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PERCEPTIONS OF GREEN HOTEL PRACTICES AND THEIR IMPACT ON GUEST SATISFACTION

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Abstract

The aim of this paper is to examine how guests perceive green practices implemented in hotels and to analyze the extent to which these practices influence their overall satisfaction. Data were collected from 215 respondents in Serbia during November and December 2025. Correlation analysis demonstrated a very strong association between perceptions of green practices and guest satisfaction. Regression analysis further confirmed that green practices significantly predict satisfaction, explaining 86% of its variance. These results highlight the central role of sustainability initiatives in shaping guest satisfaction and experience, suggesting that credible and visible environmental practices are essential for enhancing satisfaction and fostering loyalty in the hospitality sector.

Key Words: *green hotels, guest satisfaction, hospitality industry, sustainability*

JEL classification: *L83, M14, M31*

Introduction

Hotel operations and activities often impose substantial environmental challenges and pressures (Barakagira & Paapa, 2024). The scale of these impacts depends on factors such as the size and location of the hotel, the

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nature of its services, and the extent of managerial commitment to sustainability. Expansion of hotel infrastructure can disrupt ecosystems, contribute to deforestation, and diminish biodiversity (Stolyarchuk, 2023). Moreover, routine activities such as heating, cooling, lighting, laundry, and food services consume large amounts of energy. Water usage for guest rooms, swimming pools, landscaping, and other amenities further intensifies stress on local supplies, particularly in regions already facing scarcity (Gössling, 2002). Hotels' reliance on energy also results in significant carbon emissions, thereby accelerating climate change (Camilleri Fenech, 2024). In response to these challenges, many hotels have begun integrating sustainability into their strategies and activities. Green initiatives are increasingly framed as competitive advantages, with practices designed to minimize ecological harm and promote responsible consumption (Khalil et al., 2024). The hospitality industry's commitment to sustainability is reinforced through certifications, awards, and competitions that recognize hotels for their achievements in eco-friendly operations (Huang et al., 2025; Lee & Cheng, 2018).

The primary aim of this paper is to examine how guests perceive green practices implemented in hotels and to analyze the extent to which these perceptions influence their overall satisfaction. This research has considerable significance for both academia and industry. Understanding how guests evaluate and respond to green practices enables hotels to design more effective sustainability programs, communicate them transparently, and foster stronger emotional connections with environmentally conscious travelers.

Green hotel practices and guest satisfaction

Green hotels are environmentally certified lodging establishments that adopt eco-friendly practices to minimize their ecological footprint (Tran et al., 2024; Verma & Chandra, 2017). By embedding sustainability principles into daily operations, these hotels aim to protect natural resources and mitigate harmful environmental effects (Tang & Lam, 2017). Growing guest awareness and concern for ecological issues has further encouraged hotels to integrate diverse green strategies into their business models, positioning sustainability as both a responsibility and a competitive advantage (Balaji et al., 2019). The most common initiatives include energy efficiency, water conservation, waste management, sustainable procurement, eco-conscious building design, and educational activities that engage both guests and employees. Together, these

practices not only reduce environmental impact but also foster transparency and strengthen the hotel's reputation for sustainability (Han, 2021; Lee & Cheng, 2018; Nimri et al., 2017; Singh et al., 2014; Ham & Lee, 2011).

Empirical studies highlight that guests with pro-environmental attitudes are more likely to select eco-certified hotels over conventional alternatives (Han et al., 2011). This preference is reinforced by findings that associate environmental knowledge with the likelihood of choosing hotels that actively implement sustainable practices (Khalil et al., 2024; Laroche et al., 2001). Green guest satisfaction can be understood as the degree to which hotels fulfill guests' environmental expectations and preferences (Chang & Fong, 2010). It reflects the alignment between a hotel's sustainability initiatives and the ecological values of its guests.

Guest satisfaction in the context of eco-friendly hotels can be understood as the favorable emotional response guests experience when the services provided meet or surpass their expectations. When guests encounter sustainable practices in hotels, their overall satisfaction tends to rise (Chang et al., 2024).

Research methodology

A structured online survey questionnaire was employed as the primary tool for data collection.

The questionnaire was organized into three sections. The first section collected demographic information, including gender, age, and education. The second section focused on respondents' experiences and behaviors regarding their stays in green hotels, such as hotel categorization, duration of visits, and reasons for staying in environmentally-friendly hotels. The third section measured the key constructs of the study, specifically perceptions of green hotel practices and guest satisfaction. For this purpose, validated scales were adopted: Green hotel practices (Merli et al., 2019) and Guest satisfaction (Oliver, 2014). Items were assessed using a seven-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree), which allowed for nuanced measurement of attitudes and perceptions.

Data collection was conducted in Serbia during November and December 2025 through convenience sampling. The survey link was distributed via

social media platforms, email networks, and hospitality-related online groups to reach individuals who had visited green hotels at least once in the preceding year. A total of 215 valid responses were obtained, which provided sufficient data for statistical analysis.

The collected data were later coded and prepared for analysis using statistical software SPSS, enabling descriptive statistics, reliability testing (Cronbach's alpha), and inferential techniques such as correlation and regression to examine the relationships between perceptions of green hotel practices and guest satisfaction.

Research results and discussion

The reliability analysis presented in Table 1 demonstrates exceptionally high internal consistency for both scales.

Table 1: *The results of Cronbach's alpha coefficient*

No.	Scale	Items	Cronbach's alpha
1	Green hotel practices	0.988	10
2	Guest satisfaction	0.975	5

The study included 215 respondents, with a nearly balanced gender distribution (52.56% male; 47.44% female). The age profile was dominated by middle-aged participants, as the 40–49 group accounted for 39.07%, followed by those above 50 (24.65%). Educational attainment was notably high: the majority held bachelor's or master's degrees (39.53%). Travel purposes were evenly divided between business (50.70%) and leisure (49.30%), indicating balanced motivations for hotel stays. Repeat patronage of green hotels was common, with 32.09% reporting three visits and 34.88% more than three visits, while only 11.16% were first-time guests. Length of stay clustered around short to medium durations: 35.35% stayed two to three nights, and 31.63% stayed four to seven nights. Hotel category preferences leaned toward mid-range to high-range options. Three-star (27.91%) and four-star (25.12%) hotels were most frequently chosen, followed by five-star (14.42%) and superior luxury (11.16%).

Descriptive statistics for the Green hotel practices scale are summarized in Table 2. Across all statements, the mean values ranged between 2.62 and 2.80, consistently below the neutral midpoint of 3.00. The responses show a dominant trend of disagreement, with approximately three-

quarters of participants (74% to 79%) consistently reporting that hotels do not implement the listed environmental practices. Agreement levels remain low, generally around 10% to 13%, while neutral responses hover near 10% to 12%.

Table 2: *Descriptive statistics for Green hotel practices scale*

Statements	Answers	N	%	M	SD
Organic or seasonal food are available for breakfast	Disagree	170	79.07	2.80	1.490
	Neutral	21	9.77		
	Agree	24	11.16		
The hotel implements water and energy saving practices (e.g. new linen only when necessary)	Disagree	170	79.07	2.75	1.440
	Neutral	21	9.77		
	Agree	24	11.16		
The hotel tries to avoid disposable or single dose products	Disagree	164	76.28	2.79	1.567
	Neutral	22	10.23		
	Agree	29	13.49		
The hotel offers a dedicated system for separated waste collection	Disagree	161	74.88	2.80	1.589
	Neutral	26	12.09		
	Agree	28	13.02		
The hotel informs the guests about the good environmental practices implemented	Disagree	165	76.74	2.73	1.548
	Neutral	24	11.16		
	Agree	26	12.09		
The hotel provides its guests with information on how they can contribute to reduce the hotel's environmental impact	Disagree	167	77.68	2.67	1.496
	Neutral	23	10.70		
	Agree	25	11.63		
The hotel provides its guests with information on the environmental and cultural activities available in the area	Disagree	166	77.21	2.62	1.569
	Neutral	26	12.09		
	Agree	23	10.70		
The hotel provides information on public transportation	Disagree	163	75.81	2.70	1.521
	Neutral	27	12.56		
	Agree	25	11.63		
The hotel provides its guests bicycles for free or for rent	Disagree	166	77.21	2.78	1.564
	Neutral	23	10.70		
	Agree	26	12.09		
The hotel uses environmental certified or green labeled products (e.g. toiletry products, paper)	Disagree	166	77.21	2.77	1.562
	Neutral	23	10.70		
	Agree	26	12.09		

Table 3 presents the key descriptive statistics for Guest satisfaction scale. The mean scores across all satisfaction-related statements range narrowly between 2.60 and 2.69, consistently below the neutral midpoint of 3.00. Across all statements, the vast majority expressed disagreement, with values ranging from approximately 78% to 82%. Agreement levels remained low, generally between 11% and 13%, while neutral responses accounted for only 6% to 9% of the sample.

Table 3: *Descriptive statistics for Guest satisfaction scale*

Statements	Answers	N	%	M	SD
This is one of the best hotels I could have visited	Disagree	174	80.93	2.61	1.503
	Neutral	17	7.91		
	Agree	24	11.16		
I am satisfied with my decision to visit the hotel	Disagree	177	82.33	2.60	1.466
	Neutral	13	6.05		
	Agree	25	11.63		
My choice to visit the hotel was a wise one	Disagree	172	79.07	2.69	1.567
	Neutral	15	6.98		
	Agree	28	13.02		
I have really enjoyed myself in this hotel	Disagree	171	79.53	2.65	1.611
	Neutral	16	7.44		
	Agree	28	13.02		
I am sure it was the right thing to visit this hotel	Disagree	168	78.14	2.61	1.587
	Neutral	20	9.30		
	Agree	27	12.56		

The Pearson correlation coefficient presented in Table 4 ($r = 0.927$) indicates an extremely strong positive relationship between Guest satisfaction and perception of Green hotel practices. The significance value ($p = 0.000$) confirms that this correlation is statistically significant at the 0.01 level (two-tailed).

Table 4: *Descriptive statistics and Pearson correlation between Guest satisfaction and perception of Green hotel practices*

Variable	Mean	Std. Deviation	N	TOTAL_SAT (Guest Satisfaction)	TOTAL_GP (Green Practices)
TOTAL_SAT	2.63	1.475	215	1.000	0.927**
TOTAL_GP	2.74	1.457	215	0.927**	1.000

The regression model (Table 5) shows a very strong relationship between *Green hotel practices (TOTAL_GP)* and *Guest satisfaction*

(*TOTAL_SAT*), with $R = 0.927$. The R^2 value of 0.859 indicates that approximately 86% of the variance in guest satisfaction is explained by perceptions of green practices, which is exceptionally high.

Table 5: *Model summary results*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	0.927 ^a	0.859	0.858	0.556	0.859	1293.622	1	213	0.000
a. Predictors: (Constant), TOTAL_GP									

The ANOVA results (Table 6) show that the regression model is highly significant. The F-value (1293.622, $p < 0.001$) indicates that *Green hotel practices (TOTAL_GP)* strongly predict *Guest satisfaction (TOTAL_SAT)*.

Table 6: *ANOVA results*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	399.728	1	399.728	1293.622	0.000 ^b
	Residual	65.817	213	0.309		
	Total	465.545	214			
Dependent Variable: TOTAL_SAT						
Predictors: (Constant), TOTAL_GP						

Table 7 demonstrates that the predictor, Green hotel practices (TOTAL_GP), exerts a very strong and highly significant effect on guest satisfaction ($B = 0.938$, $Beta = 0.927$, $t = 35.967$, $p < 0.001$).

Table 7: *Coefficients results*

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.062	0.081		0.761	0.448
	TOTAL_GP	0.938	0.026	0.927	35.967	0.000
Dependent Variable: TOTAL_SAT						

Conclusion

This study, based on a sample of 215 respondents from Serbia, revealed that participants expressed consistently low levels of satisfaction with their hotel experiences and limited recognition of environmental

practices. The regression analysis confirms that perceptions of green hotel practices are a powerful and statistically significant predictor of guest satisfaction.

From a theoretical perspective, the results contribute to the literature on sustainable tourism. Existing models of green hospitality should be refined to account not only for the presence of environmental practices but also for their perceived credibility and experiential impact on guest satisfaction. In practice, the findings imply that hotels must prioritize both the effective implementation of sustainability measures and their clear communication to guests.

Several limitations of this study should be acknowledged. First, the study was conducted within a single national context (Serbia), which may restrict the generalizability of findings to other cultural or geographic settings. Second, reliance on self-reported perceptions introduces potential bias, as responses may reflect subjective impressions rather than objective assessments of hotel practices.

Future research should adopt a comparative, cross-cultural approach to examine whether similar patterns of dissatisfaction and weak recognition of sustainability practices are observed elsewhere. Moreover, integrating qualitative methods such as interviews or focus groups could provide deeper insights into the drivers of guest dissatisfaction and the specific aspects of sustainability that resonate most with travelers.

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