

Modern Green Hotels Initiatives from Guests Perspective

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Abstract

The green hotel concept has generated interest among researchers and policymakers due to the increasing environmental and green practices awareness. In Thailand, the Green Leaf Certification is used to indicate the eco-friendly status of a hotel. It contains all or most aspects covering environmental policies such as waste management, energy, and water efficiency, procurement of hotel supplies, air and water quality, noise pollution, hazardous material management, ecological impact, collaboration with community and local administration, etc. The research explored a different perspective on modern green hotel initiatives by analyzing real-life guests' perspectives, adopting a survey research design method. Green Leaf-certified hotels in the Central region of Thailand were selected using a convenience sampling technique. Primary data was obtained from hotel guests using a structured online questionnaire hosted on Google Forms. A sample of 375 respondents completed the online questionnaire. The data was analyzed through discussions and multiple regression analysis for the quantitative data. The results indicated that modern green hotels in the Central region of Thailand have adopted various green initiatives to be recognized as green hotels. Among them are Green Leaf Certification, recycling, organic food, food waste composting program, bioextract production program, water conservation and energy savings, and prohibition of smoking. The results indicated that green practices (green hotel practices, green consumption, and green innovation) positively and significantly affect guest perspectives (guest satisfaction and guest loyalty). The study concludes that green hotel initiatives help hotels comply with the green regulations and monitoring bodies pushing the hospitality sector towards green initiatives, increase guest satisfaction, especially the green champions, improve guest loyalty, and boost hotels' competitiveness and market share.

Key Words: Green hotels, guests perspective, green initiatives, environmental protection, green consumption, green hotel practices

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Introduction

Sustainability and the deterioration of natural resources are alarming issues and become very hot topics in last decade (Folgado-Fernandez et al., 2023). To overcome these issues, everybody needs to take some responsibility (Vavrova, 2022). In this regard, sustainable tourism practices of hotels in the tourism industry can signal their responsible behavior regarding these issues in the long term (Devkota et al., 2023). Adopting green practices is an important trajectory for the hotel industry and critical to ensuring long-term green initiatives (Yenidogan et al., 2021; Hoang et al., 2023; Saura et al., 2023). According to the Sustainable Travel International report, the hotel and tourism sector accounts for approximately 8% of the total carbon emitted globally (Huang & Tang, 2021; Leal Filho et al., 2023), with hotels and lodging alone accounting for approximately 6% of the total global emissions (Gössling et al., 2023; Jones et al., 2014). This emission results from various activities that emit CO₂, including water heating, laundry, electricity, etc. These activities are carried out for the comfort and amenable experience of the guests but at the expense of the environment. Therefore, moving towards green practices is paramount and a critical strategy for minimizing waste and consumption of resources. Lee and Cheng (2018) indicate that in addition to improving the environment, going green would enhance brand loyalty, save money, and improve the hotel's performance.

Sustainable hotels are businesses that are actively involved in significantly reducing negative environmental impact by adopting and using green best practices such as supplies, products, services, logistics, and maintenance (Assaker, 2020; Zielińska & Bačík, 2020; Zhou et al., 2022). The vital element of green technology revolves around reducing waste, energy conservation, and water consumption. Han et al. (2020) assert a global wave in the hotel industry of rolling out many green initiatives, including solar power installations, brilliant showers, and waste management. Green practices are critical to going concern in the business environment and are crucial to achieving growth and guest satisfaction (Dang-Van et al., 2023). With the increased environmental awareness and concerns, consumers are seeking green businesses and are willing to pay more for eco-friendly products and services. In addition to appealing to the public, going green would see hotels save many expenses by reducing energy and water consumption (Antonova et al., 2023; Barakagira & Paapa, 2023; Cheng et al., 2022; Merli et al., 2019).

Consumers are paying increased attention to environmental issues and accepting green practices (Androniceanu et al., 2023, Kement et al., 2023). This concern has fostered hotel management's adoption of strategies to transform their businesses towards green practices. Therefore, these businesses implement various strategies to accelerate green digital transformation processes in their operations (Streimikiene, 2023). In this transformation processes, businesses benefit from some digital technologies such as big data analytics, block chain technologies, internet of things, artificial intelligence and machine learning (Krajcik et al., 2023). By using these technologies firms develop their innovation capabilities that improve their financial sustainability as well (Civelek et al., 2023a). Organizations such as European Commission also stimulate green digital transformation activities of businesses by providing financial supports (Civelek et al., 2023b). Dodds and Holmes (2016) observes that this is an excellent opportunity for hotel management to leverage the opportunity for the advantage of their businesses. Moving green has tremendous value to hotel firms, which is not only 'the right thing to do' but also the 'smart thing to do' as far as improved business performance is concerned. In addition, going green is an effective strategy for boosting the competitiveness of the hotels, increasing the market share, and, most importantly, attracting the guests segment aware and concerned about environmental protection (Verma & Chandra, 2018a; Yi et al., 2018). This is because, according to Hsiao et al. (2014) and Xu and Gursoy (2015), there is a significant connection between attracting and retaining green-conscious guests and adopting and implementing a wide range of green practices such as renewable energy sources, waste recycling, water conservation and obtaining green practices certification.

The interest in green practices has triggered a wide range of research into the context. Most studies have investigated green hotel practices and consumer intentions (Chen & Peng, 2023; Merli et al., 2019; Dang-Van et al., 2023; González-Viralta et al., 2023; Teng et al., 2018; Verma & Chandra,

2018b; Wang et al., 2023). The various studies have also used respondents' perceptions as a data source for the study findings and the resultant conclusions. From the critical literature review, no studies have addressed the green hotels guests perspectives. Thus, this will enhance the management implications and theoretical literature from an environmentally conscious standpoint. The study results will offer valuable insights into the pros and cons of the green hotel concept as perceived by guests.

2. Literature review

2.1 Concept of green hotel

Environmental researchers have shown growing interest in green hotels, also known as eco-hotels, due to the greater environmental protection awareness in the hospitality industry. From the postulations of the Green Hotel Association (2014), green hotels imply "establishments that provide guests with comfortable, healthy, and natural lodging along the basic principles of environmental protection, sustainable management, and minimization of environmental impact." Owing to the growing interest, numerous hotels are progressively adopting eco-friendly practices due to their manifold benefits, including improved operational efficiency, a competitive advantage, and enhanced financial performance (Barakagira & Paapa, 2023; González-Viralta et al., 2023; Jones et al., 2014). There are also various problems arising from the effect of hotels and tourism on the environment. Hotels adopt environmentally friendly practices to minimize environmental harm and increase their market share (Abdou et al., 2020; Aman Kassim, 2023; Kularatne et al., 2019). Today, people who seek to travel to book lodgings and hotels are interested in the hotel's ratings and stars attained by the public and the certification of environmental sensitivity of the facility (Aman Kassim, 2023; Tiwari & Mishra, 2023). Sadiq et al. (2022) indicated that *green hotels* are nature-oriented, environmentally focused, and environmentally friendly in using materials, water, and energy, focusing on reducing their negative environmental effects. Romppanen (2010), supported by Astawa et al. (2021) and Kerdpitak (2019), suggests that green hotels prioritize adherence to environmental conservation principles and environmentally friendly practices throughout the supply chain process to safeguard the environment. These operations aim to reduce the adverse environmental effects and offer their guests healthy food, environment, and facilities. They invest in environmentally friendly facilities, organic food, processes, and equipment to benefit guests and employees (Han & Yoon, 2015; Lin et al., 2023; Yu, 2022).

2.2 Green hotel practices and guests perception

Guests are increasingly concerned about environmental protection in today's social environment and are willing to engage in green consumption (Chua et al., 2023; Gomes et al., 2023; Reddy et al., 2023). Tourists and guests prefer to stay and spend in green hotels and purchase green products. This is because green consumption is considered an essential concern and aspect of the consumer's values, beliefs, behavior, and needs (Aich & Omrane, 2022; Damigos, 2023; Merli et al., 2019; Wang et al., 2023). Various studies have found that many guests have a positive perception, are attracted to and choose to stay at green hotels, and remain loyal to them (Nimri et al., 2020; Assaker, 2020). If guests observe some green practices within a hotel, they may consider that the hotel will fulfill their desires regarding environmental protection. The convergence of these interests motivates clients to consider returning to the hotel (Assaker, 2020; Puciato et al., 2023). In other words, green hotel practices influence the perceptions and behaviors of guests. This led to the development of the following hypotheses:

H1: *Green Hotel Practices significantly influences guests Satisfaction.*

H2: *Green Hotel Practices significantly influences guests Loyalty.*

2.3 Green consumption and guest perception

Green consumption implies the consumption behavior associated with zero, minimal, or reduced effects on the environment (Pekerşen & Canöz, 2022). The practices and behaviors associated with green consumption include patronizing hotels because of their associated natural surroundings, consuming organic food, purchasing eco-friendly products and services, recycling, and using biodegradable items such as packaging and shopping bags (Johnstone & Tan, 2015; Wandosell et al., 2021). From a guests perspective, it involves purchasing products and services that conserve the environment to add value to society, such as clean water, clean air, energy efficiency, and personal resource conservation (Haws et al., 2014; Nguyen et al., 2020). Shanahan et al. (2019) aver that customers in tune with nature typically enjoy nature-based activities to rejuvenate their bodily and psychological well-being. Engaging with nature can foster mental well-being and positive emotions by alleviating stress and anger. Green hotels strategically showcase picturesque natural landscapes in their promotional campaigns to evoke a sense of tranquility and environmental harmony (Barton & Rogerson, 2017; Franco et al., 2017; Wu, 2021). Kusa et al. (2023) are of the view that green consumption in hotels entails energy efficiency technologies such as LED lighting, water conservation such as water reuse systems, and waste management such as paper and plastic recycling. These practices influence the way guests perceive and value the hotels. From this perspective, the following hypotheses were developed:

H3: *Green consumption in hotels significantly influences guests satisfaction.*

H4: *Green consumption in hotels significantly influences guests loyalty.*

2.4 Green innovation initiative

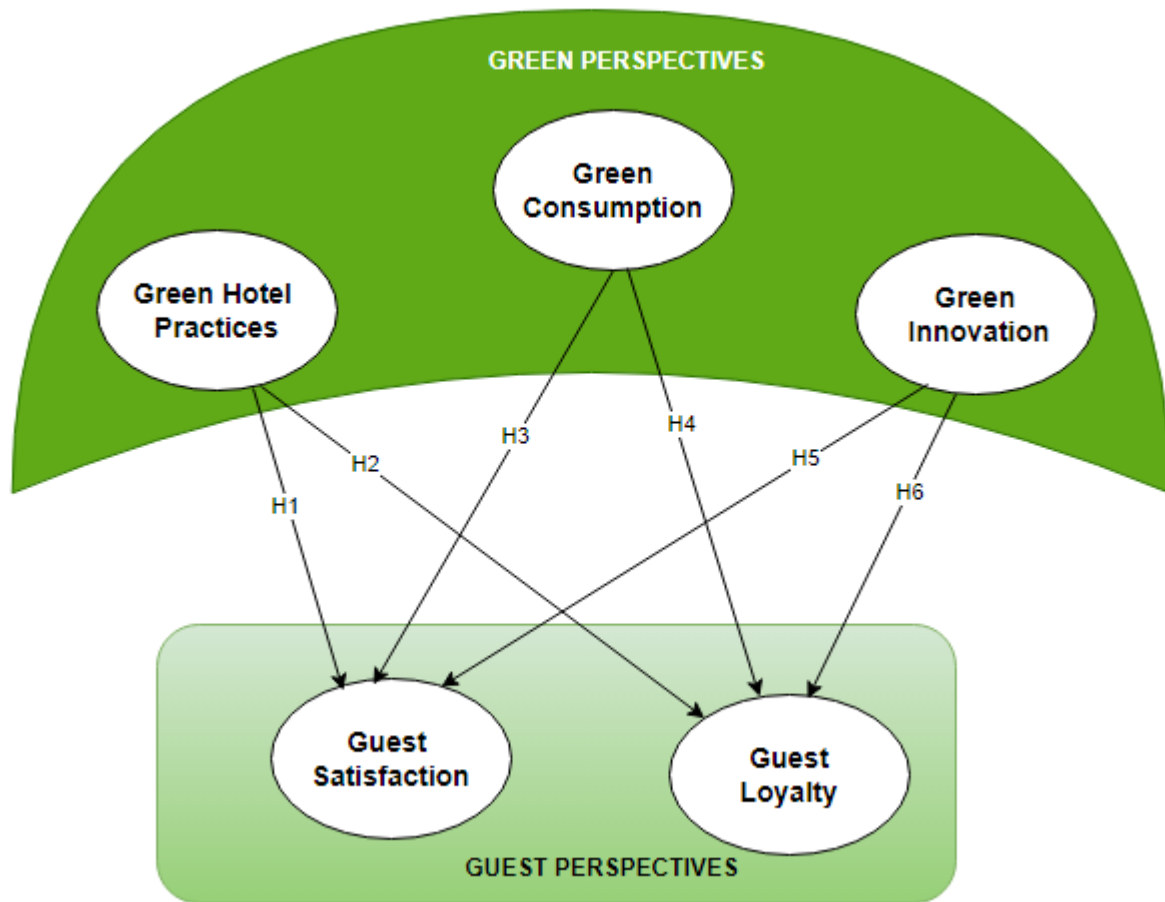
Green innovation implies the measures and strategies undertaken by a facility to mitigate the unfavorable effects of its products and services on the environment (Rahimizhian et al., 2021). It emphasizes using improved processes, technologies, systems, products, and management methods focused on environmental conservation (Barakagira & Paapa, 2023; Li et al., 2017). Green innovation could be considered in three concepts – processes, products, and organization. Innovation in process and product involves a combination of environmental objectives, productive efficiency, and quality products (Ahmed et al., 2023; Asadi et al., 2020). Chi (2011) states that a firm's competitive advantage is directly linked to the environment. A hotel facility implementing an environmental innovation strategy that conserves and preserves the environment increases its competitive advantage through enhanced guest loyalty (Abdou et al., 2020; Barakagira & Paapa, 2023; Saputra et al., 2022). Through their green operations, products, and processes, visible green businesses have a high potential to encourage guests to repeat their patronage of the hotel facility. This is especially so for guests who value the environment and are green-oriented (Acampora et al., 2022; Filimonau et al., 2022; Jaroenwanit et al., 2021; Lin et al., 2023). This led to the development of the following hypotheses:

H5: *Green innovation initiative in hotels significantly influences guests satisfaction.*

H6: *Green innovation initiative in hotels significantly influences guests loyalty.*

The conceptual framework was developed from the literature review above and the development of hypotheses. The independent variables comprised green hotel practices, green consumption, and green innovation. The dependent variables comprised guest satisfaction. The relationship between the variables is represented in Figure 1.

Figure 1. Conceptual framework



Source: Compiled by the authors on the basis of the research results.

3. Methods

3.1 Research design and population

This research population adopted the quantitative survey research designs which has been utilized and validated in several related studies (Bouras & Sofianopoulou, 2023; Huan et al., 2019; Liu, 2021). The aim was to evaluate the green practices, products, and services and the resultant effects on the guests perspective—the quantitative design involved statistically analyzing primary data collected from respondents. Based on the research design adopted, the study population were visitors to green leaf certified hotels. The key consideration in the choice of green hotels was the availability of the Green Leaf Foundation trademark to indicate the hotel's compliance with green practices values as indicated on the website of the Green Leaf Foundation (2023). The Foundation was established by the Board of Environmental Promotion of Tourism Activities (BEPTA) to promote tourism through the Green Leaf Program; ensuring hotels adhere to environmentally friendly practices. The program evaluates and audits hotel corporations' efficiency in environmental management and awards the Green Leaf Certificate ranging from 1 to 5 leaves, 5 denoting the most practiced hotel in environmental management (Green Leaf Foundation, n.d.). Convenience sampling was used to limit the study

to hotels in the central region in Thailand, which according to the Green Leaf organization had 69 green certified hotels (Green Leaf Foundation, 2023).

3.2 Data and scale development

The primary data was collected using a structured questionnaire hosted online using Google Forms, designed using a 5-point Likert Scale. The researchers disseminated it on social media to collect the questionnaires from the guests who have actually stay at the certified green leaf hotels in the central region of thailand. Respondents were required to select the option before proceeding further to ensure, they have stayed at one of the properties to give our their opinion. The personal information of the repondents were maintained confidential throughout the study. The data collection period was from February 1, 2023 to September 30, 2023. A total of 427 responses were collected, which upon cleaning, a 375 responses were used for the analysis. The questionnaire contained items for each latent variable (green hotel practices, green consumption, green innovation, guest satisfaction, guest loyalty) obtained from the previous studies. Scales were modified in the context of certified green leaf hotels criterion established by TAT to be recognized as Thai green hotels. The questionnaire was translated in Thai language to determine the green visitors guests perspective in thailand. The 'green hotel practices' were measured using six items previously validated in prior studies (Merli et al., 2019; Preziosi et al. (2019). Green consumption was measured using five variables obtained from Haws et al. (2014). Green innovation latent variable was measured using five items obtained from Huang et al. (2016). Guest satisfaction latent variables were measured using six items obtained from previous studies (Lai & Hitchcock, 2016, 2015). The guest loyalty variable was measured using five items borrowed from Chi (2011), Xu and Gursoy (2015), Han et al. (2011), and Han and Kim (2010).

3.3 Models and data analysis

The data was analyzed using quantitative empirical analysis, where the responses from respondents who are guests in green certified hotels were evaluated in terms of green practices, strategies, initiatives, products, services, and performance. The latent and observant variables and their scales are presented in Table 1. The demographic characteristics of the respondents were evaluated using descriptive statistics. The relationship between the independent and dependent variables was evaluated using multiple regression analysis. Two models were specified as follows:

The first model was the effect of green hotel practices (GP), green consumption (GC) and green innovation (GI) on guest satisfaction (GS).

$$GS = \beta_0 + \beta_1GP + \beta_2GC + \beta_3GI + e$$

The second model was the effect of green hotel practices (GP), green consumption (GC) and green innovation (GI) on guest loyalty (GL).

$$GL = \beta_0 + \beta_1GP + \beta_2GC + \beta_3GI + e$$

To determine the variables, the average of the measurement items was calculated to get single continuous data for each latent variable. The results were presented in tables and discussions, and they formed the basis for developing the study conclusions and recommendations.

Table 1. Latent and observant variables

Latent Variables	Items (observed Variables)
Green Hotel Practices Abdou et al. (2020); Barakagira & Paapa	This hotel is committed to reducing waste through refillable amenities (e.g., liquid soap and shampoo) and minimizing single-use items aligned with my values.
	There is a clear and accessible waste separation system (e.g., recycling bins and composting options) that made it easy for me to participate in responsible waste

(2023); Merli et al. (2019)	management.
	The hotel transparently communicates about its eco-friendly efforts (e.g., signage and brochures), which enhanced my understanding of its environmental commitment.
	The hotel has clear guidance on how I could contribute (e.g., towel reuse, energy-saving options) and empowered me to participate actively in their green initiatives.
	The hotel focuses on environmentally conscious activities (e.g., non-polluting options) and cultural experiences aligned with my desire to explore responsibly and support local communities.
Green Consumption Arun et al. (2021); Dang-Van et al. (2023); Haws et al. (2014).	The hotel has eco-friendly product choices (e.g., recycled paper and organic toiletries) that align with my commitment to responsible consumption.
	The hotel is focused on minimizing its environmental footprint (e.g., water conservation signage, organic garden), which made me feel like my stay had a positive impact.
	Learning about the hotel's responsible sourcing practices (e.g., local food and community partnerships) influenced my future purchase decisions.
	This hotel exceeded my expectations for a Green stay because it seamlessly integrated eco-friendly options into every aspect of the experience (e.g., energy-saving room options and non-polluting activities).
	The minor adjustments I made during my stay (e.g., towel reuse and energy-saving options) felt worthwhile, knowing they contributed to the hotel's green efforts.
Guest Satisfaction Abdou et al., (2023); González-Viralta et al. (2023); Lai & Hitchcock (2016); Lai & Hitchcock (2015); Zareh et al. (2023).	This hotel's atmosphere and commitment to eco-friendly practices exceeded my expectations, making my stay enjoyable.
	The hotel's green initiatives, like water conservation and energy-efficient appliances, lived up to everything I envisioned for a responsible travel experience.
	Easy-to-follow measures like towel reuse signage and clear information about water usage helped me feel like I was contributing to a positive environmental impact.
	The in-room eco-friendly options, like key card controls and energy-saving appliances, allowed me to reduce my footprint without compromising comfort.
	This hotel's dedication to responsible practices throughout my stay, from the organic garden to the non-polluting activities, truly enhanced my experience.
Guest Loyalty Chen (2015); Chi (2011), Xu & Gursory (2015), Han et al. (2011), Han & Kim (2010), Kim et al. (2009); Zareh et al. (2023).	The hotel's environmentally friendly practices (e.g., organic gardens and towel reuse) make it a strong contender for my future vacations.
	I would wholeheartedly recommend this hotel to travelers who appreciate responsible lodging choices (e.g., providing refillable water bottles and reusable bags).
	The innovative green initiatives (e.g., key card energy control, energy-saving appliances, and natural lighting) set this hotel apart and influenced my preference for eco-friendly accommodations.
	I actively recommend hotels that seamlessly integrate green practices into every aspect of the guest experience, like energy-saving options and non-polluting activities.
	This hotel's dedication to environmental responsibility makes it my top choice for future visits, exceeding other options.
Green Innovation Performances Ahmed et al. (2023); Asadi et al. (2020); Dang-Van et al. (2023); Dinçer et al. (2017); Huang et al. (2016); Rahmat et al.	This hotel's commitment to using innovative materials with minimal environmental impact (e.g., recycled content, biodegradability) impressed me.
	The hotel's focus on resource-efficient materials and processes (e.g., rainwater harvesting, greywater reuse) aligned with my desire for responsible travel.
	The hotel's dedication to closing the loop with recyclable and compostable materials (e.g., packaging, organic waste) showcased its commitment to circularity.
	The hotel's innovative strategies for minimizing hazardous emissions (e.g., bioreactors for odor control) surprised me with their effectiveness.

(2022).	I was impressed by the hotel's ability to transform waste into valuable resources (e.g., food waste composting and wastewater treatment) through innovative practices.
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Source: Modified and compiled by the authors on the basis of the research results.

4. Results

4.1 Empirical Analysis

In this section, the study's empirical analysis was conducted to evaluate the responses and perspectives of the visitors/guests regarding the green hotel initiatives. The study evaluated the various green practices (green hotel practices, green consumption, and green innovation) from the guests' perspectives (guest satisfaction and guest loyalty). The results are discussed in the following sections.

4.2 Demographic analysis

The demographic analysis of the respondents was analyzed using descriptive statistics. The characteristics evaluated included age, gender, experience, green knowledge, etc, and are summarized in Table 2. The results indicated that male visitors were the majority (55.5%) while females were the minority (44.5%), transgender was the least (6.1%). For the age group, 40 – 49 years were the majority (29.1%), followed by 30 – 49 years (24.5%), then 50 - 59 years (25.3%), then 18-29 years (16.0%), and lastly 60+ (5.1%). For the education level, the majority were those whose highest level was undergraduate (34.1%), followed by those whose college was the highest (28.8%), then followed by those who had postgraduate level (20%) and finally those below college (17.1%). The number of visits to the hotel was also evaluated, where the majority indicated that they had visited the hotel 5 – 10 times (31.7%), followed by those who had visited the hotel 2 – 5 times (28.5%), and those who have visited the hotel more than ten times (20.8%) and finally those that have visited the hotel 0 – 2 times (18.9%).

Table 2. Demographic information of respondents

Variable	Number (n)	Percentage (%)
Gender	n	%
• Male	196	52.3
• Female	156	41.6
• Others	23	6.1
Age Group (years)	n	%
• 18 - 29	60	16.0
• 30-39	92	24.5
• 40 - 49	109	29.1
• 50-59	95	25.3
• 60 +	19	5.1
Education	n	%
• Below College	64	17.1
• College	108	28.8
• Undergraduate	128	34.1
• Postgraduate	75	20.0
Hotel Visits	n	%
• 0-2 times	71	18.9
• 2 – 5 times	107	28.5
• 5-10 times	119	31.7

• >10 times	78	20.8
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Source: Compiled by the authors on the basis of the research results.

4.3 Hypotheses evaluation

The first analysis was the effect of Green Practices (GP), Green Consumption (GC), and Green Innovation (GI) on Guest Satisfaction (GS). The results indicated that the r-squared was 0.580, which implied that 58.0% of the variation in guest satisfaction was explained by the independent variables in the model (GP, GC, and GI). In comparison, the remaining 42% was explained by other variables, not in the model (See Table 3). The overall model was significant as the p-value was less than 0.05 $F(3, 371) = 171.109$, $p=0.00$. Considering the effect of the variables, green hotel practices were found to have a positive and significant effect on guest satisfaction ($\beta = 0.247$, $p=0.000$); green consumption was found to have a significant and positive effect on guest satisfaction ($\beta = 0.283$, $p=0.000$). Similarly, green innovation was found to positively and significantly influence guest satisfaction ($\beta = 0.289$, $p=0.000$).

Table 3. First model hypotheses evaluation

Model Summary	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	
		.762 ^a	.580	.577	.54171	1.950
ANOVA	Sum of Squares		df	Mean Square	F	Sig.
	Regression	150.634	3	50.211	171.109	.000 ^b
	Residual	108.868	371	.293		
	Total	259.502	374			
Coefficients	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta			
	(Constant)	.738	.135		5.450	.000
	GP	.247	.050	.268	4.891	.000
	GC	.283	.054	.307	5.288	.000
GI	.289	.044	.289	6.544	.000	

Source: Compiled by the authors on the basis of the research results.

The second analysis was on the effect of Green Practices (GP), Green Consumption (GC), and Green Innovation (GI) on Guest Loyalty (GL). The results indicated that the r-squared was 0.670, which implied that 67.0% of the variation in guest loyalty was explained by the independent variables in the model (GP, GC, and GI). In comparison, the remaining 33% was explained by other variables not included in the model. The overall model was significant as the p-value was less than 0.05 $F(3, 371) = 251.316$, $p=0.00$ (see Table 4). Considering the effect of the variables, green hotel practices were found to have a positive and significant effect on guest loyalty ($\beta = 0.134$, $p=0.002$); green consumption was found to have a significant and positive effect on guest loyalty ($\beta = 0.257$, $p=0.000$). Similarly, green innovation was found to positively and significantly influence guest loyalty ($\beta = 0.454$, $p=0.000$).

Table 4. Second model hypotheses evaluation

Model Summary	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
		.819 ^a	.670	.668	.45599

ANOVA	Sum of Squares		df	Mean Square	F	Sig.
	Regression	156.764	3	52.255	251.316	.000 ^b
Residual	77.140	371	.208			
Total	233.904	374				

Coefficients	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.557	.114		4.884	.000
GP	.134	.042	.153	3.146	.002
GC	.257	.045	.293	5.693	.000
GI	.454	.037	.478	12.202	.000

Source: Compiled by the authors on the basis of the research results.

5. Discussion

The empirical analysis revealed that the green hotels initiative is an increasing trend, receiving high levels of attention and concern from policymakers, researchers, and players in the hospitality industry. Various organizations have been established whose sole purpose focuses on green initiatives and activities practiced by hotels, such as the Green Leaf Foundation, Global Ecolabelling Network, and Food Before Wasterothers (Han & Yoon, 2015). Additionally, the public is becoming more aware and concerned about green products, services and practices. Preziosi et al. (2019) state that green practices by a hotel or resort have become among the consideration factors that contribute to their purchase decisions. As a result, many hotels have implemented 'green' strategies and initiatives to be considered 'green hotels.' This was confirmed by the research findings, where many hotels are working towards being awarded the Green Leaf Certification by the Green Leaf Foundation. The researchers indicated that many hotels have reviewed their operations and policies in Thailand to align with the green trend (Chi, 2011). This involves sourcing local community products, implementing energy-efficient equipment, and adopting waste management and recycling policies. This was confirmed by the hotels evaluated. For instance, the sampled green hotel in Bangkok considers green practices to attract guests and gain a competitive advantage. Some initiatives adopted and implemented include energy-saving menus, boxed lunch containers made of recycled materials, group purchasing protocols to promote Green Credentials, and Green Globe certification for its property.

Simultaneously, The most of the respondents agreed that green hotels have implemented various strategies, including no smoking in the hotel, an eco-cultural tourism initiative, a health promotion hotel, and blood donations. The research found that green hotel practices, green consumption, and green innovation in the hotels positively affect guest satisfaction and, eventually, their guest loyalty. It implied that practices such as energy-efficient lighting and appliances, water conservation measures, waste reduction and recycling programs, and sustainable sourcing concern the guests. The green consumption aspects include organic food, eco-friendly amenities, and participating in hotel-led green initiatives that would satisfy the guests and eventually make them want to visit such hotels. This confirms Bani-Melhem et al. (2022) argument that when guests actively engage in green consumption practices, it reflects their values and reinforces the hotel's commitment to providing environmentally responsible options. Guests are also concerned and interested in hotels that have innovative technologies to reduce energy consumption and introduce eco-friendly building designs and materials. As Dang-Van et al. (2023) pointed out, these findings indicated that environmental

consciousness by hotels rhymes well with environmental conservation efforts and interests (Androniceanu & Sabie, 2022).

These findings indicate that implementing environmentally friendly practices in hotels, promoting sustainable consumption, and introducing innovative green solutions combined significantly impact guest satisfaction, as observed in the study. This aligns with the perspectives of scholars who argue that adopting environmentally sustainable practices is a viable approach to enhance the hotels' competitiveness, expand their market presence, and, crucially, appeal to environmentally conscious customers (Verma & Chandra, 2018a; Yi et al., 2018). The results show that green hotel practices significantly and positively affect guest satisfaction. It has been proven from prior studies that visitors prefer lodging in environmentally friendly hotels and purchasing eco-friendly products. Green consumption is fundamental to the guests's values, beliefs, behavior, and demands (Damigos, 2023; Wang et al., 2023), as it leaves a positive impression, making tourists attracted to them and entrenching loyalty that leads to greater market share and future growth prospects (Nimri et al., 2020; Assaker, 2020).

Similarly, green consumption was identified as a significant driver of guest satisfaction, demonstrating a positive effect. Guests seeking hotels with natural settings that make them in tune with nature will be motivated to utilize green hotels (Shanahan et al., 2019; Wu, 2021). The findings highlight that green innovation also influences guest satisfaction significantly and positively. While many researchers have studied the aspect of green hotel and consumer behavior, the analysis of specific initiatives and case studies has yet to be explored. This study makes a significant contribution by empirically investigating the effect of green hotel initiatives on guests' behavior in terms of satisfaction and loyalty. More importantly, the study explored real-life case studies of certified green hotels and explored the green initiatives in place. Therefore, the study presents a comprehensive green hotel practical initiative that significantly influences guests' satisfaction and guests' loyalty, enhancing the hotel's market competitiveness and corporate image.

5.1 Theoretical implications

From a theoretical perspective, this study has some implications. Most of the previous studies have focused mainly on the sustainability of the hospitality sector and green energy practices within the hotel sub-sector. There needs to be more studies on green hotel initiatives and their resulting influence on the guests' satisfaction and guest loyalty. Consequently, the study adds to the theoretical literature from that particular standpoint. In addition, the study employed an empirical survey design methodology, specifically evaluating certified green hotels in Thailand. The findings from these viewpoints are anticipated to contribute substantially to recognizing the significance of green innovation and serving as a standard for hotels striving to obtain green certification in Thailand.

5.2 Managerial implications

From the managerial perspective, several implications could be highlighted based on the findings of this study. The first is that considering the increasing global environmental awareness and the fact that Thailand is a huge tourist destination, hotels should make a significant effort to adopt and implement green policies, practices, and initiatives within their facilities. These efforts would have threefold beneficial effects. First is compliance with the green regulatory and monitoring bodies pushing the hospitality and tourism sector to green and sustainable. Second would be increased guest satisfaction, especially for Green Champions, and third would be increased guest loyalty. This would have a long-term positive effect on the hotels, which would be increased competitiveness and market share.

In addition, hotels should consider and value environmental consciousness as a form of ethical consideration that enhances their market credibility (Merli et al., 2019). This is through the realization that guests consider not only traditional factors like comfort and amenities in their hotel stay but also environmental consciousness and ethical considerations. This signifies a shift in guests preferences, with guests valuing and rewarding hotels that align with their values related to sustainability and responsible business practices. Further, hotels should consider green practices as a critical strategic orientation. The reason is that green initiatives create emotional connection and guest loyalty. The green initiatives that satisfy the guests are important in creating a deeper emotional connection between the guests and the hotel. When guests feel their values are mirrored by the hotel's commitment to environmental responsibility, it can foster a sense of guest loyalty. Repeat business and positive word-of-mouth recommendations may follow, as guests are likelier to choose and endorse hotels prioritizing sustainability.

6. Conclusion

This study analyzed green hotel initiatives in Thailand and their impact on guests perspectives. Through the examination of Green Leaf-certified hotels with a history of green practices, the research showcased the plethora of green initiatives undertaken by these establishments, ranging from Green Leaf Certification to recycling, organic food offerings, and smoking prohibition. The research adopted a quantitative survey research methodology from 69 green hotels in the central region of Thailand. The research population were guests in the Green Leaf certified hotels, from which 375 respondents were randomly sampled. The research findings have demonstrated that adopting environmentally friendly activities, including eco-friendly practices in hotels, eco-conscious consumption, and innovative green initiatives, has a significant and favorable impact on customer perceptions, especially in terms of guest satisfaction and guest loyalty. These findings are consistent with the growing social focus on environmental sustainability and have significant consequences for the hospitality industry. These implications resonate with the broader shift towards sustainability in the hospitality industry and accentuate the significance of green initiatives in shaping consumer experiences and driving organizational performance. Therefore, this research provides vital knowledge that can influence the future development of the hospitality industry towards a more sustainable and consumer-focused environment.

6.1 Limitations

This study has some limitations that future studies could leverage to improve on. The study was conducted, and data was collected from one region in Thailand. These results may not be representative of the green hotels space in Thailand, as hotels in other regions like the North, East, North East etc. were not taken into account. Future studies may expand the investigation to include other regions. Since the study is from a region in Thailand, it might also be misleading to present the findings are being representative of developing and emerging nations in Asia. However, they still limit generalizability to other undeveloped countries, such as African and developed Western countries. Therefore, comparative studies should collect data and explore green initiatives in other regions, both third-world countries and developed countries, to capture a comprehensive guests perspective regarding green hotel initiatives. Another limitation is response bias from the study respondents. Since the main data was collected online from hotel guests, there is a possibility of response bias, where the participants might have given socially desired answers or overstated their support for green efforts because they were staying in an environmentally friendly hotel. Such influence may compromise the acquired data's precision and dependability, impacting the study's results. The researchers tried to

minimize this by imploring on the respondents to be truthful in their responses, as there are no points scored for being pro or against green hotels.

6.2 Recommendations

The research makes important recommendations based on the findings from the study in order to advance knowledge in understanding diverse perspectives in green hotel efforts and customer perspectives, and also expanding the research scope beyond Thailand. Future research may involve conducting comparative analyses between certified and non-certified hotels, longitudinal studies to monitor changing consumer sentiments, detailed analyses of eco-conscious consumer behavior, cross-cultural evaluations, and investigations into effective implementation and employee engagement strategies.

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