

## WHY SHOULD HOTELS BECOME MORE ENVIRONMENTALLY FRIENDLY? DOES GENDER MATTER IN CUSTOMER FEEDBACK?

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### Abstract

A year after the Coronavirus 2019 (COVID-19) pandemic, the hotel industry is showing signs of recovery. Environmental issues have also increased the pressures on this sector. As such, this study examines the effect of eco-friendly hotel practices on customer feedback in the post-COVID-19 era. The relationships between green practices, customer satisfaction, and loyalty to green hotels, and the effect of customer feedback on sustainability through intentions to revisit and word-of-mouth are also examined. In addition, the role of customer satisfaction and loyalty to green hotels as mediators is considered while the role of gender in these relationships is explored. PLS-SEM and PLS-MGA were used to create a cross-sectional descriptive and analytical design.

Results demonstrate a significant association between the implementation of ecologically friendly practices and consumer satisfaction and loyalty to green hotels. Word-of-mouth and COVID-19 concerns have a substantial effect on intentions to revisit. The main findings are that in terms of associations between design and landscape and revisit intentions, women are more loyal to green hotels than men.

In conclusion, the positive association between green practices and various guest-related outcomes implies that hotels aiming for sustainability must prioritize effective communication, strategic branding, employee engagement, and ongoing improvement. Females' loyalty to green hotels and intentions to revisit have been found to be strongly correlated, providing hotels with the chance to establish a distinctive brand and win over a devoted clientele. Additionally, environmental policy is confirmed to enhance sustainable practices in the hotel sector.

**Keywords:** Customer satisfaction, Green practices, Loyalty to green hotels, Word-of-Mouth

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## **1. INTRODUCTION**

As concerns about climate change and sustainable practices spread across the globe, the hospitality sector has come under increasing pressure to address its environmental impact, especially following the challenges of Coronavirus 2019 (COVID-19) (Jones et al., 2020). Emerging from the grips of the COVID-19 pandemic, the world has been presented with a unique opportunity to reassess its practices and incorporate environmentally friendly measures for both ecological preservation and economic resilience (Casas et al., 2021). According to the World Trade Organization (WTO)(2022), the COVID-19 pandemic resulted in a 94% decline in international tourist arrivals in Asia and the Pacific in 2020 compared with the previous year. As destinations reopen and travel resumes, hotels in major areas face the dual challenge of attracting visitors while also aligning their business strategies with the pressing need for sustainable development (Aroonsrimorakot et al., 2022).

The urgency for hotels to adopt environmentally friendly practices is underscored by the industry's substantial ecological footprint. According to the United Nations Environment Programme (UNEP) (2020), the global hotel sector contributes approximately 1% of total global greenhouse gas emissions, leading to the necessity for the industry to adopt sustainable measures to combat climate change. Their sustainable practices are also vital for preserving the local natural environment and economy and the socio-cultural environment of local communities (Kularatne et al., 2019). Jones et al. (2016) argued that environmental issues in the hospitality industry must include water and energy efficiency and conservation, climate change and greenhouse gas emissions, waste management and recycling, biodiversity and protection of natural resources, reduction of environmental impacts, environmentally responsible sourcing, and creation of green construction standards for new hotel construction.

Gender has also been identified as an im-

portant factor influencing consumer behavior in the hospitality industry (Davahli et al., 2020). In choosing a place to stay while traveling, men and women frequently have different preferences, values, and expectations. The influence of gender on decision making has been explored in various customer-related contexts (Gupta et al., 2023; Kim et al., 2020) but the specific gender differences in the relationship between green practices, customer satisfaction, and customer responsiveness have been largely neglected (Moise et al., 2021). Furthermore, understanding the role of gender in shaping customer feedback toward hotels' sustainability initiatives can provide practitioners with valuable insights to effectively cater to diverse customer segments.

The aims of this study are to examine the customer motives and perceptions in relation to hotels that implement green practices. Of particular interest is how gender influences customers' responses to such sustainability initiatives. By analyzing and comparing customer feedback from both male and female travelers, it is hoped that the results of this study will provide evidence-based recommendations for hoteliers to improve their sustainability practices and serve a larger customer base in the post-COVID-19 era.

## **2. LITERATURE REVIEW AND HYPOTHESES**

### **2.1 Green Practices**

Similarly known as sustainable or eco-friendly initiatives, green practices refer to strategies that organizations use to reduce environmental harm while encouraging socially responsible behavior (Tharaka et al., 2022). These practices include energy conservation, waste reduction, use of renewable resources, recycling, and ethical sourcing (Guo et al., 2020). Supply chain management, training, material use, and management are also aspects of green practices (Chou et al., 2012; McBride et al., 2019).

In the latter part of the 1990s, the field of sustainable tourism emerged, leading to an

initial emphasis on environmentally friendly methods. During that period, the implementation of recycling programs, adoption of energy-efficient lighting, and the practice of reusing towels became established protocols within the hotel industry (Luo et al., 2019; Singh et al., 2012). However, with heightened environmental apprehensions, the significance of “green practice” has considerably escalated. In the contemporary hotel industry, the adoption of a strategic approach that not only surpasses client expectations but also mitigates their environmental footprint has become imperative for businesses. Hotels have the potential to play a crucial role in promoting environmental sustainability by adopting conservation principles, operational efficiency, and sustainable practices (Radwan et al., 2012; Yi et al., 2018).

According to Kim et al. (2017), green hotel practices can be categorized into the following three types: guest-identifiable green attributes (e.g., energy-saving room appliances, linen-reuse programs, towel-reuse programs); energy-related green attributes (e.g., solar energy, wind turbines); and green certificates (e.g., ISO, LEED). Gil-Soto et al. (2019) classified green practices into six items, namely energy, water, purchasing, waste, site, and education and innovation.

Piya et al. (2022) carried out a comprehensive analysis to discover environmentally sustainable methods in hotel management. Essential indicators and criteria for this purpose are diligently compiled and recognized. Several aspects contribute to an organization’s dedication to environmental policies, including recycling and reuse initiatives, transportation strategies, energy consumption reduction efforts, water efficiency and conservation measures, and the implementation of green incentives and training programs. In addition, Putra et al. (2023) compiled a comprehensive inventory of noteworthy environmentally friendly behaviors, encompassing ethical principles, use of energy-conservation technology, and implementation of recyclable packaging. The importance of buying local and organic goods

is also emphasized in order to reduce negative environmental impacts.

Green practices require not only process innovation but also construction and design. Merli et al. (2019) provided a comprehensive account of various innovative initiatives in the field of environmentally friendly hotels. Contemporary architectural tendencies encompass various innovative approaches, such as bio-architecture incorporating green roofs, solar water heating systems, and energy-efficient lighting fixtures. Designated ecological zones are also implemented to make a connection between rubbish segregation and visitor awareness initiatives aimed at promoting responsible energy consumption.

Furthermore, previous consumer behavior research has shown that customers are one of the most important motivators for hotels to adopt green practices (Kularatne et al., 2019). According to Yi et al. (2018), several guests believe that hotels use green initiatives as a marketing tool or for improving firm performance.

## **2.2 Customer Satisfaction**

Customer satisfaction is described as an assessment of the product consumption experience and its alignment with buyer’s expectations and the perceived value prior to purchase (Li et al., 2020). Bae et al. (2020) prioritized the emotional reaction associated with the act of purchasing while Ganesan (1994) focused on emotional influences. Meanwhile, Park et al. (2020) emphasized the significance of long-term customer relationships in achieving organizational success.

Customer satisfaction leads to various outcomes, including heightened brand legitimacy, prolonged customer connections, and increased advocacy. These outcomes have been shown to have a major effect on business performance and consumer loyalty (Merli et al., 2019; Moise et al., 2018; Rather et al., 2019; Shams et al., 2020). This study also considers the role of green practices on customer satisfaction, and guests are more

than ever expecting the implementation of sustainable action in hotel management (Berezan et al., 2013). The effects of green practices on consumer satisfaction have been extensively studied. A positive perception of eco-friendly activities from hotels contributes significantly to tourist satisfaction (Hameed et al., 2022; Merli et al., 2019; Moise, 2018; Park et al., 2020; Yusof et al., 2016). The implications of these studies present the potential to influence hospitality policies in the post-COVID19 era, with the aim of meeting the demands of an environmentally conscious clientele. Accordingly, the environmental controls implemented by hotels can be a significant factor in determining the satisfaction level of guests. On this basis, we present the following hypothesis:

**H1:** Green practices have a direct and positive influence on customer satisfaction.

### **2.3 Loyalty to Green Hotel**

Customer loyalty is defined as the degree to which a customer remains loyal to a company in terms of attitude and behavior even with available alternatives (Fornell, 1992). Customers who make repeat purchases are extremely valuable to many businesses. The cost of acquiring a new customer is many times that of retaining an existing one. A returning customer ensures a high average customer value, emphasizing the significance of customer loyalty (McMullan et al., 2008).

Green measures in the hotel industry can significantly increase customer loyalty (Chen et al., 2014; Gao et al., 2016; Martínez García de Leaniz et al., 2018; Moise et al., 2018; Wang et al., 2018; Yusof et al., 2016). Martínez García de Leaniz et al. (2018) and Wang et al. (2018) both demonstrated the positive influence of a hotel's environmental activities on guest loyalty. Guest perception of green practices contributes significantly to the hotel's green image, which increases guest loyalty. Moise et al. (2018) also examined the effect of green activities on tourist satisfaction, intentions to revisit, and the propensity to spread positive word-of-mouth regarding the hotel, confirming the link between eco-

friendly measures and customer loyalty. The findings emphasize that hotels must adopt sustainable practices to meet the needs of their consumers and encourage them to return to the company. Thus, in the hotel industry, green practices have a significant effect on guest loyalty. On this basis, the following hypothesis is proposed:

**H2:** Green practices have a positive influence on guest loyalty to green hotels.

### **2.4 Word-of-Mouth**

Word-of-mouth marketing is a well-known customer behavior, which includes all types of interpersonal communication, such as positive and negative comments about the enterprise, brand, product, or service, made by persons who are unrelated to the customer-brand commercial transaction (Goyette et al., 2010). Word-of-mouth is an important source of information for travelers in making purchasing decisions and can also help to attract tourists. Several passengers who are more familiar with the source of word-of-mouth consider the information to be more credible, dependable, and trustworthy (Roy et al., 2023). The majority of customers prefer word-of-mouth to traditional marketing, while advertising-related information is easily dismissed (Serra Cantallops et al., 2014). Wang et al. (2018) demonstrated the effect of company image on the formation of favorable word-of-mouth associations. Liang et al. (2022) reported that various online travel companies use customer reviews to persuade new customers to stay at hotels that are advertised on their mobile applications. Many hotels also offer online incentives to customers who submit reviews. Liu et al. (2018) stated that as the number of reviews increase, the more effort users exert in creating posts, which increases the quality of reviews. These findings confirm the correlations between green practices and word-of-mouth and between word-of-mouth and customer satisfaction (Cho et al., 2023; Clark et al., 2023; Gasbarro et al., 2021; González-Viralta, 2023; Hameed et al., 2022; Merli et al., 2019).

Furthermore, Cho et al. (2023) proposed a link between eco-friendly acts, brand reputation, and affective commitment; this link then influences word-of-mouth. Merli et al. (2019) also discovered a relationship between word-of-mouth communication and the adoption of ecologically sustainable practices in the hotel industry. Dehghani (2019) found a connection between trust, word-of-mouth marketing, and environmental friendliness. Furthermore, Clark et al. (2023) highlighted the importance of word-of-mouth on social media platforms in the context of hotel marketing. Taken together, these studies provide useful insights into the complexities of word-of-mouth communication (Rattanaburi, 2023) and its relationship with environmentally sustainable practices in the hotel industry. On this basis, the following hypothesis is proposed:

**H3:** Customer satisfaction has a direct and positive influence on word-of-mouth.

## **2.5 Intentions to Revisit**

An intention to revisit indicates a transition from propensity to action and is therefore an important part of customer loyalty (Yang et al., 2004). Consumers who repurchase a company's products and services are less expensive and take less time to acquire than new customers. Retaining such clients, according to Chua et al. (2017) and Jones et al. (2000), is a cost-effective strategy for longevity. Therefore, client retention is essential to the company's ability to make money and grow in the future and is seen as a critical success factor for all businesses (Bai et al., 2020; Kim et al., 2017; Liu et al., 2018; Scarpi et al., 2019).

Green practices exert a significant influence on visitors' willingness to return and to promote hotels to others (Chen, 2015; Gao et al., 2016). Loyalty to green hotels is found to be related to the likelihood of revisiting (Astuti et al., 2020; Azam et al., 2019; Chen et al., 2019; Gupta et al., 2023; Han et al., 2017; Lee et al., 2019; Merli et al., 2019; Riva et al., 2022; Ruan et al., 2022). Han et al. (2017) also discovered that eco-

friendly hotel activities, such as water conservation and waste management, boost hotel consumer loyalty. Based on these findings, customer revisits may be considered an important component of company performance and can only be achieved by continuous improvement.

However, Ruan et al. (2022) found that green attitudes, social norms, and event conformance, mediate revisit intentions for green events in sustainable tourism. A model created by Chen et al. (2019) also showed that perceived greenwashing is linked to green trust and revisit intentions, emphasizing the value of trust and prior stay experience in green hotels.

Research on environmentally friendly practices is still ongoing. Lee et al. (2019) identified benefits on green certifications and value, customer satisfaction, future travel plans, and willingness to pay more for hotels that are going green. Gupta et al. (2023) claimed that green practices in five-star hotels have a positive influence on online reviews, future travel plans, and willingness to pay more. Furthermore, when investigating how green messaging influences the perception of green brands and consumer behavior, Merli et al. (2019) discovered a link between customer satisfaction, loyalty to eco-friendly hotels, and future plans among regular hotel guests when asked, "I would come back again in this hotel.", (Merli et al., 2019). Customer intentions to revisit demonstrate loyalty, while green practices are critical for hotels to gain repeat business and positive word-of-mouth. On this basis, the following hypothesis is proposed:

**H4:** Loyalty to green hotels has a positive influence on intentions to revisit.

## **2.6 COVID-19 Concern**

The COVID-19 pandemic caused a considerable impact on consumer perceptions and actions, particularly in the sustainability of the hospitality industry. Fear of COVID-19, which arises from the worry of infection, has been shown to cause negative emotions and physiological reactions (Unguren et al., 2022).

The COVID-19 outbreak has also resulted in high levels of fear and anxiety due to isolation, mental disorders, and the limitations in social interactions caused by lockdowns and travel bans (Ahorsu et al., 2022; Luo et al., 2021). The increased awareness and changing behaviors (Prasongthan, 2023) observed in response to COVID-19 cover a wide range of topics, including travel habits and lodging choices (Javadinasr et al., 2022). Concern regarding COVID-19 is significant in the hotel industry (Prasongthan, 2022). Yu et al. (2021) argued that the inclusion of hygienic measures in hotels has become imperative for guest satisfaction, while Jones et al. (2020) shed light on the pandemic's impact on the sustainability of the hospitality industry, explaining the numerous benefits and problems for businesses and their clients.

Several studies have investigated the relationship between COVID-19 concerns and the intent to return. Hassan et al. (2021) suggested that implementing effective COVID-19 protocols positively influences guests' likelihood of returning. Dwivedi et al. (2022) also investigated the impact of COVID-19-related fear and environmental concerns on individuals' willingness to pay, their attitudes, norms, and intentions. In a recent study, Hasan et al. (2023) analyzed the elements that influence revisit intentions for green hotels in the post-COVID-19 period, paying particular attention to the function of green attitude, personality, and norms. On this basis, the following hypothesis is proposed:

**H5:** COVID-19 concern has a positive influence on intentions to revisit.

## **2.7 Mediating Roles**

Previous research has shown that customer satisfaction and loyalty to green hotels have a mediating effect on green practice, word-of-mouth, and intentions to revisit (Karim et al., 2022; Merli et al., 2019; Moise et al., 2018; Moise et al., 2021). Karim et al. (2022) showed the mediating role of customer satisfaction on the relationship between corporate sustainability, customer loyalty, and word-of-mouth; the link between

social sustainability, customer satisfaction, and loyalty was significant. Regarding consumer behavior, Guerreiro et al. (2021) looked at how consumer brand engagement, green trust, and word-of-mouth influence consumers' purchasing intentions. Moise et al. (2018) and Moise et al. (2021) investigated the mediating effects of customer satisfaction on green practices and revisit intentions, and on word-of-mouth, respectively. Merli et al. (2019) examined how guest satisfaction functions as a mediator for repeat business. Given the relevance of the mediation role of customer satisfaction and loyalty to green hotels, the following hypothesis is proposed:

**H6:** Loyalty to green hotels and customer satisfaction mediate the relationship between hotels' green practices, word-of-mouth, and intentions to revisit.

## **2.8 Multigroup Effect of Gender**

Gender has a generalized effect on consumer behavior. However, research findings regarding eco-friendly hospitality are not always reliable (Wang et al., 2018). Although several scholars have argued that women are more environmentally concerned than men (Moise et al., 2021; Wang et al., 2018), others have reported that gender has no major influence on environmental concern (Sevilla-Sevilla et al., 2019). The research gap lies in the rareness of studies considering the influence of gender on perspectives about sustainable practices. Moise et al. (2021) investigated the moderating role of gender among 302 guests at 3- and 4-star hotels in Bogota, discovering beneficial links between gender and environmental practices. Thus, in keeping with conventional literature, gender is anticipated to function as a moderating variable in the hypothesized associations. On this basis, the following hypothesis is proposed:

**H7:** The influence of: 1) Hotel green practices on customer satisfaction, loyalty to green hotels, intentions to revisit, and word-of-mouth; 2) Customer satisfaction on word-of-mouth and intentions to revisit; and 3) Loyalty to green hotels on word-of-mouth and

intentions to revisit, is greater in females when compared to males.

### Hypothesis Testing (Figure 1)

**H1:** Green practices have a direct and positive influence on customer satisfaction.

**H2:** Green practices have a positive influence on guest loyalty to green hotels.

**H3:** Customer satisfaction has a direct and positive influence on word-of-mouth.

**H4:** Loyalty to green hotels has a positive influence on intentions to revisit.

**H5:** COVID-19 concern has a positive influence on intentions to revisit.

**H6:** Loyalty to green hotels and customer satisfaction mediate the relationship between hotels' green practices, word-of-mouth, and intentions to revisit.

**H7:** The influence of: 1) Hotel green practices on customer satisfaction, loyalty to green hotels, intentions to revisit, and word-of-mouth; 2) Customer satisfaction on word-of-mouth and intentions to revisit; and 3) Loyalty to green hotels on word-of-mouth and intentions to revisit, is greater in females when compared to males.

### Hypothesis Testing (Figure 2)

**H1a:** Local and organic food have a direct and positive influence on customer satisfaction.

**H1b:** Local and organic food have a positive influence on loyalty to green hotels.

**H1c:** Brand and information have a direct and positive influence on customer satisfaction.

**H1d:** Brand and information have a positive influence on loyalty to green hotels.

**H1e:** Design and landscape have a direct and positive influence on customer satisfaction.

**H1f:** Design and landscape have a positive influence on loyalty to green hotels.

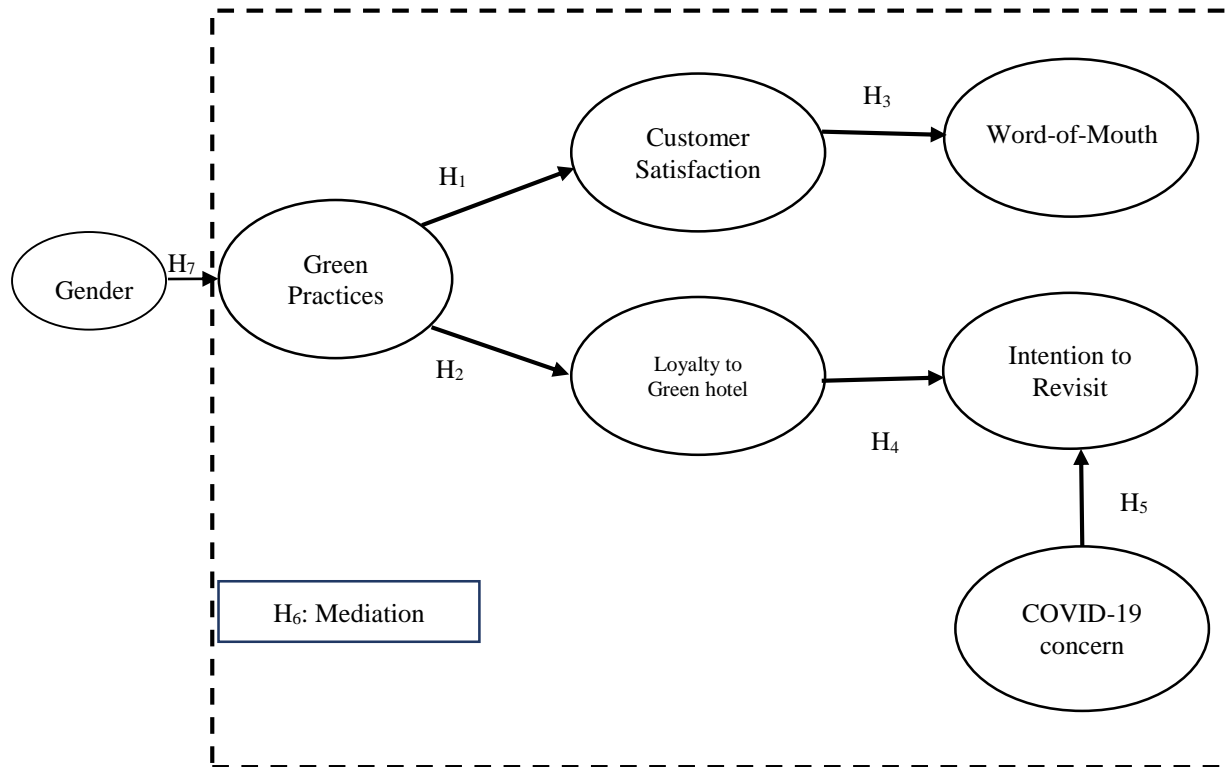
**H2a:** Customer satisfaction has a positive influence on intentions to revisit.

**H2b:** Customer satisfaction has a direct and positive influence on word-of-mouth.

**H2c:** Loyalty to green hotels has a positive influence on intentions to revisit.

**H2d:** Loyalty to green hotels has a positive influence on word-of-mouth.

**H5:** COVID-19 concern has a positive influence on intentions to revisit.



**Figure 1** The Conceptual Model

**H6:** Loyalty to green hotels and customer satisfaction mediate the relationship between hotels' green practices, word-of-mouth, and intentions to revisit.

**H7:** The influence of: 1) Hotel green practices on customer satisfaction, loyalty to green hotels, intentions to revisit, and word-of-mouth; 2) Customer satisfaction on word-of-mouth and intentions to revisit; and 3) Loyalty to green hotels on word-of-mouth and intentions to revisit, is greater in females when compared to males.

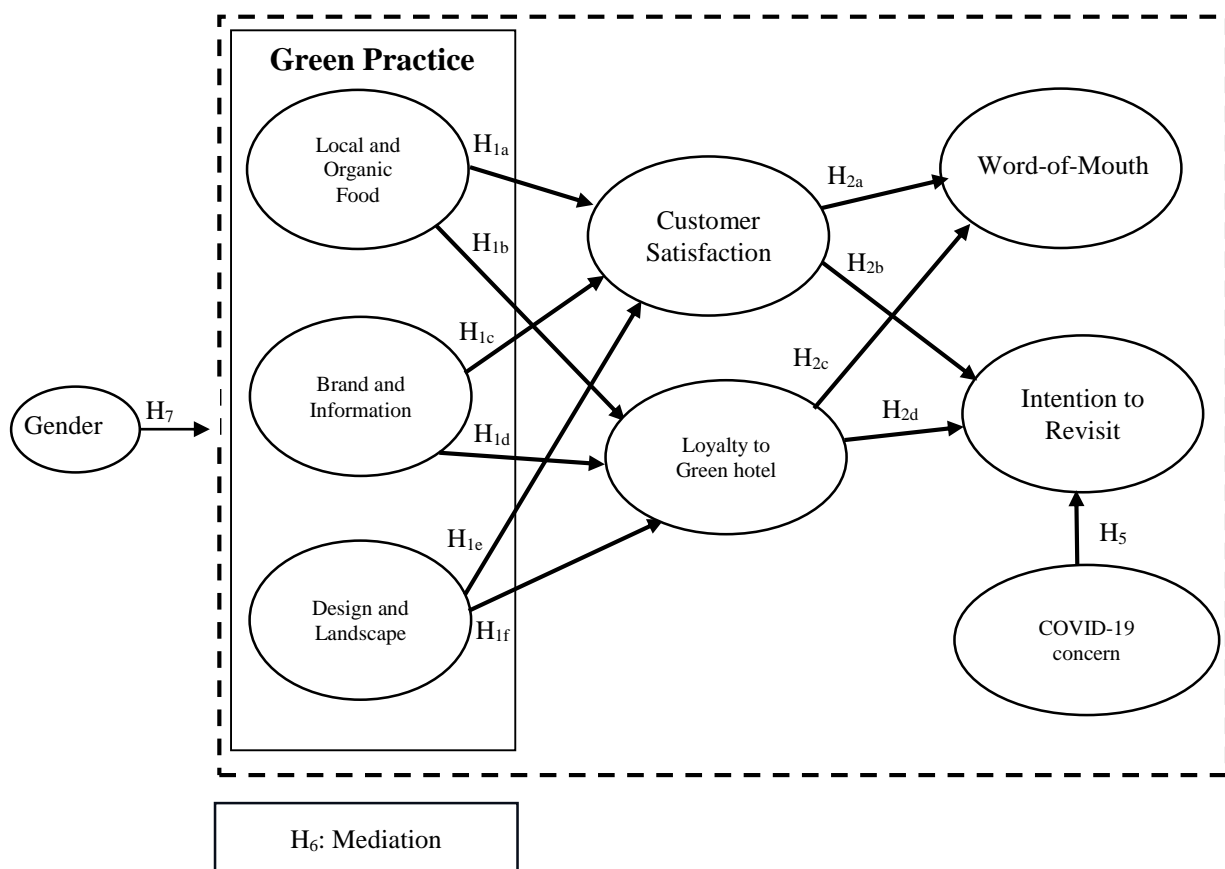
### 3. METHODOLOGY

#### 3.1. Data Sample and Collection Procedure

This study used a survey method. First, a thorough literature review was carried out to identify measuring scales. The survey questionnaire's effectiveness as a measurement tool was then evaluated through a pre-test with 30 randomly selected hotel

guests, resulting in minor changes to improve the clarity and readability of the questions. In addition, a questionnaire was created in English and translated into Thai by two translators with survey and linguistic experience. The two translators worked in parallel, and the translated questionnaires were pre-tested and modified as needed.

Survey data were collected from tourists in Phuket, Thailand in order to test the hypotheses. Two teams were sent out to distribute the surveys to hotel guests, namely, Thai and international tourists. Data were collected from November 2022 to April 2023. The sample size was calculated using the sample size to free parameter ratio, which should be 10:1 (Wolf et al., 2013). Therefore, a minimum sample size of 470 would be adequate to estimate the 47 free parameters. An initial sample of 760 complete responses were obtained, with a 60% response rate. After checking the questionnaire and removing those with incomplete responses or



**Figure 2** The Conceptual Model after Confirmatory Factor Analysis



suspicious response patterns, 647 usable questionnaires were obtained for analysis from Thai (336) and foreign (311) tourists.

### 3.2 Measurement Scales

The items were scored on a 5-point Likert-type scale ranging from 1 (“strongly disagree”) to 5 (“strongly agree”). Standardized instruments were used to measure several variables, including green practices, COVID-19 concern, customer satisfaction, loyalty to green hotels, intentions to revisit, and word-of-mouth. Green practices were measured using 30 items from Merli et al. (2019) and Moise et al. (2018). Sample items included “Organic or seasonal food are available for breakfast.” and “In the hotel, separated waste collection is available”. COVID-19 concern was evaluated using a 5-item scale developed by Yan et al. (2021) and Zhang et al. (2021). Sample items included “I am worried that the facilities in the hotel will not be sanitary.” Customer satisfaction was measured using six items from Merli et al. (2019) and Moise et al. (2018). Sample items included “I am satisfied with my experience in this hotel.” Loyalty to green hotels was measured using a 2-item scale developed by Moise et al. (2018). Sample items included “I would come back to a hotel that implements good environmental practices.” Intentions to revisit were similarly

measured using a 2-item scale from Merli et al. (2019). A sample item is “I have a strong intention to visit this hotel again.” Finally, word-of-mouth was measured using two items from Merli et al. (2019). A sample item is “I would tell other people positive things about this hotel.” Table 1 shows a detailed summary of the instruments used in the study.

### 3.3 Data Analysis

For data analysis, this study used partial least squares structural equation modeling (PLS-SEM) to test the proposed hypotheses, examine the measurement model’s reliability and validity, and assess the structural model. Furthermore, multigroup analysis (PLS-MGA) was used to compare groups by gender (Female–Male). PLS-MGA, as a subset of PLS-SEM, allows for a more accurate assessment of significant differences in structural routes among various groups (Matthews et al., 2018). This method is often used to consider differences between continuous variables that have been dichotomized or grouped using cluster analysis or categorical variables (Hair et al., 2019).

## 4. RESULTS

### 4.1 Descriptive Statistics

According to the demographic profile of

**Table 1** Questionnaire, Mean, and Standard Deviation of Variables

Latent Variable	Number of Questions	References	Mean	Standard deviation
Green Practices	30	Merli et al. (2019); Moise et al. (2018)		
- Brand and Information			3.219	0.621
- Design and Landscape			3.329	0.632
- Local and Organic Food			2.945	0.752
COVID-19 Concern	5	Yan et al. (2021); Zhang et al. (2020)	2.642	0.930
Customer Satisfaction	6	Merli et al. (2019); Moise et al. (2018)	3.223	0.599
Loyalty to Green Hotels	2	Moise et al. (2018)	3.364	0.615
Intentions to Revisit	2	Merli et al. (2019)	3.211	0.644
Word-of-Mouth	2	Merli et al. (2019)	3.323	0.642

respondents, the majority (52.1%) were female. 51.9% of tourists were domestic, while 48.1% were international. The majority of respondents (36.6%) were between the ages of 25 and 34, followed by those between the ages of 35 and 44 (25.3%), and a small number of those over 55 (only 5.6%).

Most respondents (36.9%) traveled with family, followed by those traveling as a couple (26%), alone (22.4%), and with friends (14.7%). When asked for their reason for travelling, the majority (80.5%) reported leisure, while 18.5% stated business. In terms of time duration, the majority (36.2%) stayed for 3–5 nights, followed by 1–2 nights (32.9%), 6–10 nights (18.9%), and more than 10 nights (11.2%).

When it comes to eco-label awareness, Table 1 shows that more than half of the tourists (52.6%) were aware of the hotel's

eco-label status, while more importantly, nearly half (49%) were aware of this status prior to visiting. Participants were also asked about previous encounters with eco-labeled hotels or other ecologically certified businesses. It's noteworthy that 67.9% of the participants had stayed at hotels with an eco-label in the past.

## 4.2 Measurement Model

First, the measurement model was evaluated using the guidelines from Hair et al. (2019) to verify if the instruments used were reliable and valid. The structural model was then used for hypotheses testing. The loadings, average variance extracted (AVE), and the composite reliability (CR) values were examined. The results in Table 3 show that the loadings were well above the required

**Table 2** Sample Characteristics

n=647					
Variable	Range	Percentage	Variable	Range	Percentage
Gender	Male	47.6%	Purpose of stay	Leisure	80.5%
	Female	52.1%		Business	18.5%
Nationality	Thai	51.9%	Nights of stay	No answer	1%
	Others	48.1%		1-2	32.9%
Age	Less than 25	19.6%		3-5	36.2%
	25-34	36.6%		6-10	18.9%
	35-44	25.3%		Over 10	11.2%
	45-54	12.8%		No answer	0.2%
	55 and above	5.6%	Do you have awareness of the Hotel Eco-label?	Yes	52.6 %
Type of traveller	Single	22.4%		No	47.3
	Family	36.9%	Before you visited this hotel, did you have awareness of the Hotel Eco-label?	No answer	0.2 %
	Couple	26 %		Yes	49%
	Friends	14.7 %	Have you ever had another experience in an Eco-label hotel?	No	51%
				Yes	67.9%
				No	32.2%

threshold of 0.7, AVEs were greater than 0.5, and the CRs were above the recommended cut-off of 0.7 (Hair et al., 2019; Matthews et al., 2018). Thus, internal consistency and convergent validity were confirmed. Additionally, the VIFs were all below 3, indicating an absence of multicollinearity issues (Hair et al., 2019; Matthews et al., 2018). Considering the green practices construct, eight indicators have outer loadings over this threshold, including local and organic food, brand and information, design and landscape. Four metrics for customer satisfaction have outer loadings exceeding this limit. The three indicators of loyalty to green hotels, word-of-mouth, and intentions to revisit also had outer loadings that were higher than this cutoff. In addition, the five COVID-19 Concern Indicators had outer loadings above this threshold. According to the table, the Cronbach's alpha values in the model vary from 0.724 to 0.889, while the CR values (CR Rho\_a and Rho\_C) ranged from 0.728 to 0.938, both of which were higher than the recommended threshold (0.7).

Discriminant validity was determined using criterion of Fornell et al. (1981). The square root of the AVEs (shown along the diagonals) was higher than the other correlations between the latent components, as seen in Table 4, indicating that the model has appropriate discriminant validity. The fact that all Heterotrait-Monotrait Ratios (HTMT) of the correlation values fall below the recommended 0.9 threshold (Table 5) suggests a potential connection between the indicators and constructs (Henseler et al., 2015). Overall, the measurement model demonstrated sufficient convergent and discriminant validity.

To assess the importance of the route coefficients, the structural model was evaluated with 10,000 subsamples using a bootstrapping approach (Hair et al., 2019). The hypotheses examine the relationship between green hotel practices, consumer satisfaction and loyalty. Branding and information have the largest effect on green practices ( $\beta_{1c}=0.364$ ,  $\beta_{1d}=0.307$ ), followed by local and organic food ( $\beta_{1a}=0.234$ ,  $\beta_{1b}=0.190$ ), and

**Table 3** Confirmatory Factor Analysis Results

Construct and Measurement Items	(CFA) Standardized factor loading	VIF	CA	CR (Rho_a)	CR (Rho_C)	AVE
	>0.7	<3	>0.7	>0.7	>0.7	>0.5
<b>Green Practice</b>						
<b>-Local and Organic Food</b>			<b>0.747</b>	<b>0.747</b>	<b>0.856</b>	<b>0.665</b>
Consumption of local food	0.822	1.610				
Consumption of organic food	0.849	1.716				
Preference for non-packaged goods	0.774	1.340				
<b>-Brand and Information</b>			<b>0.724</b>	<b>0.728</b>	<b>0.845</b>	<b>0.645</b>
Informing guests about biological diversity around the hotel	0.785	1.365				
Promoting environmental protection efforts of the hotel in printed and visual media	0.853	1.663				
The hotel is certified with Green Certification	0.770	1.421				
<b>-Design and Landscape</b>			<b>0.741</b>	<b>0.749</b>	<b>0.885</b>	<b>0.794</b>
Pleasant landscape design	0.905	1.531				
Architectural design of hotel compatible with natural environment	0.877	1.531				

**Table 3** (Continued)

Construct and Measurement Items	(CFA)	VIF	CA	CR (Rho_a)	CR (Rho_C)	AVE
	Standardized factor loading >0.7					
<b>Customer Satisfaction</b>			<b>0.814</b>	<b>0.814</b>	<b>0.878</b>	<b>0.643</b>
I was satisfied with my decision	0.823	1.790				
It was a wise choice	0.825	1.971				
It was a good experience	0.803	1.827				
<b>Loyalty to Green Hotel</b>			<b>0.791</b>	<b>0.791</b>	<b>0.905</b>	<b>0.827</b>
I would come back to a hotel that implements good environmental practices	0.907	1.747				
I would recommend a hotel that implements good environmental practices	0.912	1.747				
<b>Word-of-Mouth</b>			<b>0.800</b>	<b>0.800</b>	<b>0.909</b>	<b>0.833</b>
I would recommend this hotel to other people	0.914	1.800				
I would tell other people positive things about this hotel	0.912	1.800				
<b>Intentions to Revisit</b>			<b>0.778</b>	<b>0.781</b>	<b>0.900</b>	<b>0.818</b>
I consider this hotel as my first choice compared to other hotels	0.898	1.683				
I have a strong intention to visit this hotel again	0.911	1.683				
<b>COVID-19 Concern</b>			<b>0.889</b>	<b>0.938</b>	<b>0.914</b>	<b>0.679</b>
I think that I might contract COVID-19 even if I try to avoid it.	0.848	1.866				
My health will be severely damaged if I contract COVID-19	0.867	2.450				
I think COVID-19 is more severe than other respiratory diseases.	0.847	2.261				
I am worried that the facilities in the hotel will not be sanitary	0.741	2.126				
I am worried about getting sick during my trip.	0.813	2.523				

**Table 4** Fornell–Larcker Discriminant Validity Criteria

	1	2	3	4	5	6	7	8
Brand and Information	<b>0.803</b>							
COVID-19 Concern	0.223	<b>0.824</b>						
Customer Satisfaction	0.498	0.195	<b>0.802</b>					
Design and Landscape	0.294	0.057	0.335	<b>0.891</b>				
Local and Organic Food	0.352	0.306	0.402	0.225	<b>0.816</b>			
Loyalty to Green Hotel	0.435	0.186	0.550	0.338	0.344	<b>0.909</b>		
Intentions to Revisit	0.429	0.211	0.550	0.293	0.385	0.547	<b>0.905</b>	
Word-of-Mouth	0.403	0.128	0.545	0.370	0.359	0.613	0.570	<b>0.913</b>

design and landscape ( $\beta_{1e}=0.175$ ,  $\beta_{1f}=0.205$ ). According to the bootstrapping technique, all path coefficients are significant with a 95% confidence interval, and therefore all hypotheses are accepted. Table 6 shows the results.

Following the suggestions of Preacher and Hayes (2004), the indirect effect was bootstrapped to assess the mediation effect. If the confidence interval does not contain a zero, then a mediation effect can be concluded. Table 7 highlights the significance of consumer satisfaction and loyalty to green hotels as mediators in the link between green practices, intentions to revisit, and word-of-mouth. Customer satisfaction and loyalty to green hotels have the strongest mediating effect between brand and information and intentions to revisit ( $\beta=0.109$ ,  $\beta=0.105$ ), and

between brand and information and word-of-mouth ( $\beta=0.126$ ,  $\beta=0.138$ ), all of which are significant. Thus, H6 is accepted.

### Multigroup Analysis

Table 8 shows the results of the MGA-PLS analysis. Female and male path coefficients differ in the link between design and landscape and loyalty to green hotels ( $\beta_{\text{female}}=0.278$ ,  $\beta_{\text{male}}=0.117$ ). Furthermore, a significant difference is observed between males and females in the indirect influence of design and landscape on intentions to revisit via loyalty to green hotels ( $\beta_{\text{female}}=0.102$ ,  $\beta_{\text{male}}=0.036$ ). Table 9 and Figures 3–4 summarize the results of the multigroup analysis.

**Table 5** HTMT Discriminant Validity Criteria

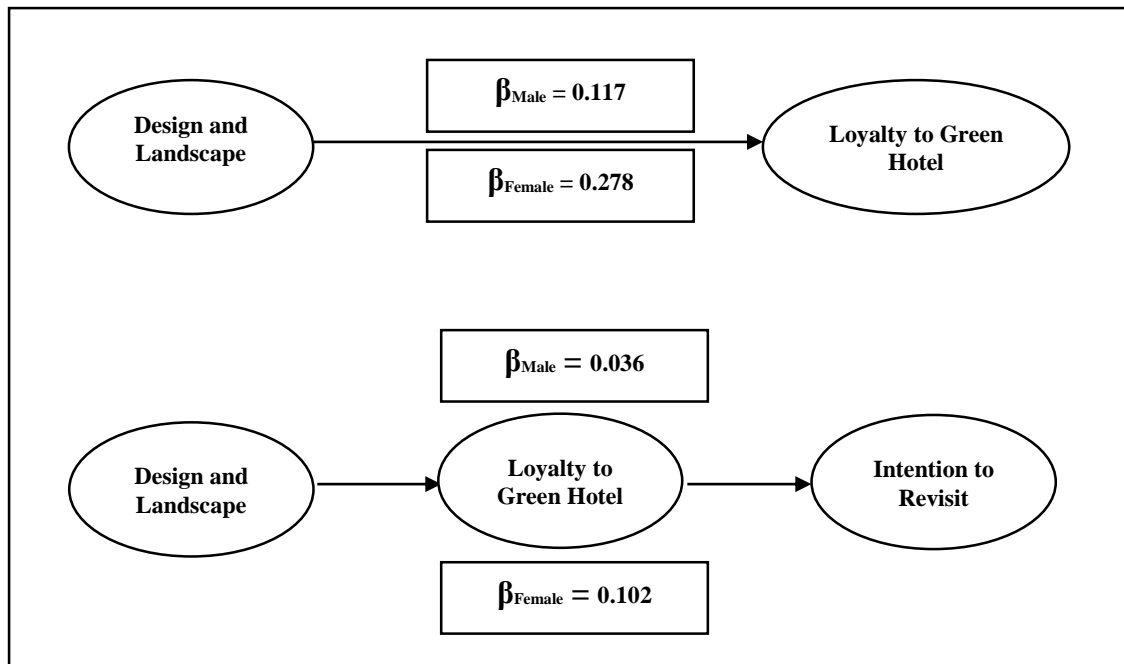
	1	2	3	4	5	6	7	8
Brand and Information								
COVID-19 Concern	0.261							
Customer Satisfaction	0.647	0.202						
Design and Landscape	0.400	0.078	0.430					
Local and Organic Food	0.477	0.370	0.514	0.305				
Loyalty to Green Hotel	0.575	0.199	0.684	0.440	0.449			
Intentions to Revisit	0.571	0.221	0.689	0.384	0.504	0.697		
Word-of-Mouth	0.531	0.130	0.674	0.479	0.464	0.770	0.721	

**Table 6** Structural Equation Model Results

Hypothesis	B	STDEV	t	P	Result
<b>H1a:</b> Local and Organic Food → Customer Satisfaction	0.234	0.039	5.986	0.000	<b>Supported</b>
<b>H1b:</b> Local and Organic Food → Loyalty to the Green Hotel	0.190	0.038	4.970	0.000	<b>Supported</b>
<b>H1c:</b> Brand and Information → Customer Satisfaction	0.364	0.040	9.025	0.000	<b>Supported</b>
<b>H1d:</b> Brand and Information → Loyalty to the Green Hotel	0.307	0.037	8.246	0.000	<b>Supported</b>
<b>H1e:</b> Design and Landscape → Customer Satisfaction	0.175	0.035	4.940	0.000	<b>Supported</b>
<b>H1f:</b> Design and Landscape → Loyalty to the Green Hotel	0.205	0.038	5.407	0.000	<b>Supported</b>
<b>H2a:</b> Customer Satisfaction → Intentions to Revisit	0.347	0.041	8.499	0.000	<b>Supported</b>
<b>H2b:</b> Customer Satisfaction → Word-of-Mouth	0.298	0.039	7.735	0.000	<b>Supported</b>
<b>H2c:</b> Loyalty to the Green Hotel → Intentions to Revisit	0.342	0.041	8.304	0.000	<b>Supported</b>
<b>H2d:</b> Loyalty to the Green Hotel → Word-of-Mouth	0.449	0.036	12.360	0.000	<b>Supported</b>
<b>H5:</b> COVID-19 Concern → Intentions to Revisit	0.080	0.028	2.813	0.005	<b>Supported</b>

**Table 7** Mediation Analysis: H6

Hypothesis	B	STDEV	t	P	Result
Design and Landscape → Loyalty to Green Hotels → Intentions to Revisit	0.070	0.017	4.208	0.000	<b>Supported</b>
Brand and Information → Customer Satisfaction → Word-of-Mouth	0.109	0.019	5.808	0.000	<b>Supported</b>
Design and Landscape → Loyalty to Green Hotels → Word-of-Mouth	0.092	0.019	4.817	0.000	<b>Supported</b>
Local and Organic Food → Loyalty to Green Hotels → Intentions to Revisit	0.065	0.016	4.040	0.000	<b>Supported</b>
Local and Organic Food → Loyalty to Green Hotels → Word-of-Mouth	0.085	0.020	4.347	0.000	<b>Supported</b>
Brand and Information → Loyalty to Green Hotels → Intentions to Revisit	0.105	0.018	5.751	0.000	<b>Supported</b>
Design and Landscape → Customer Satisfaction → Word-of-Mouth	0.052	0.012	4.192	0.000	<b>Supported</b>
Local and Organic Food → Customer Satisfaction → Intentions to Revisit	0.081	0.017	4.862	0.000	<b>Supported</b>
Local and Organic Food → Customer Satisfaction → Word-of-Mouth	0.070	0.015	4.619	0.000	<b>Supported</b>
Brand and Information → Customer Satisfaction → Intentions to Revisit	0.126	0.022	5.628	0.000	<b>Supported</b>
Brand and Information → Loyalty to Green Hotels → Word-of-Mouth	0.138	0.020	6.968	0.000	<b>Supported</b>
Design and Landscape → Customer Satisfaction → Intentions to Revisit	0.061	0.013	4.570	0.000	<b>Supported</b>



**Figure 3** Multigroup Analysis

**Table 8** Results of Invariance Measurement Testing Using Permutation

Constructs	Conf. Invar	Compositional Invariance		Partial Measur. Invar. Estab.	Equal Mean Assessment			Equal variance assessment			Full Measur. Invar Estab.
		C = 1	5%		Diff	Confidence Interval		Diff	Confidence Interval		
Brand and Information	yes	0.998	0.995	yes	0.003	-0.150	0.165	-0.002	-0.249	0.246	yes
COVID-19 Concern	yes	0.996	0.973	yes	-0.003	-0.146	0.146	0.004	-0.231	0.231	No
Customer Satisfaction	yes	0.999	0.998	yes	0.003	-0.156	0.159	-0.001	-0.244	0.244	yes
Design and Landscape	yes	1.000	0.995	yes	0.000	-0.155	0.156	-0.002	-0.238	0.237	yes
Local and Organic Food	yes	0.996	0.993	yes	0.003	-0.155	0.162	-0.008	-0.263	0.260	yes
Loyalty to Green Hotels	yes	1.000	0.999	yes	0.004	-0.151	0.157	-0.002	-0.235	0.237	yes
Intentions to Revisit	yes	1.000	0.999	yes	0.000	-0.154	0.157	-0.004	-0.233	0.239	yes
Word- of- Mouth	yes	1.000	0.999	yes	0.003	-0.163	0.161	-0.005	-0.277	0.240	yes

**Table 9** Multigroup Analysis

Relationships	Path Coeff female	Path Coeff male	Path Coeff. Differ. (Female-Male)	Henseler's MGA	Permuta- tion Test	Supported? (MGA/Per.Test)
H1c: Brand and Information → Customer Satisfaction	0.366	0.363	0.003	0.964	0.970	No/No
H1d: Brand and Information → Loyalty to Green Hotels	0.292	0.338	-0.045	0.539	0.542	No/No
H5: COVID-19 Concern → Intentions to Revisit	0.139	0.041	0.098	0.078	0.080	No/No
H2a: Customer Satisfaction → Intentions to Revisit	0.325	0.370	-0.045	0.588	0.587	No/No
H2b: Customer Satisfaction → Word-of-Mouth	0.311	0.281	0.030	0.692	0.699	No/No
H1e: Design and Landscape → Customer Satisfaction	0.195	0.157	0.039	0.592	0.594	No/No
<b>H1f: Design and Landscape → Loyalty to Green Hotels</b>	<b>0.278</b>	<b>0.117</b>	<b>0.161</b>	<b>0.035</b>	<b>0.034</b>	<b>Yes/Yes</b>
H1a: Local and Organic Food → Customer Satisfaction	0.235	0.240	-0.005	0.957	0.953	No/No
H1b: Local and Organic Food → Loyalty to Green Hotels	0.185	0.205	-0.020	0.793	0.793	No/No
H2c: Loyalty to Green Hotels → Intentions to Revisit	0.369	0.310	0.059	0.476	0.479	No/No
H2d: Loyalty to Green Hotels → Word-of-Mouth	0.450	0.453	-0.004	0.955	0.957	No/No

**Table 9** (Continued)

Relationships	Path Coeff female	Path Coeff male	Path Coeff. Differ. (Female-Male)	Henseler's MGA	Permuta- tion Test	Supported? (MGA/Per.Test)
<b>Design and Landscape → Loyalty to Green Hotel → Intentions to Revisit</b>	<b>0.102</b>	<b>0.036</b>	<b>0.066</b>	<b>0.045</b>	<b>0.046</b>	<b>Yes/Yes</b>
Brand and Information → Customer Satisfaction → Word-of-Mouth	0.114	0.102	0.012	0.754	0.753	No/No
Design and Landscape → Loyalty to Green Hotels → Word-of-Mouth	0.125	0.053	0.072	0.061	0.061	No/No
Local and Organic Food → Loyalty to Green Hotels → Intentions to Revisit	0.068	0.064	0.005	0.870	0.882	No/No
Local and Organic Food → Loyalty to Green Hotels → Word-of-Mouth	0.083	0.093	-0.010	0.811	0.806	No/No
Brand and Information → Loyalty to Green Hotels → Intentions to Revisit	0.108	0.104	0.003	0.925	0.929	No/No
Design and Landscape → Customer Satisfaction → Word-of-Mouth	0.061	0.044	0.017	0.505	0.513	No/No
Local and Organic Food → Customer Satisfaction → Intentions to Revisit	0.076	0.089	-0.012	0.716	0.718	No/No
Local and Organic Food → Customer Satisfaction → Word-of-Mouth	0.073	0.067	0.006	0.845	0.848	No/No
Brand and Information → Customer Satisfaction → Intentions to Revisit	0.119	0.134	-0.015	0.757	0.744	No/No
Brand and Information → Loyalty to Green Hotels → Word-of-Mouth	0.131	0.153	-0.022	0.594	0.593	No/No
Design and Landscape → Customer Satisfaction → Intentions to Revisit	0.064	0.058	0.006	0.843	0.840	No/No

*Note.* \*The Differences are significant in the relationships between the two genders ( $P < 0.05$ ).



## **5. DISCUSSION AND CONCLUSIONS**

### **5.1 Discussion**

Several significant findings emerged from the surveys. First, the results provide evidence of relationships between green practices—including brand and information, design and landscape, and local and organic food—and customer satisfaction (Hameed et al., 2022; Moise et al., 2018; Park et al., 2020). Among these practices, brand and information showed the greatest effect on customer satisfaction. The relationship between green practices and loyalty to green hotels is consistent with previous research findings (Merli et al., 2019; Moise et al., 2018; Wang et al., 2018; Wong et al., 2021). Additionally, brand and information exerted the strongest influences on hotel loyalty. The results indicate strong correlations of customer satisfaction with intentions to return and word-of-mouth. Therefore, a green hotel's brand and information have a large effect on customer loyalty. Previous research shows a strong link of customer satisfaction with intentions to revisit and word-of-mouth (Astuti et al., 2020; Azam et al., 2019; Chen et al., 2019; Gupta et al., 2023; Lee et al., 2019.; Ruan et al., 2022). However, the findings also demonstrate that the COVID-19 pandemic caused a significant impact on past research (Hassan et al., 2021; Ismagilova et al., 2021; Jian et al., 2020; Jones et al., 2020; Rehman et al., 2022; Yu et al., 2021).

Second, the findings reveal that customer satisfaction and loyalty to green hotels act as a moderator in the relationships of green practices with word-of-mouth and with intentions to revisit. This finding confirms those of previous research (Guerreiro et al., 2021; Karim et al., 2022; Merli et al., 2019; Moise et al., 2021; Tiwari, 2023) that among the considered variables, customer satisfaction and loyalty to green hotels showed the greatest mediating effects between brand and information and word-of-mouth, and intentions to revisit.

Third, gender roles were examined, demonstrating a significant impact on the link

between design and landscape and the level of loyalty to green hotels. Furthermore, the study uncovers a gender gap in the mediating effect of green hotel loyalty, specifically in relation to design and landscape and revisit intentions. These findings are consistent with those of Moise et al. (2021) who showed that females have a stronger association in these aspects. Therefore, the findings present important implications for the hotel industry and policymakers seeking to encourage sustainable practices and to improve customer experiences.

Brand and information show the largest effects on customer satisfaction. Customers favor accommodations that educate them about green practices, such as the implemented good environmental practices, how they can help to reduce the hotel's environmental impact, and information on nearby cultural and environmental activities and public transportation. Hotels must also incorporate sustainable practices into their branding and marketing plans. Customers who care about environmental sustainability (Rodrigues et al., 2021) can be effectively attracted by highlighting the benefits of eco-friendly actions in hotels' advertising materials and across communication channels. Positive word-of-mouth and a desire to engage with a brand again, can result from the relationship between brand identity and green practices. In this respect, hotels must give their staff members extensive training to maintain consistency and align their actions with an unwavering dedication to sustainable practices. Informed and actively engaged staff can accurately inform guests about the hotel's eco-friendly practices, thus enhancing the overall guest experience.

In terms of gender roles, the findings show that women are significantly more likely than men to form customer loyalty to green hotels with green architecture and landscaping. Hotel managers must use specialized marketing strategies, requiring modification to effectively target this specific group. Extra emphasis must be placed on elements of the hotel's environmentally friendly design and surroundings that might

prompt female guests to react a certain way. One way to take advantage of such a relationship is by creating serene and aesthetically pleasing green areas inside the hotel grounds. Female visitors can be drawn to and engaged by design elements that encourage rest, wellness, and outdoor experiences. As such, green hotels must provide female visitors with opportunities to interact with environmentally friendly landscaping and architecture to increase visitor engagement. The use of eco-friendly initiatives like eco-educational seminars, interactive exhibits, and guided nature walks can help people connect with and further appreciate the hotel's sustainable operations. In addition, staff training and communication must emphasize the importance of green architecture and landscaping in encouraging female visitor loyalty. Guests can exchange information and participate in discussions that highlight these characteristics, providing a personalized experience and strengthening positive relationships with employees. However, despite the highlights on the stronger correlation observed among females, this study emphasizes the importance of maintaining inclusivity and ensuring equal access to the benefits of green architecture and landscape for both genders. The primary goal must be to create a visually appealing and long-lasting environment that caters to a wide range of customer interests.

## **5.2 Conclusions**

This study demonstrates the various effects of environmentally sustainable policies implemented by hotels on their guests' perceptions. Important aspects of this association are also revealed. This study contributes significantly to our understanding of the complex dynamics in the domain of sustainable hospitality practices by analyzing direct correlations, intermediary variables, and gender disparities. Additionally, a complex network of links in the hospitality industry is revealed between green practice, customer satisfaction, loyalty to green hotels, word-of-mouth, and intentions to revisit. The

findings not only improve our understanding of the effects of green practices on guest experiences and perceptions by examining direct and indirect effects as well as gender differences, but they are also important for the hospitality industry because they demonstrate how hotels can use green practices to improve customer satisfaction, loyalty, and positive word-of-mouth. In this regard, the strong relationship between green design and landscape, loyalty to green hotels, and intentions to revisit among females presents an opportunity for hotels to create a distinct identity and attract a loyal customer base.

First, this study examines the effect of green hotel practices on visitors' perceptions. Accordingly, the findings show a relationship between green practices, customer satisfaction, and loyalty to green hotels. In addition, how customers react to environmentally friendly initiatives is considered while accounting for factors such as likelihood of repeat business and word-of-mouth. Furthermore, this study explores the role of customer satisfaction and loyalty toward green hotels in mediating the relationship between green practices and word of mouth and intentions to revisit. Finally, the potential effects of gender on the formation of these perceptions and giving of feedback were examined.

## **6. MANAGERIAL IMPLICATIONS**

The study findings present important implications for the hotel industry and policymakers seeking to encourage sustainable practices and improve consumer experiences. The findings also emphasize the significance of good and clear communication regarding a hotel's ecologically sustainable initiatives, thereby encouraging transparency. As such, hotels devote resources to the development of transparent and comprehensive methods for disseminating information about their sustainable efforts, certifications, and environmental undertakings. This approach cultivates the potential to increase consumer trust and promote favorable attitudes,

resulting in increased levels of satisfaction and loyalty (Figure 4).

Hotels must include environmental efforts in their branding and marketing strategies. Customers who value environmental sustainability can be effectively attracted by emphasizing the positive consequences of hotels' environmentally friendly actions in advertising materials and across several communication channels. The alignment of brand identity and sustainable practices can generate positive word-of-mouth endorsements and a desire to interact with the brand again.

Investing in green training and employee engagement can also have a positive effect on customer perceptions and actions, because a strong brand associated with environmentally friendly activities is perceived as influential. To preserve a sense of continuity, hotels must provide comprehensive training to their personnel, matching their behaviors with the brand's unwavering commitment to sustainable practices. Staff who are actively interested and knowledgeable about the hotel's environmentally friendly activities can provide accurate information to guests, thereby improving the overall customer experience. Additionally, hotels must have effective feedback mechanisms in place to gather insights into consumer views and expectations of ecologically sustainable activities. Receiving and evaluating feedback on a regular basis can help uncover opportunities for improvement and ensure that visitors' experiences are consistent with the expected positive perceptions of the brand's sustainable activities.

The link between a brand's green communication and consumer loyalty implies that implementing sustainable tactics can result in long-term financial benefits. Hotels can also consider sustainable operations as strategic investments that not only promote environmental preservation but also improve client happiness, loyalty, and word-of-mouth referrals.

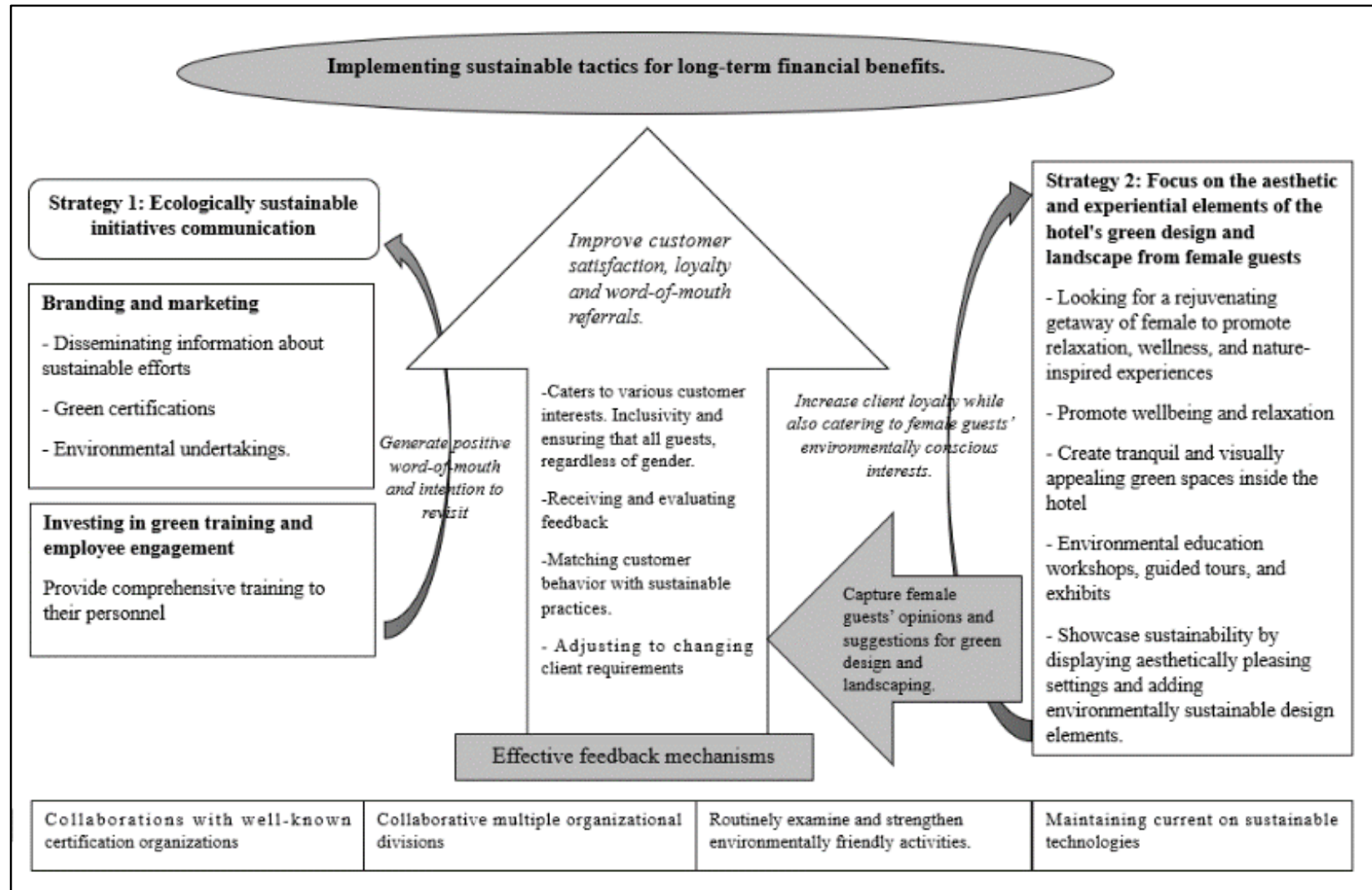
Collaborations with well-known certification organizations can also assist in

authenticating and strengthening a hotel's environmentally sustainable actions. Certification logos can serve as visible cues to visitors, confirming the brand's commitment to sustainability. Hotels must seek credible certificates that align with their fundamental values and match the expectations of their visitors. Collaborative endeavors between multiple organizational divisions must be promoted to establish a strong link between green practices and consumer satisfaction. The effective collaboration across the hotel management, operations, marketing, and guest services teams is critical to enable the seamless integration of sustainable practices into the holistic guest experience.

Regardless of their existing beneficial relationships, hotels must strive for continuous improvement to routinely examine and strengthen their environmentally friendly activities. This effort includes remaining current on sustainable technologies, adjusting to changing client requirements, and developing inventive solutions to mitigate environmental concerns.

The significant association between sustainable practice design and landscape components and customer loyalty to environmentally friendly hotels, with a special emphasis on female customers, presents major policy implications for the hospitality sector.

Tailored marketing tactics are specifically developed to match the individual demands and preferences of customers. These tactics entail a thorough examination of consumer and market data. Given the current environment with the observed association between green design and landscape and female customer loyalty, hotels are recommended to modify their marketing efforts to effectively target this specific demographic. A greater focus on the aesthetic and experiential elements of the hotel's green design and landscape may elicit a stronger response from female guests. The emphasis is mostly to promote wellbeing and relaxation. One strategy to capitalize on the abovementioned positive relationship is to create tranquil and visually appealing green



**Figure 4** Managerial Implication

spaces inside the hotel grounds. The introduction of design elements that promote relaxation, wellness, and nature-inspired experiences can appeal to and fascinate female guests looking for a rejuvenating getaway.

According to the present findings, women show a significant relationship between an ecologically friendly architecture and landscape and their level of devotion to the hotel. As such, hotels can showcase their commitment to sustainability by displaying aesthetically pleasing settings and adding environmentally sustainable design elements. This approach has the potential to increase client loyalty while also catering to female guests' environmentally conscious interests. To increase visitor engagement, hotels must provide multiple opportunities for female guests to interact with environmentally conscious architecture and landscaping. The use of guided nature walks, instructive seminars on eco-friendly initiatives, and interactive installations may potentially build a deeper connection and appreciation for the hotel's sustainable efforts. The value of green architecture and landscaping in encouraging female visitor loyalty must also be stressed through staff training and communication. Guests can communicate essential information and participate in discussions that highlight these qualities, thus providing a personalized experience and boosting their positive connections with the staff. Sustainability-focused events or seminars that honor and educate attendees, particularly women, about green design and landscaping may also be offered. These activities can raise awareness, strengthen emotional bonds, and promote loyalty formation.

In addition, hotels must work with local artists and craftspeople to incorporate environmentally sustainable and culturally significant design elements. This collaboration can create a one-of-a-kind and meaningful experience for female customers who value genuine and environmentally conscious activities.

Finally, numerous channels can be used for gathering and communicating feedback.

Putting feedback mechanisms in place can effectively capture female guests' opinions and suggestions for green design and landscaping. This technique can allow for incremental improvements and ensure that user preferences are factored into ongoing design decisions. Environmental education can be an excellent product for female guests who are concerned about the environment. The hotel can organize workshops, guided tours, and exhibits to demonstrate the steps taken to create an environmentally sustainable environment. However, this study emphasizes the importance of inclusivity and ensuring that all guests, regardless of gender, can benefit from green design and landscaping. The goal must be to create an appealing and long-lasting environment that caters to various customer interests.

## **7. LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH**

We acknowledge that this study has some limitations. First, the findings are context-specific and thus their generalization must be approached with caution. Future research will be able to validate the proposed model by testing it in various businesses and countries.

Second, the data are self-reported, and all survey responses are based on a Likert-type scale. This method increases the likelihood of perceptual bias. As a result, secondary data-based proxy measures may be applied. In the future, research may combine quantitative and qualitative methodologies to validate the present findings and gain deeper insights.

## **8. ACKNOWLEDGEMENT**

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