sustainability engagement by tour operators positively affect tourist-spending decisions.

Table 2. Spending Behaviours

Model Information					
Dependent Variable	Tourist Spending Behaviour				
Probability Distribution	Gamma				
Link Function	Log				
Categorical Variable Information					
Sustainability Adoption Levels					
VH	H	M	L	VL	Total
5	20	68	16	5	114
4.4%	17.5%	59.6%	14.0%	4.4%	100.0%
14.0%					

Continuous Variable Information					
	N	Minimum	Maximum	Mean	Std. Deviation
Spending Behaviour	114	2.00	5.00	2.7953	.57737

Goodness of Fit[a]			
	Value	df	Value/df
Deviance	1.292	109	.012
Scaled Deviance	114.215	109	
Pearson Chi-Square	1.300	109	.012
Scaled Pearson Chi-Square	114.942	109	
Log Likelihood[b]	-21.474		
Akaike's Information Criterion (AIC)	54.949		
Finite Sample Corrected AIC (AICC)	55.734		
Bayesian Information Criterion (BIC)	71.366		
Consistent AIC (CAIC)	77.366		

a. Information criteria are in smaller-is-better form.
b. The full log likelihood function is displayed and used in computing information criteria.

Omnibus Test[a]		
Likelihood Ratio Chi-Square	df	Sig.
141.243	4	.000

a. Compares the fitted model against the intercept-only model.

Tests of Model Effects			
Source	Type III Wald Chi-Square	df	Sig.
(Intercept)	4590.824	1	.000
Adoption Levels	266.871	4	.000

Parameter Estimates							
			95% Wald Confidence Interval		Hypothesis Test		
Parameter	B	Std. Error	Lower	Upper	Wald Chi-Square	df	Sig.
(Intercept)	.847	.0476	.754	.941	317.312	1	.000
VH	.470	.0673	.338	.602	48.819	1	.000
H	.447	.0532	.343	.552	70.787	1	.000
M	.124	.0493	.028	.221	6.361	1	.012
L	-.046	.0545	-.152	.061	.702	1	.402
VL	0[a]	.	.	.	.	.	.
(Scale)	.011[b]	.0015	.009	.015			

Dependent Variable: Spending Behaviour, Model: (Intercept), Adoption Level, [a.] Set to zero because this parameter is redundant, [b.] Maximum likelihood estimate.

4.2 Discussions

The study's findings reveal a positive relationship between higher levels of sustainability practices and tourist spending behavior, supporting the existing literature while highlighting notable gaps in current research. Although price remains a critical factor for consumers, the role of sustainability is becoming increasingly significant in shaping their purchasing decisions (Singla, 2024). As environmental and social consciousness grows, studies by Modica et al. (2020) and de Araújo et al. (2022) confirm that tourists are often willing to spend more when they perceive substantial business sustainability efforts. This trend indicates a shift in consumer behavior, where ethical considerations such as environmental responsibility can outweigh traditional economic factors. However, the literature remains limited in its understanding of how varying levels of sustainability specifically influence spending behaviors. The current study highlights that low sustainability practices do not significantly impact spending, indicating the need for further research to explore how different degrees of sustainability affect consumer choices across various contexts and regions.

Additionally, while there is a growing interest in the relationship between tourists' trip duration, spending behavior, and sustainability practices, this area remains underexplored. Research has identified socio-demographic characteristics, travel distance, and destination attributes as key determinants of tourists' length of stay (LoS) (Atsız et al., 2022; Boto-García et al., 2019), along with factors such as hospitality and local consumption (Martinez-Roget et al., 2020). However, there is a gap in directly examining how sustainability practices impact the LoS. The increasing trend of environmentally conscious tourists may encourage longer stays to engage in sustainable tourism offerings (Hanna et al., 2019; Poort et al., 2021). Understanding the relationship between sustainability and LoS is vital, as tourists' willingness to pay (WTP) for sustainable experiences often correlates with their length of stay (Kang et al., 2012; Pulido-Fernández & López-Sánchez, 2016). Therefore, future research should delve deeper into how sustainability practices, particularly those implemented by tour operators, influence both tourists spending behavior and trip duration.

4.2.1 Sustainability Practices and Average Length of Stay (ALoS)

The analysis of Average Length of Stay (ALoS) in Table 3 revealed a mean of 2.76 (SD = 0.57), with a range from 2.00 to 4.00. The model showed an adequate fit, evidenced by a deviance of 1.30 (df = 109, value/df = 0.012) and a Pearson Chi-Square value of 1.27 (df = 109, value/df = 0.012). The AIC value of 52.76 further indicated a reasonable model fit, confirming that the data adequately explained the variance in tourists' length of stay. Moreover, the omnibus test provided strong statistical evidence that the level of adoption of sustainability practices significantly influenced ALoS (χ^2 (4) = 144.56, $p < .001$). This suggests that sustainability practices are key predictors of how long tourists choose to stay. The parameter estimates showed that higher levels of sustainability adoption were strongly associated with longer stays; Very High adoption (B = 0.573, $p < .001$) and high adoption (B = 0.573, $p < .001$) both had a substantial positive impact on ALoS, as did moderate adoption (B = 0.221, $p < .001$) and even low adoption (B = 0.130, p = .017), although to a lesser extent. These findings highlight that tourists are more likely to extend their stay when tour operators demonstrate higher levels of sustainability.

Table 3. Sustainability Practices and Trip Durations

Model Information	
Dependent Variable	Trip Duration/Average Length of Stay (ALoS)
Probability Distribution	Gamma
Link Function	Log

Categorical Variable Information					
Sustainability Adoption Levels					
VH	H	M	L	VL	Total
5	20	68	16	5	114
4.4%	17.5%	59.6%	14.0%	4.4%	100.0%
14.0%					

Continuous Variable Information					
	N	Minimum	Maximum	Mean	Std. Deviation
Trip Duration/Average Length of Stay (ALoS)	114	2.00	4.00	2.7632	.57088

Goodness of Fit[a]			
	Value	df	Value/df
Deviance	1.299	109	.012
Scaled Deviance	114.216	109	
Pearson Chi-Square	1.269	109	.012
Scaled Pearson Chi-Square	111.566	109	
Log Likelihood[b]	-20.377		
Akaike's Information Criterion (AIC)	52.755		
Finite Sample Corrected AIC (AICC)	53.540		
Bayesian Information Criterion (BIC)	69.172		
Consistent AIC (CAIC)	75.172		

a. Information criteria are in smaller-is-better form.

[b.] The full log likelihood function is displayed and used in computing information criteria.

Omnibus Test[a]		
Likelihood Ratio Chi-Square	df	Sig.
144.561	4	.000

[a.] Compares the fitted model against the intercept-only model.

Tests of Model Effects			
Source	Type III Wald Chi-Square	df	Sig.
(Intercept)	4385.968	1	.000
Adoption Levels	275.684	4	.000

Parameter Estimates							
			95% Wald Confidence Interval		Hypothesis Test		
Parameter	B	Std. Error	Lower	Upper	Wald Chi-Square	df	Sig.
(Intercept)	.726	.0477	.632	.819	231.707	1	.000
VH	.573	.0674	.441	.706	72.268	1	.000
H	.573	.0533	.469	.678	115.629	1	.000
M	.221	.0494	.124	.318	20.048	1	.000
L	.130	.0546	.023	.237	5.683	1	.017
VL	0[a]	.	.	.	.	.	.
(Scale)	.011[b]	.0015	.009	.015			

Dependent Variable: Trip Duration, Model: (Intercept), Adoption Level, [a.] Set to zero because this parameter is redundant, [b.] Maximum likelihood estimate.

4.3 Discussions

The positive relationship between sustainability practices and average length of stay (ALoS) highlights an underexplored aspect of tourism research, suggesting that tourists may be more inclined to extend their visits to destinations that actively promote sustainable initiatives. Previous studies, including those

by Hanna et al. (2019) and Poort et al. (2021), indicate a correlation between sustainability efforts, such as eco-friendly accommodation and community-based tourism, and trip duration. These findings align with the growing trend of environmentally conscious travellers seeking experiences that resonate with their values, particularly those related to environmental and social responsibility, as supported by research from Mathew, Cabral, and Mohandas (2024) and Moise, Gil-Saura, and Ruiz-Molina (2018). Despite these insights, the literature reveals a gap in understanding the dynamics underlying this relationship, emphasizing the need for further investigation into how factors such as tourist demographics and destination characteristics influence ALoS across various contexts.

In addition to ALoS, tourists' spending behavior increasingly reflects their willingness to invest in sustainability-related experiences. Studies by Kang et al. (2012) and Pulido-Fernández and López-Sánchez (2016) have demonstrated that travelers are prepared to pay a premium for experiences that align with their sustainability values, positioning sustainability as a crucial market differentiator. Moreover, research indicates that tourists who prioritize sustainability are more likely to support eco-friendly initiatives through spending, encouraging destinations to adopt and promote such practices (Han et al., 2020). However, much of the existing literature focuses on the hotel sector, leaving the specific influence of tour operators' sustainability practices under-explored. This gap, highlighted by Weber (2019), suggests the need for more focused research on how tour operators' sustainability practices can influence tourist spending behavior and extend trip durations in various contexts.

5. Conclusion

The findings from this study reveal the significant role that sustainability practices play in shaping tourist behavior, particularly regarding spending and trip duration. The analysis revealed notable variability in the adoption levels of sustainability practices among tour operators, with the majority falling into the moderate adoption category, while a smaller proportion demonstrated High or Very High adoption levels. Specifically, tour operators with Very High and High sustainability adoption levels were strong predictors of enhanced tourist spending and longer stays, suggesting that tourists valued the sustainability efforts of these firms and were willing to reward them through their financial choices. Moderate adoption levels, while still having a positive influence, did not elicit the same level of engagement, indicating that tourists may differentiate between firms based on the depth of their sustainability effort.

Conversely, low and very low levels of sustainability adoption had little to no significant impact on tourist behavior, further emphasizing that minimal engagement in sustainability practices does not attract increased spending or longer stay. These results highlight the potential for sustainability to serve as a competitive advantage in the tourism industry, offering operators the opportunity to enhance tourist satisfaction and drive greater economic returns. By prioritizing sustainability, tour operators can not only contribute to environmental and social well-being but also enhance their operational success. The study suggests that sustainability should be viewed not just as a moral or ethical obligation but also as a strategic tool for fostering long-term business growth and increasing tourist loyalty and engagement. This reinforces the importance of tour operators integrating comprehensive sustainability practices into their business models, both for the benefit of the environment and their bottom line.

5.1 Recommendations

Based on the findings of this study, it is essential for tour operators to prioritize and enhance their adoption of sustainability practices to increase tourist spending and extend their stays. The research indicates that achieving high or very high sustainability standards significantly influences tourist behavior, making it imperative for operators to focus on this aspect of their business. Key initiatives could include obtaining recognized sustainability certifications, which not only enhances credibility but also attracts sustainability-conscious travelers seeking responsible tourism options. These certifications serve as tangible affirmations of an operator's commitment to sustainable practices, allowing potential customers to make informed choices aligned with their values.

Effective communication regarding sustainability efforts is also crucial for tour operators. They should actively promote their sustainability initiatives through various marketing channels such as social media, websites, and promotional materials. Highlighting successful practices, community involvement, and environmental stewardship can effectively resonate with travelers seeking to support eco-friendly businesses. Additionally, storytelling emphasizing the impact of sustainable practices on local communities and environments can create a compelling narrative that encourages longer stays and increased spending.

Furthermore, it is vital for policymakers and industry stakeholders to support tour operators in their sustainability efforts by providing necessary training, resources, and incentives. This support can facilitate the adoption of sustainable practices and create a more favorable environment for operators. Collaborative initiatives between government agencies, non-governmental organizations, and the tourism industry can enhance economic benefits and promote a more sustainable tourism sector. By fostering a supportive ecosystem, these efforts can drive a collective shift toward sustainability, ultimately benefiting both tourists and the broader community.

5.2 Suggestions for Future Research

Future research could delve into several key areas to enhance understanding of sustainability practices in tourism.

1. Investigate how sustainability practices influence tourist loyalty and the likelihood of repeat visits over time.
2. To examine the role of customer advocacy in promoting sustainable tourism practices and their influence on overall business success.
3. Analyze the effectiveness of targeted sustainability initiatives, such as carbon offset programs or community-based tourism, in various market segments.
4. Conduct comparative studies between different regions or countries with varying levels of sustainability adoption to uncover global trends.
5. Utilize qualitative methods to gain deeper insights into the motivations behind tourists' support for sustainable tourism.

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