

Modeling Green Customer Loyalty in Sustainable Hospitality: The Mediating Role of Customer Satisfaction in Green Hotels in Yogyakarta

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ABSTRACT

Purpose – This study examines the formation of green customer loyalty in sustainable hospitality, particularly in green hotels. Despite increasing environmental awareness among consumers, green hotels often face a paradox of perceived lower comfort and higher prices. This raises questions about whether environmentally conscious customers truly become loyal and what mechanisms drive such loyalty.

Design/methodology/approach – This research employs a quantitative approach using survey data collected from 153 hotel guests in Yogyakarta, Indonesia. The data were analyzed using Structural Equation Modeling–Partial Least Squares (SEM-PLS) to test the relationships between green purchase decisions, customer satisfaction, and customer loyalty, including the mediating effect of satisfaction.

Findings/Results – The results show that green customer loyalty is not directly influenced by green purchase decisions but is fully mediated by customer satisfaction. This indicates that environmental awareness alone is insufficient to generate loyalty without a satisfying service experience.

Originality/Value – This study proposes a value–experience–loyalty framework, highlighting customer satisfaction as the key mechanism linking environmental values to loyalty. The findings contribute to the literature by clarifying the indirect formation of green loyalty and provide managerial implications for designing meaningful and engaging green service experiences to enhance customer retention.

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1. Introduction

Green customers represent a distinct segment within the broader consumer market, characterized by specific motivations and behavioral patterns oriented towards environmental sustainability (Dangelico, Nonino, & Pompei, 2021; Lee & Haley, 2022). This group demonstrates a heightened awareness that individual consumption decisions, attitudes, and actions may generate either positive or negative environmental impacts (Balaji, Jiang, & Jha, 2019; Zeng, Kralj, Nimri, & Li, 2024). However, the degree of environmental commitment varies considerably, ranging from highly committed or even ‘fanatical’ consumers to moderate adopters, as well as those whose engagement is largely symbolic or socially driven (Dang-Van, Vo-Thanh, & Nguyen, 2023; Tonder, Fullerton, Beer, & e, 2023). Consequently, being categorized as a green customer entails more than mere awareness; it reflects a consistent alignment between environmental values and actual consumption behavior (Alamsyah, Aryanto, Utama, Marita, & Othman, 2020). In general, green customers tend to exhibit a more cautious and deliberate decision-making process when selecting products and services (Dedat & Rodrigues, 2025; Widhiarini, Pradiani, & Fathorrahman, 2023). This segment is often associated with relatively higher levels of education and middle-to-upper income groups, which further distinguishes them from conventional consumers (Liao, Wu, & Pham, 2020; Mehta & Chahal, 2024; Singh et al., 2025). Such characteristics suggest that green customers cannot be directly equated with the broader market, particularly in terms of expectations and evaluative criteria.

Within the hospitality sector, the growing interest in sustainable tourism has increased attention towards green hotels. Evidence from user-generated platforms such as TripAdvisor (www.TripAdvisor.com, 2025) indicates that green hotels are generally well received, with leading establishments consistently achieving high ratings, often exceeding 4.5 out of 5. This positive perception is supported by prior studies suggesting that green hotels attract diverse demographic groups, including Millennials, Generation Z, and older consumers (Aldaihani, Islam, Saatchi, & Haque, 2024). Nevertheless, a persistent paradox remains. A number of studies argue that eco-friendly hotels may compromise aspects of comfort while simultaneously charging premium prices (Rivera & Roeschmann, 2019). Such perceived trade-offs include the use of recycled materials with varying levels of perceived hygiene, reduced service features (e.g., showers instead of bathtubs, limited spa facilities), and resource-saving practices such as reduced linen replacement or the absence of complimentary bottled water (Manthé, Morrongiello, Bonnefoy-Claudet, Bezançon, & Bilgihan, 2025; Shehawy et al., 2024; C.-P. Wang, Zhang, Wong, & Wang, 2023; Zeng et al., 2024).

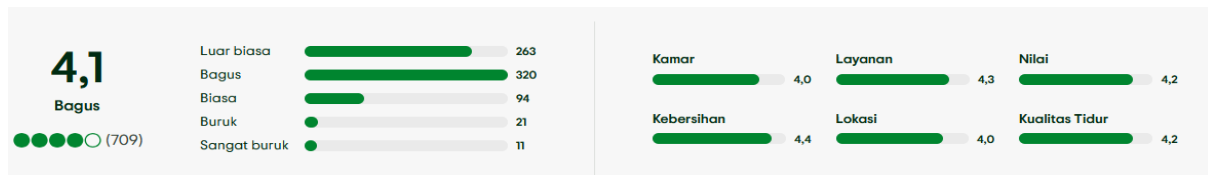
Despite these potential limitations, green hotels often operate under the assumption that their customers possess a high level of environmental awareness and are inherently more loyal (Aljarah, Ibrahim, Hazzam, & Soomro, 2025; C.-P. Wang et al., 2023). Typically, environmentally responsible practices are implemented by hotels that formally identify as green or eco-hotels and hold relevant certifications. Furthermore, information regarding such practices is widely accessible through booking platforms, travel agents, and user-generated content, enabling prospective guests to make informed decisions prior to their stay (Widhiarini et al., 2023).

Given these dynamics, understanding the formation of green customer loyalty becomes particularly important. Customer loyalty plays a crucial role in strengthening the

competitive positioning of green hotels and enabling more precise market segmentation (Mehraj et al., 2023; Naidoo & Verma, 2020). Existing literature suggests that accurately identifying and retaining loyal customers can reduce promotional costs and enhance long-term profitability, as loyal consumers are more likely to repurchase similar services, even at higher price points (Kumar, Huang, & Kumari, 2025; Lee & Haley, 2022; Mehraj et al., 2023; Mehta & Chahal, 2024).

Yogyakarta provides a relevant empirical context for this study, as it is a major tourism destination with a substantial number of accommodation providers, including 64 star-rated hotels and more than 1,000 non-star establishments. Among these, several hotels have adopted environmentally sustainable practices, supported by certifications from recognized authorities such as the Indonesian Ministry of Tourism and the Green Building Council Indonesia (GBCI). This study focuses on one prominent eco-friendly boutique hotel in Yogyakarta, namely Greenhost, which has gained considerable recognition among environmentally conscious travelers. Based on TripAdvisor reviews, the hotel maintains a favorable rating of 4.1, indicating a generally positive customer evaluation (Figure 1). Accordingly, this study seeks to examine how customer satisfaction influences the development of green customer loyalty within the context of green hotel services. In particular, it aims to test whether environmentally conscious consumers can indeed be characterized as a loyal market segment, despite the perceived trade-offs associated with sustainable hospitality practices.

Figure 1. Customer Review on TripAdvisor about Greenhost Hotel a Green Hotel in Yogyakarta (www.TripAdvisor.com, 2025)



Although green customers are widely recognized for their high environmental awareness, the assumption that such awareness directly leads to loyalty remains insufficiently validated. Prior studies tend to overlook the underlying mechanism through which loyalty is formed, particularly the mediating role of customer satisfaction in green service contexts (Heeshup Han, Bee-Lia Chua, Sanghyeop Lee, & Koo, 2021; L.Wang, P. PW Wong, & Narayanan, 2020; Lee & Haley, 2022; C.-P. Wang et al., 2023; J. Wang, Vo-Thanh, Gursoy, Dang-Van, & Nguyen, 2024; L. Wang, 2022). Furthermore, the literature presents a paradox: while green hotels are often associated with reduced comfort and premium pricing, they continue to receive high customer evaluations. This inconsistency indicates that the relationship between green service attributes, satisfaction, and loyalty is not yet fully understood. In addition, most empirical evidence is derived from developed country contexts, limiting its applicability to emerging tourism destinations such as Yogyakarta. Therefore, this study addresses these gaps by examining the mediating role of satisfaction in shaping green customer loyalty within the context of green hotels in Yogyakarta, offering a more integrated and contextually grounded understanding of sustainable hospitality behavior.

To address this gap, this study proposes that green purchase decisions, customer satisfaction, and loyalty should be understood as part of a continuous behavioral process rather than

isolated constructs. Specifically, this research introduces a value–experience–loyalty framework, where environmental awareness initiates decision-making, service experience shapes satisfaction, and satisfaction determines loyalty outcomes. This perspective aligns with expectation-confirmation theory, which posits that customer satisfaction emerges when perceived performance confirms prior expectations.

2. Methodology

This study employs a quantitative research design to examine the behavioral relationships between green customer decisions, customer satisfaction, and customer loyalty within the context of green hotel services. The research adopts a positivist approach, aiming to test a theoretically developed model through empirical data and statistical analysis.

The data source is primary data collected through a structured survey administered to hotel guests staying at a certified green hotel in Yogyakarta, namely Greenhost. Data were gathered over a three-month period (May–July 2025) using a random sampling technique, resulting in a total of 153 valid responses. This sample size is considered adequate for multivariate analysis and model testing, particularly within the context of Partial Least Squares Structural Equation Modelling (PLS-SEM). Sample criteria for < 100 is 'poor', between 100 – 200 is 'fair', and > 300 is 'good'. Considering the desired effect size and the scope of the study, which is only one hotel, the 'fair' criteria is considered sufficiently valid (J. Hair & Alamer, 2022; J. F. Hair, Sarstedt, Ringle, & Gudergan, 2017).

The research instrument consists of a self-administered questionnaire with closed-ended questions, measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The measurement model includes three main constructs: green purchase decision, customer satisfaction with green hotel services, and green customer loyalty. Each construct is operationalized using indicators adapted from prior validated studies to ensure content validity.

The data analysis method involves several stages. First, validity and reliability tests are conducted to confirm the measurement model, including convergent validity and internal consistency. Second, the structural model is evaluated using Structural Equation Modelling (SEM), supported by AMOS software, to examine the relationships between constructs. Model fit is assessed using standard Goodness-of-Fit (GoF) indices. Third, the mediating effect of customer satisfaction is tested using the Sobel test to determine whether satisfaction significantly mediates the relationship between green purchase decisions and customer loyalty.

In analyzing sustainability-related aspects (including ethical consumption and environmentally responsible behavior), this study adopts a normative-empirical approach, whereby environmental values embedded in green hotel practices are interpreted as behavioral drivers influencing customer perceptions and decisions. This approach enables the study to capture not only statistical relationships but also the underlying value-based considerations that shape green customer behavior.

There are three proposed variables: the decision to purchase a green hotel (GP), customer satisfaction with green hotel services (GCS), and green customer loyalty (GCL), as explained in Table 1 below.

Table 1. Operational Definition of The Variables

Variable	Conceptual Definition	Dimensions	Indicators	Sources
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Variable	Conceptual Definition	Dimensions	Indicators	Sources
Green Purchase Decision (GP)	The degree to which consumers decide to choose environmentally friendly hotel services based on environmental values and personal beliefs.	Environmental awareness	Awareness of environmental issues in hotel selection	(Sharma, 2021; C.-P. Wang et al., 2023)
		Perceived green value	Perception of eco-friendly hotel services	(Aldaihani et al., 2024)
		Self-affirmation	Belief that choosing green hotels contributes to environmental preservation	(Dangelico et al., 2021; Kamalanon, Chen, & Le, 2022)
Green Customer Satisfaction (GCS)		Green attributes	Availability of eco-friendly hotel facilities	(Dedat & Rodrigues, 2025; Stockheim, Tevet, & Fenig, 2024)
		Environmental atmosphere	Comfort of air quality, and healthy environment	(Balaji et al., 2019; Kumar et al., 2025)
		Eco-design	Unique environmentally friendly hotel design (Lee & Haley, 2022)	(Filimonau et al., 2022; Zeng et al., 2024)
	The overall evaluation of customer experience with green hotel services based on expectations and perceived environmental performance.	Resource efficiency	Energy and water-saving practices (e.g., refill systems)	(Jayawarsa & Saputra, 2025; Singh et al., 2025)
		Customer engagement	Hotel initiatives encouraging guest participation in green actions	(Filimonau, Bai, Romanenko, Tarakanova, & Ermolaev, 2023; Husain, Carballo-Penela, & Ruzo-Sanmartín, 2025)
		Employee factor	Staff attitude and environmental awareness	(Gyensare, Adomako, & Amankwah-Amoah, 2023)
		Product Knowledge	Employee good knowledge and encourage the guest to always aware to protect the environment	(Husain et al., 2025; Kumar et al., 2025; Liao et al., 2020)
		Sustainable consumption	Availability of healthy and eco-friendly food	(Aljarah et al., 2025; Naatu et al., 2026)
		Incentive system	Rewards for choosing environmentally friendly options	(Rivera & Roeschmann, 2019; J. Wang et al., 2024)
Green Customer Loyalty (GCL)	The intention and commitment of customers to repeatedly use and support green hotel services.	Behavioral loyalty	Willingness to revisit the hotel	(Chang, Chanda, Zadeh, Hanifah, & Gui, 2024; Dang-Van et al., 2023; Rivera & Roeschmann, 2019)

Variable	Conceptual Definition	Dimensions	Indicators	Sources
		Price tolerance	Willingness to pay premium prices	(Chang et al., 2024; Huyen, Hong, & Thi, 2025)
		Advocacy	Willingness to recommend to others	(Balaji et al., 2019)
		Electronic WOM	Posting reviews or testimonials online	(Dang-Van et al., 2023; Kamalanon et al., 2022)
		Information seeking	Interest in searching for green hotels in future travel	(Fang & Zaman, 2025)

Source: Author, 2026

3. Result and Discussion

3.1. Respondent Profile

Based on the survey results, the respondent data obtained consists of male (55%), female (45%), with the majority being foreign tourists (58%) and the rest domestic (42%). The users of this hotel are mostly international tourists. Most respondents have a fairly good educational background, having graduated from university (85%), with occupations including executive, entrepreneur, professionals such as doctors, lawyers, educators, consultants, and also retirees. Based on age, the majority are between 21 and 50 years old, an age group that is generally quite established economically and in terms of income. This respondent profile shows that green customers do indeed have distinct characteristics marked by a good level of education, belonging to a stable social class, and being between 35 and 50 years old, an age mature enough to understand the concept of environmental conservation awareness.

Table 2. Respondent Profile

Socio-Demographic	Number of Respondent	%
Gender		
- Male	84	55%
- Female	69	45%
Country of Origin		
- Foreign	89	58%
- Domestic	64	42%
Education		
- University Degree	130	85%
- High School Graduate / student	23	15%
Occupation		
- Executive	26	17%
- Entrepreneur	27	18%
- Professional	24	16%
- Employee	24	16%
- House Wife	16	10%
- Retirement	20	13%
- Others	16	10%
Age		
- < 20 years old	6	4%
- 21 - 35 years old	58	38%

Socio-Demographic	Number of Respondent	%
- 35 - 50 years old	61	40%
- > 51 years old	28	18%
Total Respondent	153	

3.2. Green Customers as Loyal Consumers

The findings of this study provide strong empirical support for the proposition that green customers tend to exhibit loyalty behavior; however, such loyalty is not simplistic or automatic, but rather rooted in cognitive, affective, and value-driven processes. Consistent with previous studies, green consumers are characterized by a higher level of environmental concern, which functions as a primary driver in their decision-making process (Lee & Haley, 2022; J. Wang et al., 2024). The present findings confirm that environmental awareness constitutes the most dominant factor influencing the decision to choose green hotels, accounting for 43.79% of the observed responses, followed by perceived green service attributes (35.95%) and self-affirmation motives (20.26%).

This pattern suggests that green customers are not merely driven by functional considerations, but by a deeper alignment between personal values and consumption behavior. Such alignment reflects what has been described in the literature as value-belief consistency, where pro-environmental attitudes translate into behavioral intentions and actual choices (Dangelico et al., 2021; Sharma, 2021). In this sense, the decision to select a green hotel is not only a transactional act but also a form of self-expression and moral affirmation.

Meanwhile, regarding loyalty (GCL), the results further demonstrate that green customers exhibit multiple dimensions of loyalty behavior. The strongest indicator is the willingness to revisit (31.4%), followed by willingness to pay premium prices (22.9%), willingness to recommend to others (20.3%), engagement through testimonials (15.7%), and continued information-seeking behavior (9.8%). These findings indicate that loyalty among green customers extends beyond repeat purchase behavior and encompasses advocacy and active engagement, which aligns with the concept of customer citizenship behavior in sustainable consumption contexts (Aljarah et al., 2025; C.-P. Wang et al., 2023).

Importantly, the willingness to pay premium prices reflects a distinctive characteristic of green customers, namely their acceptance of economic trade-offs in exchange for environmental benefits. This supports prior findings that green consumers are more tolerant of higher prices when they perceive environmental value or ethical alignment in the product or service (Kumar et al., 2025; Rivera & Roeschmann, 2019). In this context, loyalty is not purely price-sensitive but is instead value-driven, reinforcing the argument that green customers constitute a high-quality and strategically important market segment.

Statistically, all indicators of both green purchase decisions and customer loyalty demonstrate strong validity (standardised loadings > 0.5) and acceptable reliability (critical ratios within ± 2.58), confirming the robustness of the measurement model. Moreover, the relationship between green purchase decisions and loyalty is significant at the bivariate level, suggesting that environmentally motivated decisions are closely associated with loyalty tendencies. However, as further model testing reveals, this relationship becomes non-significant when examined within a full structural model, indicating the presence of a mediating mechanism.

The findings indicate that green customers demonstrate loyalty behavior; however, such loyalty is not automatic. While environmental awareness strongly influences green purchase decisions, it does not directly translate into loyalty. This supports previous findings that value-based motivations alone are insufficient to sustain long-term behavioral commitment (Dangelico et al., 2021; Sharma, 2021).

This phenomenon can be explained by the presence of perceived trade-offs in green hotels, such as reduced comfort and premium pricing. As suggested by prior studies, these trade-offs require experiential validation before customers develop consistent loyalty (L.Wang et al., 2020; Rivera & Roeschmann, 2019) (Rivera & Roeschmann, 2019; Wang et al., 2023). Therefore, environmental awareness acts as an initial driver, but not a sufficient condition for loyalty formation,

Table 3. Validity Test Result on Green Customer Decision & Loyalty

Variabel & Indicators	N = 153		Standardize Regression Test Result	Sig. of Model Parameter (C.R)
Indicators Loyalty of Green Customer	Number	%	Sig. Value >0.5	±2.58 with sig. 1%
1. Willingness to pay even to premium prices	35	22,9%	0.811	0.896
2. Willingness to revisit	48	31,4%	0.831	-0.374
3. Willingness to recommend family, friends, or relatives	31	20,3%	0.807	-0.528
4. Testimonials through social media or other user-generated content platforms like TripAdvisor	24	15,7%	0.843	-0.077
5. Always be interested in seeking information related to green hotels while travelling	15	9,8%	0.848	-0.283
Indicators Purchased Decision of Green Customer (GP)				
1. Perceive of green services	55	35,95%	0.802	-0.420
2. Self-affirmation that the chosen attitude contributes to environmental preservation	67	20,26%	0.737	-0.189
3. Awareness of enviromental concerns	31	1. 43,79%	0.797	-2.698

Note: Critical Ration (C.R) Value of Multivarite -0.08

3.3. Customer Satisfaction as Drivers of Loyalty

Regarding the test results on the relationship between green customer satisfaction (GCS), which consists of several indicators as explained in Table 1, the survey results show that the highest consumer appreciation across 9 indicators is for the hotel's initiative to encourage guest involvement in green actions (17%), followed by the energy efficiency concept (15%), the hotel atmosphere including ambiance, air circulation, and everything that supports a healthy environment (12.4%), Unique Eco-friendly hotel design (11.8%), eco-friendly attributes (11.1%), employees have good knowledge and encourage guests to always be aware of protecting the environment (9.8%), healthy food in food menu services (9.2%), Employee attitude in services (7.8%), and special reward for guests who request bio menu (5.9%) (see Table 2). Based on these answers, it shows that guests highly appreciate the campaign as an invitation for them to be aware of environmental sustainability and the risks of the impact caused by their activities at the hotel. Statements like this have also been made by Shehawy et al. (2024) and C.-P. Wang et al. (2023) In

his research on green hotel guests, he stated that the hotel's initiatives represent how committed the hotel is to its status as an environmentally friendly hotel.

The findings of this study demonstrate that customer satisfaction with green hotel services plays a pivotal role in shaping green customer loyalty. Unlike conventional service contexts where satisfaction is often driven by functional performance alone, satisfaction in green hospitality emerges from a combination of environmental values, experiential quality, and perceived authenticity of green practices (Chang et al., 2024; Dang-Van et al., 2023; Singh et al., 2025). This finding suggests that satisfaction acts as a bridge connecting cognitive values and behavioral outcomes. When customers perceive that a hotel's environmental practices are credible and meaningful, satisfaction increases, which subsequently enhances loyalty.

Based on testing for each green service satisfaction indicator (Table 4), all satisfaction indicators demonstrate strong validity, with standardised regression values exceeding 0.5, and acceptable reliability, as indicated by critical ratio values within the threshold of ± 2.58 . This confirms that the measurement model for green service satisfaction is both robust and reliable. More importantly, the structural model reveals a significant positive relationship between customer satisfaction (GCS) and customer loyalty (GCL), indicating that satisfaction serves as a key driver in transforming green service experiences into sustained behavioural commitment. These findings highlight an important theoretical implication: satisfaction in green hospitality is not merely an outcome of service performance but also a reflection of value congruence between the customer and the service provider. When customers perceive that a hotel's environmental practices are credible, consistent, and aligned with their personal values, satisfaction is enhanced, which in turn fosters loyalty.

Table 4. Validity Test Result of Green Customer Service Satisfaction

Variable Green Customer Satisfaction on Green Service		N = 153		Standardize Regression Test Result	Sign. of Model Parameter (C.R)
Indicators:		Number	%	Valid >0.5	± 2.58 with sig. 1%
1.	Environmentally friendly attribute	17	11,1%	0.850	-1.700
2.	The hotel atmosphere, including the ambiance, air circulation, and everything that supports a healthy environment	19	12,4%	0.810	0.901
3.	Unique Eco-friendly hotel design	18	11,8%	0.779	-0.177
4.	Energy efficiency concept (water, electricity, refill products)	23	15,0%	0.837	0.632
5.	Hotel initiative to encourage guest involvement in green actions (towel reuse, campaigns, other green initiatives)	26	17,0%	0.847	-2.550
6.	Employee attitude in all hotel services	12	7,8%	0.837	0.560
7.	Employee have good knowledge and encourage the guest to always aware to protect the environment	15	9,8%	0.779	0.214
8.	Healthy food	14	9,2%	0.810	-1.321
9.	Special reward for guest who request the bio-Menu	9	5,9%	0.850	-0.823

Note: Critical Ration (C.R) Value of Multivariate -0.08

3.4. Mediating Role of Customer Satisfaction

To determine whether service satisfaction can act as a mediating variable, making green customers more loyal, model testing is necessary. This testing is conducted using the SEM approach by finding the Goodness of Fit (GoF) value of the model. The following is the model that will be tested. Based on the theoretical model a structural equation can be developed as shown in Figure 2. The GoF values of the model can be explained in Table 5, and the results indicate that the relationships between variables in the model are mostly FIT, meaning the tested model is quite good and acceptable, allowing for subsequent testing between variables (Table 6).

Figure 2. Structural Equation Model of Green Customer Loyalty

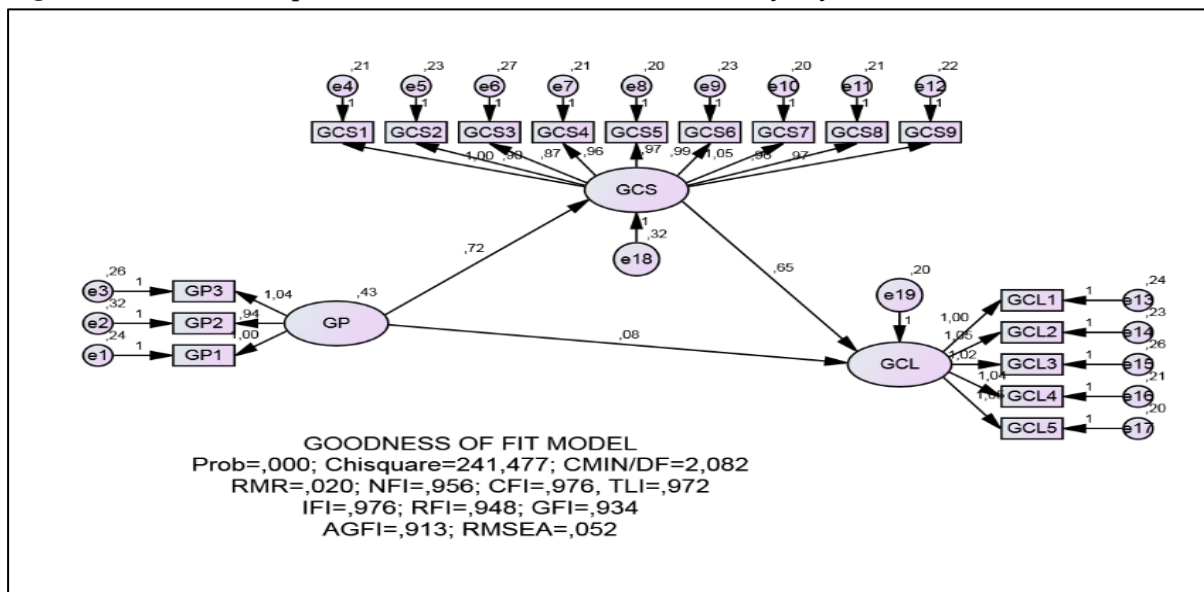


Table 5. Test Result of Goodness of Fit (GoF)

Goodness of fit index	Cut off Value	Result	Evaluation Model
Chi Square (df = 67)	Small (< 605,666)	3038,474	Fit
Probability	≥ 0,05	0,000	Fit
CMIN/DF	≤ 2,00	2,082	Fit
GFI	≥ 0,90	0,934	Fit
AGFI	≥ 0,90	0,913	Fit
TLI	≥ 0,95	0,972	Fit
CFI	≥ 0,95	0,976	Fit
RMSEA	≤ 0,08	0,052	Marginal

The test of the relationship between variables shows that only one variable has a probability value greater than 0.05, namely the relationship between the decision to purchase a green hotel (GP) and green customer loyalty (GCL) with a P-value of 0.171 (Table 6). This means that the decision to purchase a green hotel has an insignificant relationship with loyalty when tested in detail within the model. Therefore, testing is needed with the mediating variable of hotel service satisfaction (green customer services/GCS) using a mediation test (Table 7).

Table 6. Test Result of Inter-variable Relationship

Variables & Indicators	Estimate	S.E.	C.R.	P	Label
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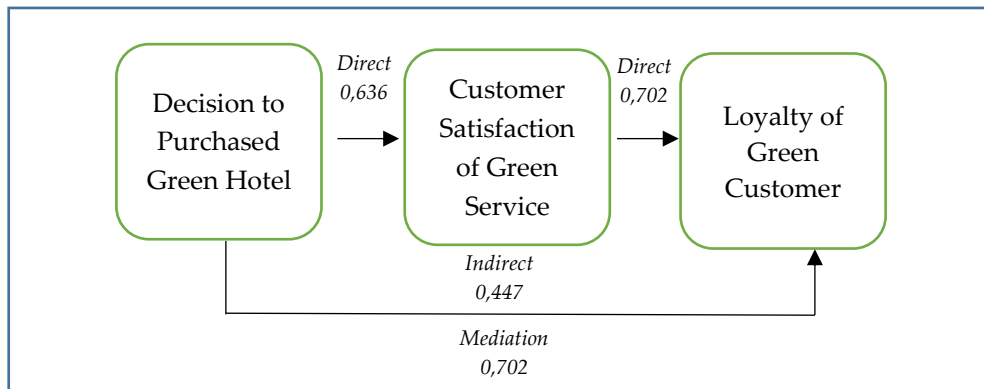
Variables & Indicators			Estimate	S.E.	C.R.	P	Label
GCS	→	GP	,716	,064	11,272	***	par_15
GCL	→	GCS	,653	,058	11,265	***	par_16
GCL	→	GP	,082	,060	1,368	,171	par_17
B GP1	→	GP	1,000				
GP2	→	GP	,944	,067	13,991	***	par_1
GP3	→	GP	1,038	,069	15,087	***	par_2
GCS1	→	GCS	1,000				
GCS2	→	GCS	,898	,045	20,173	***	par_3
GCS3	→	GCS	,872	,046	18,921	***	par_4
GCS4	→	GCS	,963	,045	21,503	***	par_5
GCS5	→	GCS	,972	,044	21,928	***	par_6
GCS6	→	GCS	,991	,046	21,408	***	par_7
GCS7	→	GCS	1,048	,046	22,877	***	par_8
GCS8	→	GCS	,965	,045	21,561	***	par_9
GCS9	→	GCS	,969	,045	21,569	***	par_10
GCL1	→	GCL	1,000				
GCL2	→	GCL	1,053	,056	18,828	***	par_11
GCL3	→	GCL	1,017	,055	18,329	***	par_12
GCL4	→	GCL	1,039	,053	19,543	***	par_13
GCL5	→	GCL	1,048	,054	19,555	***	par_14

After inter-variable testing because there was a non-significant relationship in the proposed model, it was found that green customer satisfaction (GCL) had a probability value above the non-significant reference value of 0.171 or above 0.05. Therefore, a mediation test was used to determine whether green customer satisfaction had a mediating function. Using the Sobel Test (Table 7), the results show that the decision to purchase a green hotel (GP) has a direct relationship with green customer satisfaction (GCS) at 63.5%, and a direct relationship with green customer loyalty (GCL) at 70.2%. The decision to purchase a green hotel (GP) also has an indirect relationship with green customer loyalty (GCL) at 44.7%. Based on these results, it can be explained that only with the mediation of green customer satisfaction (GCS) at 70.2%, the decision to purchase (GP) or green customers can become loyal customers in the future. In other words, consumer decisions have an indirect relationship with loyalty, unless satisfaction is included as a mediating variable (Figure 3).

Tabel 7. Test Result of Mediating Variable using Uji Sobel

Variables	Standardized Direct Effects			Standardized Indirect Effects			
	GP	GCS	GCL		GP	GCS	GCL
GCS	,636	,000	,000	GCS	,000	,000	,000
GCL	,078	,702	,000	GCL	,447	,000	,000

Figure 3. Mediating Value of Green Customer Satisfaction in Building Customer Loyalty



The mediation analysis provides a critical insight into the mechanism through which green customer loyalty is formed. While initial observations suggest that green customers tend to exhibit loyalty, the structural model reveals that the direct relationship between green purchase decisions (GP) and customer loyalty (GCL) is statistically insignificant ($p = 0.171$). This finding challenges the commonly held assumption that environmentally conscious consumers are inherently loyal. Instead, it indicates that loyalty does not emerge automatically from environmental awareness or pro-environmental decision-making.

Further analysis demonstrates that customer satisfaction with green services (GCS) fully mediates this relationship. The direct effect of green purchase decisions on satisfaction is strong ($GP \rightarrow GCS = 0.636$), and the effect of satisfaction on loyalty is even more substantial ($GCS \rightarrow GCL = 0.702$). In contrast, the direct path from purchase decisions to loyalty remains weak and insignificant. The Sobel test further confirms a meaningful indirect effect (0.447), indicating that the influence of green purchase decisions on loyalty is transmitted through satisfaction rather than occurring directly.

This pattern suggests a full mediation effect, where satisfaction acts as a necessary condition for transforming environmentally driven decisions into sustained loyalty behaviour. In other words, green customers may choose a green hotel based on their environmental values, but they will only become loyal if the service experience meets or exceeds their expectations. This finding reinforces the argument that value-based motivation alone is insufficient to sustain loyalty without experiential confirmation.

From a theoretical perspective, this result aligns with the logic of Expectation-Confirmation Theory (ECT), where customer satisfaction arises when perceived performance confirms prior expectations. In the context of green hotels, customers arrive with both environmental expectations and service expectations. When green service attributes—such as eco-friendly design, energy efficiency, and employee environmental awareness—are perceived as authentic and well-delivered, they generate satisfaction, which subsequently leads to loyalty. Conversely, if these expectations are not fulfilled, the initial pro-environmental intention may not translate into repeat behaviour.

Moreover, the findings also resonate with the concept of green trust, where satisfaction reflects not only service quality but also the perceived credibility and sincerity of environmental practices (Huyen et al., 2025). Satisfaction, therefore, functions as a psychological bridge that connects environmental values with behavioural outcomes. Without this bridge, green consumption may remain situational rather than evolving into long-term commitment.

Importantly, the mediating role of satisfaction also helps explain the previously identified paradox in green hospitality. Although green hotels may involve certain trade-offs—such as reduced luxury features or higher prices—these do not necessarily undermine loyalty when customers perceive the overall service experience as meaningful and aligned with their values. In fact, such trade-offs may enhance satisfaction if they are interpreted as genuine sustainability efforts, thereby strengthening loyalty rather than weakening it.

From a managerial perspective, this finding has significant implications. It suggests that green positioning alone is insufficient to secure customer loyalty. Hotels must ensure that their environmental initiatives are translated into tangible and satisfying service experiences. This includes not only delivering functional green attributes but also engaging customers emotionally and cognitively through participatory and value-driven service design.

In summary, the mediation analysis confirms that customer satisfaction is the central mechanism through which green customer loyalty is constructed. It shifts the understanding of green loyalty from a purely value-driven phenomenon to a value–experience integrated process, where environmental awareness initiates the relationship, but satisfaction ultimately determines its sustainability. This insight represents a key contribution of the study, offering a more nuanced and empirically grounded explanation of loyalty formation in sustainable hospitality contexts.

3.5. The Discussion: Resolving the Green Hotel Paradox

The study provides an explanation for the paradox in green hospitality. Although green hotels may involve trade-offs, these do not necessarily reduce satisfaction. Instead, customers may interpret such trade-offs as evidence of authentic sustainability practices, which enhances satisfaction and reinforces loyalty. While the findings confirm that green customers exhibit strong environmental awareness and a tendency towards loyalty, the results also reveal that such loyalty must be mediated by customer satisfaction derived from green service delivery. This interpretation is consistent with the concept of green trust, where perceived authenticity strengthens customer confidence and commitment (Huyen et al., 2025). Therefore, satisfaction in green hotels is not purely performance-based but also meaning-based.

First, the study reinforces the argument that green customers are fundamentally value-oriented consumers. Their decisions to choose green hotels are primarily driven by environmental awareness and ethical considerations, rather than purely functional or economic factors. This supports prior research suggesting that green consumption reflects a form of identity expression and moral alignment (Dangelico et al., 2021; Sharma, 2021). However, the present findings extend this perspective by showing that value-based motivation alone is insufficient to guarantee loyalty, thereby challenging the common assumption that green customers are inherently loyal.

Second, the role of customer satisfaction emerges as a decisive factor in converting environmentally conscious decisions into sustained loyalty behaviour. Satisfaction in this context is not limited to conventional service quality but is constructed through a multidimensional experience involving environmental attributes, emotional engagement, and perceived authenticity. The prominence of factors such as customer involvement in green initiatives, energy efficiency, and environmental atmosphere indicates that customers derive satisfaction not only from what is delivered but also from how they are engaged in the sustainability process. This finding aligns with the growing literature on experiential and participatory value in sustainable services (Filimonau et al., 2023; C.-P. Wang et al., 2023).

Third, the mediation analysis provides a critical theoretical contribution by demonstrating that customer satisfaction fully mediates the relationship between green purchase decisions and

loyalty. This finding suggests that loyalty formation in green hospitality follows a value–experience–loyalty pathway, where environmental awareness initiates the decision, but satisfaction determines its continuity. This mechanism is consistent with Expectation-Confirmation Theory, where satisfaction arises when service performance confirms or exceeds prior expectations. In the green hotel context, these expectations include not only service quality but also the credibility and consistency of environmental practices.

Furthermore, the findings help explain the long-standing paradox in green hospitality literature. Despite concerns that eco-friendly hotels may compromise comfort or impose premium pricing, customers continue to report high levels of satisfaction and loyalty. The present study suggests that this paradox can be resolved by understanding that green customers evaluate service quality through a different lens—one that integrates environmental values with experiential meaning. As such, perceived trade-offs (e.g., reduced luxury features) do not necessarily diminish satisfaction; instead, they may reinforce it when interpreted as authentic sustainability efforts.

Another important insight relates to the concept of green trust, which emerges implicitly through satisfaction. When customers perceive that a hotel's environmental practices are genuine, consistent, and aligned with their own values, satisfaction evolves into trust, which in turn strengthens loyalty. This indicates that trust is not an isolated construct but is embedded within the satisfaction process, acting as a reinforcing mechanism for long-term behavioural commitment (Huyen et al., 2025).

From a contextual perspective, the findings also highlight the relevance of emerging tourism destinations such as Yogyakarta. The characteristics of the respondents—well-educated, economically established, and environmentally aware—suggest that green customer segments in such destinations are both viable and strategically important. However, their loyalty cannot be taken for granted, as it depends heavily on the ability of service providers to deliver meaningful and satisfying green experiences.

From a managerial standpoint, the study underscores that green positioning alone is insufficient. Hotels must go beyond symbolic environmental claims and focus on delivering authentic, engaging, and high-quality green services. In particular, initiatives that actively involve customers in sustainability practices appear to be more effective in generating satisfaction and loyalty than purely functional or reward-based approaches. This suggests a shift from “green marketing” towards “green experience design”, where customers are co-creators of sustainable value.

In conclusion, this study advances the understanding of green customer loyalty by positioning it as a dynamic and mediated construct, shaped by the interplay between environmental values and service experiences. It moves beyond the simplistic view of green consumers as inherently loyal and provides a more comprehensive framework that explains how loyalty is constructed, sustained, and potentially strengthened in sustainable hospitality contexts

4. Conclusion and Suggestion

This study confirms that green customer loyalty in the hospitality context is not an inherent outcome of environmental awareness, but a mediated construct shaped by service satisfaction. The findings demonstrate that while green values motivate initial purchase decisions, customer satisfaction acts as the decisive mechanism that transforms these values into sustained loyalty behaviour.

From a theoretical perspective, this study advances the literature by establishing a value–experience–loyalty framework, highlighting that green consumption must be understood as an

integrated process combining cognitive motivation and experiential validation. The identification of full mediation challenges the prevailing assumption of direct loyalty formation among green consumers and provides a more precise explanation of behavioural outcomes in sustainable hospitality.

From a managerial perspective, the findings suggest that green hotel operators should move beyond symbolic environmental positioning and focus on delivering meaningful and engaging service experiences. Initiatives that actively involve customers in sustainability practices are more effective in building satisfaction and loyalty than purely promotional approaches.

Future development of this research may extend the model to broader contexts, including multiple hotel categories and cross-cultural settings, to enhance generalisability. Further studies could also integrate additional constructs such as green trust, perceived value, or emotional attachment to deepen the understanding of sustainable consumer behaviour.

5. Limitations and Future Research

This study has several limitations. First, the data were collected from a single green hotel in Yogyakarta, which may limit the generalizability of the findings to other contexts and types of accommodation (Lee & Haley, 2022). Future studies should include multiple hotels and different geographic settings. Second, the cross-sectional design does not capture changes in customer satisfaction and loyalty over time. Longitudinal research is recommended to better understand the development of green customer loyalty. Third, this study focuses only on customer satisfaction as a mediating variable. Future research should incorporate additional constructs such as green trust, perceived value, or emotional attachment to provide a more comprehensive model (Huyen et al., 2025). Finally, the use of self-reported data may introduce bias. Future studies could combine survey data with behavioral or experimental data to enhance robustness. Overall, future research is encouraged to extend this model across broader contexts and additional variables to strengthen its explanatory power.

AI Usage Statement

The author utilized Artificial Intelligence (AI) tools, including ChatGPT and Perplexity AI, strictly for supportive purposes such as language refinement, grammar correction, and enhancing clarity and readability. These tools were not used to generate core research ideas, conduct substantive analysis, interpret data, or formulate conclusions. All intellectual content, analytical reasoning, and scientific contributions remain the original work of the author. The author assumes full responsibility for the accuracy, integrity, and originality of the manuscript, and AI tools are not credited as authors or contributors.

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