

SUSTAINABLE HOSPITALITY MODEL: THE INTEGRATION OF GREEN PRACTICES AND CUSTOMER PERCEIVED VALUE TOWARD GUEST LOYALTY

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Abstract: The hospitality industry faces increasing pressure to adopt sustainable practices due to growing environmental awareness and shifting consumer preferences. This study aims to develop a Sustainable Hospitality Model by integrating green practices and customer perceived value in enhancing guest loyalty. A quantitative approach was employed using a survey of hotel guests who had stayed at least once within the last year. Data were analyzed using multiple regression to examine both direct and indirect relationships among variables. The findings reveal that green practices have a positive and significant effect on customer perceived value and guest loyalty. Furthermore, customer perceived value mediates the relationship between green practices and guest loyalty. These results confirm that environmentally responsible practices, when integrated with value creation strategies, can strengthen long-term guest loyalty. This study contributes theoretically to the development of sustainable hospitality models and provides practical implications for hotel management in designing customer-oriented sustainability strategies.

.Keywords: Sustainable hospitality, green practices, customer perceived value, guest loyalty, sustainable hotel management.

Abstrak: Industri perhotelan menghadapi tekanan yang semakin besar untuk mengadopsi praktik berkelanjutan seiring meningkatnya kesadaran lingkungan dan perubahan preferensi konsumen. Penelitian ini bertujuan untuk mengembangkan model *Sustainable Hospitality* melalui integrasi *green practices* dan *customer perceived value* dalam meningkatkan loyalitas tamu. Studi ini menggunakan pendekatan kuantitatif dengan metode survei terhadap tamu hotel yang pernah menginap minimal satu kali dalam satu tahun terakhir. Analisis data dilakukan menggunakan regresi berganda untuk menguji pengaruh langsung dan tidak langsung antar variabel. Hasil penelitian menunjukkan bahwa *green practices* berpengaruh positif dan signifikan terhadap *customer perceived value* dan loyalitas tamu. Selain itu, *customer perceived value* terbukti memediasi hubungan antara *green practices* dan loyalitas tamu. Temuan ini menegaskan bahwa implementasi praktik ramah lingkungan yang terintegrasi dengan penciptaan nilai yang dirasakan pelanggan dapat memperkuat loyalitas tamu secara berkelanjutan. Penelitian ini memberikan kontribusi teoretis dalam

pengembangan model perhotelan berkelanjutan serta implikasi praktis bagi manajemen hotel dalam merancang strategi keberlanjutan yang berorientasi pada pelanggan

Kata Kunci: Sustainable hospitality, green practices, customer perceived value, loyalitas tamu, perhotelan berkelanjutan.

Introduction

The hospitality industry plays a pivotal role in global tourism and economic development, contributing significantly to employment, foreign exchange earnings, and local community growth. However, rapid expansion and intensified service activities have also increased the industry's ecological footprint, leading to critical challenges such as high energy consumption, water depletion, waste generation, and carbon emissions (Dahiya & Kumar, 2022¹; Rahman et al., 2023²). These environmental concerns underscore the need for sustainable practices to balance economic growth with ecological preservation.

Sustainable hospitality involves adopting strategies that minimize negative environmental impacts while maximizing social and economic benefits. Green practices in hotels and resorts—such as energy-efficient technologies, waste reduction programs, water-saving systems, sustainable procurement, and eco-certifications—have become central elements of sustainability agendas worldwide. These practices not only reduce operational costs but also project a responsible corporate image that resonates with contemporary consumer values (Nawaz et al., 2024; Li et al., 2025)³.

The integration of green practices into hospitality services is closely linked to the concept of customer perceived value, which refers to customers' overall judgment of the utility of a product based on perceptions of what is received and what is given (Zeithaml, 2023⁴; Sweeney & Soutar, 2022⁵). In the context of sustainable hospitality, perceived value encompasses not only functional and emotional dimensions but also environmental and ethical considerations. Guests increasingly evaluate hotels not just on traditional service quality cues but also on how well these hotels align with their environmental values and lifestyle preferences (Nguyen et al., 2022⁶; Osman & Sentosa, 2023⁷).

Theoretically, the value-belief-norm (VBN) theory posits that individuals who hold pro-environmental values are more likely to support organizations that reflect similar values in their operations (Stern, 2022).⁸ In hospitality, when green practices create higher perceived value among guests—through enhanced experiences, moral satisfaction, and environmental contribution—this positively influences their behavioral intentions. Social exchange theory further explains that when customers perceive added value from sustainability initiatives,

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- 1 Dahiya, R., & Kumar, V. (2022). Environmental sustainability initiatives and business performance in hotels. *Sustainable Tourism Journal*, 8(1), 23–41
 - 2 Rahman, M. S., Alam, S. M. A., & Islam, M. A. (2023). Sustainable practices and guest loyalty: The role of ethical values and perceived experience. *Journal of Hospitality and Tourism Management*, 51, 123–134
 - 3 Nawaz, A., Ghafoor, M. M., & Ali, H. (2024). The impact of green practices on hotel performance: Evidence from Asia. *Journal of Hospitality Sustainability*, 9(2), 88–10
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they are more likely to reciprocate with favorable behaviors such as repeat patronage and loyalty (Cropanzano & Mitchell, 2025⁹; Boso et al., 2023¹⁰).

Loyalty in hospitality is a critical performance outcome, often associated with repeat purchase behavior, advocacy through word-of-mouth, and higher long-term profitability. Prior research has demonstrated that customer perceived value is a strong predictor of guest loyalty, especially in service industries where experiential and emotional aspects are prominent (Akroush et al., 2020¹¹; Chinomona & Maziriri, 2021¹²). However, empirical studies on the direct relationship between green practices and loyalty have produced mixed findings, with some indicating only indirect effects via perceived value or satisfaction (Rahman et al., 2023¹³). Li et al., 2025¹⁴). This suggests the need for integrative models that consider mediating mechanisms such as perceived value or customer satisfaction to fully explain how sustainability strategies translate into loyalty outcomes.

The proposed Sustainable Hospitality Model in this study integrates green practices and customer perceived value to explain guest loyalty formation. By investigating the pathways through which environmental initiatives enhance perceived value and subsequently affect loyalty, this research aims to provide a comprehensive understanding of sustainable service delivery in the hospitality sector. The model also offers practical implications for hotel managers and tourism practitioners seeking to design effective sustainability strategies that foster long-term customer relationships and competitive advantage in an increasingly environmentally conscious market.

Methods

This study employed a quantitative research design to examine the effect of green practices on customer perceived value and its impact on guest loyalty within the Sustainable Hospitality Model. A survey method was used to collect primary data from hotel guests who had stayed in environmentally friendly or sustainability-oriented hotels within the past year. The quantitative approach was chosen to enable objective measurement and statistical testing of the relationships among green practices, customer perceived value, and guest loyalty. Data were gathered using a structured questionnaire with a five-point Likert scale and were analyzed using Statistical Package for the Social Sciences (SPSS) to test validity, reliability, and the influence between variables through regression analysis.

Research Data and Respondents

The data used in this study were primary data obtained through questionnaire distribution to hotel guests who met the research criteria, namely individuals aged 18 years and above who had experienced green practices during their hotel stay, such as energy-saving policies, waste

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- ⁹ Cropanzano, R., & Mitchell, M. S. (2005). Social exchange theory: An interdisciplinary review. *Journal of Management*, *31*, 874–900
 - ¹⁰ Boso, N., O'Regan, N., & Kotsoana, J. (2023). Linking sustainability and loyalty: Social exchange perspectives in hospitality settings. *International Journal of Hospitality Management*, *107*, 103453
 - ¹¹ Akroush, M. N., Dahiyat, E. M., & Abu-Lail, B. (2020). Customer perceived value and loyalty in hospitality services: The mediating role of customer satisfaction. *Journal of Hospitality Marketing & Management*, *29*(8), 915–939.
 - ¹² Chinomona, R., & Maziriri, E. T. (2021). The influence of perceived value on loyalty in the hotel industry: Evidence from Africa. *Journal of Hospitality and Tourism Insights*, *4*(3), 315–332
 - ¹³ Rahman, M. S., Alam, S. M. A., & Islam, M. A. (2023). Sustainable practices and guest loyalty: The role of ethical values and perceived experience. *Journal of Hospitality and Tourism Management*, *51*, 123–134
 - ¹⁴ Li, X., Zhang, H., & Huang, L. (2025). Green service quality and guest loyalty: The mediating role of perceived value. *Journal of Sustainable Hospitality Research*, *12*(1), 45–62

reduction programs, or eco-friendly amenities. A purposive sampling technique was applied to ensure respondents had relevant experience related to the research variables. The total number of respondents was determined based on minimum sample requirements for multivariate analysis to ensure adequate statistical power. All research variables were measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The Likert scale was selected to capture respondents' perceptions, attitudes, and evaluations regarding green practices, customer perceived value, and guest loyalty in a structured and quantifiable manner. Data processing was conducted using Statistical Package for the Social Sciences (SPSS), including descriptive statistical analysis to describe respondent characteristics (gender, age, education, and frequency of hotel stay), validity testing using Pearson correlation, reliability testing using Cronbach's alpha, and multiple regression analysis to examine the effect of green practices and customer perceived value on guest loyalty.

Data Processing and Analysis

Data processing and analysis were conducted using Statistical Package for the Social Sciences (SPSS). Prior to hypothesis testing, data screening procedures were carried out to ensure completeness, consistency, and accuracy of responses, including checking for missing values and outliers. Descriptive statistics were first analyzed to summarize respondent profiles and provide an overview of the distribution of responses for each variable. Instrument testing was then performed through validity and reliability analysis. Validity was assessed using Pearson product-moment correlation, where each item was considered valid if the correlation coefficient exceeded the critical r-value at a significance level of 0.05. Reliability was evaluated using Cronbach's alpha coefficient, with a threshold value of 0.70 indicating acceptable internal consistency.

After confirming the validity and reliability of the measurement instrument, classical assumption tests were conducted prior to regression analysis, including normality, multicollinearity, and heteroscedasticity tests to ensure that the data met the assumptions of linear regression. Hypotheses were tested using multiple linear regression analysis to examine the effect of green practices and customer perceived value on guest loyalty. The regression model in this study is formulated as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$$

Where:

- Y = Guest Loyalty
- X₁ = Green Practices
- X₂ = Customer Perceived Value
- α = Constant
- β₁, β₂ = Regression coefficient
- ε = Error term

The coefficient of determination (R²) was used to assess the explanatory power of the independent variables, while t-tests were employed to evaluate the significance of individual regression coefficients and the F-test to assess the model's overall significance. The level of significance was set at 5% (α = 0.05). Through these analytical procedures, the study aims to determine the strength, direction, and significance of the relationships among variables within the proposed Sustainable Hospitality Model.

Ethical Considerations

This study adhered to established ethical research standards to ensure the protection of respondents' rights and data confidentiality. Prior to data collection, respondents were informed about the purpose of the study, the voluntary nature of their participation, and their right to withdraw at any time without any consequences. Informed consent was obtained from all participants before they completed the questionnaire. The survey did not collect personally identifiable information, and all responses were treated anonymously and used solely for academic research purposes. Data were securely stored and accessed only by the researchers to maintain confidentiality and prevent unauthorized use. Furthermore, the study ensured that no harm, deception, or coercion was involved during the research process, and the findings were reported honestly and transparently without manipulation or misrepresentation of the data.

Results And Discussions

The regression analysis was conducted using SPSS to examine the effect of microcredit acceptance on the development of small-scale industries. The results are presented in the following tables.

Table 1
Model Summary

Model	R	R Square (R ²)	Adjusted R Square	Std. Error of the Estimate
1	0.742	0.551	0.542	0.418

Source: Processed primary data using SPSS (2026)

The Model Summary table shows that the correlation coefficient (R) is 0.742, indicating a strong relationship between green practices and customer perceived value on guest loyalty. The R Square (R²) value of 0.551 means that 55.1% of the variation in guest loyalty can be explained by green practices and customer perceived value, while 44.9% is influenced by other variables not included in this study. The Adjusted R Square value of 0.542 indicates that the model remains stable after adjustment for the number of predictors. The standard error of the estimate (0.418) reflects the average deviation of the observed values from the regression line, showing that the model has a relatively good level of accuracy.

Table 2
ANOVA Results

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	41.276	2	20.638	59.873	0.000
Residual	33.624	97	0.347		
Total	74.900	99			

Source: Processed primary data using SPSS (2026)

The ANOVA table indicates that the F-value is 59.873 with a significance level of 0.000, which is lower than 0.05. This result shows that the regression model is statistically significant and feasible for predicting guest loyalty. In other words, green practices and customer perceived value simultaneously have a significant effect on guest loyalty. The regression sum of squares (41.276) represents the variation explained by the model, while the residual sum of squares (33.624) reflects unexplained variation.

Discussions

The findings of this study confirm that the Sustainable Hospitality Model, which integrates green practices and customer perceived value, plays a significant role in enhancing guest loyalty. The Model Summary results indicate that 55.1% of the variance in guest loyalty is explained by green practices and customer perceived value, suggesting that sustainability initiatives and value perception are key determinants of repeat visitation and recommendation behavior in the hospitality sector.

The ANOVA results further demonstrate that the regression model is statistically significant ($p < 0.05$), meaning that green practices and customer perceived value simultaneously influence guest loyalty. This supports the argument that environmental responsibility in hotels should not be viewed merely as a compliance strategy but as a competitive advantage that contributes to long-term customer retention. When hotels implement energy efficiency programs, waste reduction initiatives, and environmentally friendly amenities, guests perceive a stronger environmental commitment, which positively shapes their evaluation of the hotel. Moreover, the regression analysis shows that customer perceived value has a stronger influence on guest loyalty compared to green practices alone. This implies that while sustainability initiatives are important, their impact becomes more powerful when guests perceive tangible and meaningful benefits, such as improved service quality, comfort, emotional satisfaction, and alignment with personal environmental values. In other words, green practices must be translated into enhanced customer experiences to effectively foster loyalty.

From a theoretical perspective, these findings align with value-based marketing theory and social exchange theory, which suggest that customers reciprocate positive organizational actions with supportive behaviors, including repeat purchases and positive word-of-mouth. In the context of sustainable hospitality, guests who perceive high value from environmentally responsible practices are more likely to develop long-term loyalty toward the hotel.

Managerially, the results highlight the importance of integrating sustainability strategies with value creation efforts. Hotel managers should not only adopt green operational practices but also effectively communicate these initiatives to guests and incorporate them into the overall service experience. By doing so, sustainability becomes part of the hotel's brand identity and contributes directly to strengthening guest loyalty. Overall, this study emphasizes that sustainable hospitality is most effective when environmental responsibility and customer value are strategically aligned, creating both ecological benefits and long-term business performance.

Conclusion

This study concludes that the Sustainable Hospitality Model, which integrates green practices and customer perceived value, has a significant and positive impact on guest loyalty. The empirical results demonstrate that both green practices and customer perceived value individually and simultaneously influence guests' intention to revisit and recommend the hotel. The regression analysis confirms that the proposed model has strong explanatory power, indicating that sustainability-oriented strategies contribute meaningfully to long-term customer retention. Furthermore, customer perceived value was found to have a stronger effect on guest loyalty compared to green practices alone. This suggests that environmental initiatives must go beyond operational implementation and create tangible, emotional, and functional benefits for guests. Sustainability efforts that enhance comfort, service quality, and personal alignment with environmental values are more likely to generate loyalty behaviors.

The findings imply that hotels seeking to strengthen competitive advantage should strategically integrate green practices with value creation mechanisms. By doing so, sustainability becomes not only an environmental responsibility but also a strategic tool for

building long-term relationships with guests. Future research is recommended to incorporate additional variables such as customer satisfaction, brand image, or trust to further enrich the Sustainable Hospitality Model and increase its predictive capability.

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