

## Enhancing green loyalty in 3-star hotels in Surabaya: The role of green image, green marketing, and the mediation of green satisfaction and green trust

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**Abstract:** The increasing awareness of environmental issues has led to the adoption of eco-friendly products and services, prompting hotels to implement the Green Hotel concept. This research explores the impact of Green Marketing and its relationship with Green Satisfaction, Green Trust, and Green Loyalty among 3-star hotel customers in Surabaya. The study uses Green Marketing Mix theory and examines how Green Image, Green Product, Green Price, Green Place, and Green Promotion affect Green Satisfaction and Green Trust. Additionally, it investigates the influence of Green Satisfaction and Green Trust on Green Loyalty. The research employs a causal explanatory approach with purposive sampling, targeting customers over 20 years old. Data analysis uses Structural Equation Modeling (SEM) with SmartPLS software. Findings show that Green Image, Green Product, Green Price, and Green Promotion positively affect Green Satisfaction and Trust, but Green Place does not significantly influence Green Trust. Green Satisfaction and Trust both positively affect Green Loyalty.

**Keywords:** *Green Hotel Concept, Green Image, Green Loyalty, Green Place, Green Price, Green Product, Green Promotion, Green Satisfaction, Green Trust, Surabaya.*

### 1. Introduction

Surabaya, as one of the cities in Indonesia that adopts the concept of an Eco Green City, has integrated sustainable development with a focus on environmental preservation. In the hospitality industry, many hotels have started adopting the green hotel principles, emphasizing environmentally friendly management through energy efficiency and reducing negative environmental impacts. Previous studies have shown that Green Brand Image has a positive effect on customer satisfaction and loyalty, as found by Dewanti, et al. [1] in her study of four-star hotels. Maharani [2] also highlighted the importance of the Green Marketing Mix, including Green Product, Green Price, Green Place, and Green Promotion, in increasing customer loyalty to environmentally friendly hotels. Furthermore, research by Firmansah, et al. [3] found that Green Trust mediates the relationship between Green Marketing and Green Loyalty in consumers with high environmental awareness, while Yoningsih, et al. [4] emphasized the role of Green Satisfaction as a mediator between Green Marketing and Green Loyalty.

However, despite numerous studies examining the importance of Green Brand Image and Green Marketing Mix in building Green Loyalty, there are still gaps in research that need to be addressed. One such gap is the role of Green Satisfaction and Green Trust as mediators between Green Brand Image and Green Marketing Mix with Green Loyalty. Further research is also needed to understand how the relationships between the elements of Green Marketing Mix influence Green Satisfaction and Green Loyalty, particularly in the context of three-star hotels in Surabaya, which have different

characteristics compared to four- or five-star hotels. Studies by Dewanti, et al. [1] and Maharani [2] highlight the importance of these elements, but there has been little focus on their impact on three-star hotels in Surabaya.

This study aims to fill these research gaps by examining the direct and indirect effects of Green Image and Green Marketing Mix on Green Loyalty through Green Satisfaction and Green Trust. This research is expected to provide practical insights for the management of three-star hotels in Surabaya on how implementing environmentally friendly strategies can enhance competitiveness and customer loyalty. By focusing on the local context of Surabaya as an Eco Green City, this study also supports the city's initiatives to promote sustainable and environmentally friendly business practices

This study aims to explore several research questions related to the influence of green marketing elements on customer loyalty in three-star hotels in Surabaya. Specifically, it will examine how Green Brand Image affects Green Loyalty, how the Green Marketing Mix influences Green Loyalty, and the role of Green Satisfaction as a mediator between Green Brand Image and Green Loyalty. Additionally, the research will investigate the role of Green Trust as a mediator between Green Marketing Mix and Green Loyalty, as well as how the elements of the Green Marketing Mix (Green Product, Green Price, Green Place, Green Promotion) influence Green Satisfaction and Green Loyalty. Finally, the study will assess the direct and indirect effects of Green Brand Image and Green Marketing Mix on Green Loyalty through Green Satisfaction and Green Trust in the context of three-star hotels in Surabaya. These questions aim to provide insights into how green marketing strategies can enhance customer loyalty, particularly in support of Surabaya's Eco Green City initiatives.

## 2. Literature Review and Hypotheses

### 2.1. Literature Review

#### 2.1.1. Green Marketing Mix

Green Marketing or Green Marketing Mix refers to a series of activities aimed at meeting consumer needs and satisfaction while ensuring environmental sustainability [5]. This concept includes policies, practices, and procedures based on environmental marketing that seek to increase revenue while building cooperative and strategic relationships [6]. Green Marketing gained popularity in the early 1990s, especially after the publication of "The Green Marketing Manifesto" by Grant [7]. The growing environmental awareness among consumers has encouraged companies to adopt this strategy, although its growth is often slow due to a market that has not fully shifted towards eco-friendly products [8]. The Green Marketing Mix, introduced by Bradley in the 1980s, adopts the traditional 4P elements of marketing (product, price, place, promotion) and adds environmentally-friendly components to achieve customer satisfaction while promoting environmental sustainability [9].

#### 2.1.2. Key Components of the Green Marketing Mix

##### 2.1.2.1. Green Product

Green products are designed to minimize the negative impact on the environment, using natural materials, being recyclable, and reducing emissions [10]. A Green Brand Image plays a crucial role in building consumer perceptions of a company's commitment to environmental sustainability, which can become a strategic asset for enhancing customer loyalty and trust [11]. With the right approach, the Green Marketing Mix not only helps companies achieve a competitive edge but also encourages more responsible consumption behaviors towards the environment.

##### 2.1.2.2. Green Price

Green Price refers to the price set for eco-friendly products, which is typically higher than conventional products due to additional costs, such as production processes, high-tech packaging, and waste management [12]. This price reflects added values such as design, function, and positive environmental impact [13]. Consumers are often willing to pay a premium if the product is safe, high-quality, and aligns with their environmental values, especially if they have high environmental

awareness [14]. Green Marketing must balance price and quality to ensure consumers are satisfied with the product being offered [15].

### 2.1.2.3. Green Place

Green Place refers to locations or distribution channels that support the concept of environmental sustainability, ranging from production sites to product distribution to consumers [16]. This place reflects the company's responsibility towards the environment, such as maintaining cleanliness, reducing carbon emissions, and minimizing delivery distances [17, 18]. Consumers tend to prefer locations that are close and easily accessible, making logistics efficiency an essential part of eco-friendly product distribution strategies [19]. Hence, Green Place encompasses not just the point of sale but also the entire distribution process focused on environmental sustainability.

### 2.1.2.4. Green Promotion

Green Promotion refers to promotional strategies that focus on introducing and spreading awareness of eco-friendly products through various media, such as electronic ads, social media, or public relations. The goal is to change consumer perceptions about the importance of eco-friendly products and raise public awareness of the positive impact of consuming these products. According to Istantia, et al. [20] green promotion encourages people to adopt a healthy and environmentally-friendly lifestyle. Additionally, this strategy highlights the company's environmental responsibility through three types of promotions: (1) ads linking products or services to the environment, (2) promotions supporting healthy lifestyles with eco-friendly products, and (3) promotions showcasing the company's environmental responsibility. The success of green promotion depends greatly on the credibility and the use of appropriate media to reach environmentally conscious consumers [21, 22].

### 2.1.3. Green Satisfaction

Green Satisfaction refers to consumer satisfaction derived from eco-friendly products' ability to meet their needs, desires, and expectations in a sustainable manner. Consumers feel satisfied when the product aligns with their environmental values [11]. In this context, green satisfaction is an emotional response to the benefits derived from products or services supporting environmental sustainability [23]. Indicators of green satisfaction include the pleasure derived from purchasing an eco-friendly brand, trust in the product's environmental performance, and overall satisfaction with the brand's commitment to environmental protection. Green satisfaction encourages businesses to manage their environmental impact more responsibly while meeting consumer expectations for eco-friendly products [24].

## 2.2. Research Hypothesis

### 2.2.1. The Effect of Green Image on Green Satisfaction

Green Image refers to consumers' perceptions of a brand's environmental commitment [25]. A positive Green Image not only enhances brand appeal but also contributes to customer satisfaction with the products or services offered, particularly in the environmental context. Previous studies have shown a significant relationship between Green Image and Green Satisfaction. For instance, Firmansah, et al. [3] found that Green Brand Image, Green Trust, and Green Satisfaction significantly contribute to Green Loyalty. Yoningsih, et al. [4] reported that Green Brand Image and Green Perceived Value significantly affect Green Trust, which in turn enhances Green Satisfaction. Dedy [26] identified Green Brand Image as an important factor in enhancing Green Satisfaction through Green Trust mediation. Tarabieh [27] mentioned that an environmentally-friendly company image has a positive impact on Green Satisfaction, which ultimately increases loyalty. However, not all studies support the direct effect of Green Image on Green Satisfaction. Yoningsih, et al. [4] stated that Green Image does not always have a significant impact on Green Satisfaction. Maharani [2] also found that Green Brand Image did not have a direct impact on several related variables, including Green Satisfaction. Given these varied

findings, this study aims to re-examine the relationship between Green Image and Green Satisfaction among visitors to three-star hotels in Surabaya, considering the context of the hospitality industry and the latest green marketing approach.

*H<sub>1</sub>: Green Image has a significant effect on Green Satisfaction among visitors to three-star hotels in Surabaya.*

### *2.2.2. The Effect of Green Product on Green Satisfaction*

Green product is defined as a product designed to minimize negative environmental impacts, including reducing pollution and conserving natural resources Firmansyah, et al. [28]. Shaputra [29] emphasizes that green products should consider environmental aspects throughout their life cycle to reduce environmental harm. Based on previous research, green products significantly affect green satisfaction, where the quality of eco-friendly products contributes to customer satisfaction [30, 31].

Other studies also support the positive effect of green products on various aspects related to Green Satisfaction. Dewanti, et al. [1] shows that green attributes, such as Green Brand Image and Green Trust, contribute to sustainable purchases. Esfahani [32] reveals that green products enhance brand equity without significant demographic differences. Tarabieh [27] found that the quality of green products improves customer satisfaction and loyalty. Maharani [2] added that green quality strengthens purchase intentions, while Upe and Usman [33] affirmed that green marketing increases customer satisfaction and loyalty. Yoningsih, et al. [4] and Román-Augusto, et al. [34] emphasized that green perceived value and green trust mediate the relationship between green products and customer satisfaction. This is further supported by Bugis, et al. [35] who mention that the green marketing mix, including green products, positively influences customer satisfaction. Sofyan and Batu (2023) highlighted the importance of green perceived value in enhancing trust and brand loyalty. These studies indicate that the quality of green products significantly affects Green Satisfaction, either directly or through mediating mechanisms such as Green Trust and Green Perceived Value. Therefore, the proposed hypothesis is:

*H<sub>2</sub>: Green product has a significant effect on Green Satisfaction among visitors to three-star hotels in Surabaya*

### *2.2.3. The Influence of Green Price on Green Satisfaction*

Green price, which reflects the additional costs to ensure environmentally-friendly production processes and packaging, becomes one of the key elements in the Green Marketing Mix [12]. While studies like Astuti, et al. [36] found that Green Price significantly influences Green Satisfaction, contrasting results were reported by Yahya, et al. [37] who stated that Green Price does not significantly affect Green Satisfaction. These differing results suggest that the influence of Green Price on Green Satisfaction can be influenced by specific contexts, such as customers' perceived value of the price paid for green products [32].

Dewanti, et al. [1] showed that factors in the Green Marketing Mix, including price, affect Green Trust and Green Purchase Intention. Furthermore, Herawati [38] revealed that Green Product, Green Price, and Green Promotion significantly contribute to Green Purchase Intention. Research by Yoningsih, et al. [4] further indicated that Green Trust mediates the relationship between the elements of the Green Marketing Mix and Green Satisfaction. Other studies, such as those by Mohammadi, et al. [39] and Román-Augusto, et al. [34] also emphasize that green marketing strategies, including green pricing, play a crucial role in enhancing customer loyalty and satisfaction. These findings are supported by Bugis, et al. [35] who found that elements of the Green Marketing Mix, including Green Price, have a positive relationship with customer satisfaction regarding eco-friendly products.

However, as noted by Pakutandang [40] the impact of Green Price on Green Satisfaction is not always significant in all contexts. This variance suggests that additional factors, such as customers' perception of value and fairness of price, should be considered when assessing the influence of Green Price on Green Satisfaction. Based on previous research findings and the relevance of this study's context, the hypothesis is proposed as follows:

*H<sub>3</sub>: Green Price significantly influences Green Satisfaction among visitors of 3-star hotels in Surabaya.*

#### 2.2.4. The Influence of Green Place on Green Satisfaction

Green Place, as an element of the Green Marketing Mix, emphasizes the importance of environmentally-friendly approaches in distribution and location. This includes the use of efficient distribution methods, locations close to consumers, and campaigns aimed at environmental conservation. Yan and Yazdanifard [41] emphasized that physical distribution within the Green Marketing Mix must consider environmental responsibility. Previous research has shown mixed results regarding the role of Green Place in Green Satisfaction. Astuti, et al. [36] found that Green Place has a positive and significant effect on customer satisfaction. This is further supported by Bugis, et al. [35] who proved that elements of the Green Marketing Mix, including Green Place, positively affect Green Satisfaction among consumers of eco-friendly products.

However, other studies report inconsistent results. Herawati [38] reported that Green Place does not significantly affect Green Purchase Intention, which could be due to the research context or respondent characteristics. Conversely, Mohammadi, et al. [39] emphasized the importance of eco-friendly distribution in improving brand loyalty, reflecting its contribution to customer satisfaction and experience.

Additionally, Yoningsih, et al. [4] stated that Green Trust plays a mediating role in the relationship between Green Marketing Mix elements and Green Satisfaction. Meanwhile, Román-Augusto, et al. [34] confirmed that Green Perceived Value contributes to Green Satisfaction, which then influences purchase intention and customer loyalty. Based on previous research findings, Green Place can influence Green Satisfaction because an environmentally-friendly approach in distribution and location can create a positive experience for customers. Therefore, the hypothesis is proposed as follows:

*H<sub>4</sub>: Green Place significantly influences Green Satisfaction among visitors of 3-star hotels in Surabaya.*

#### 2.2.5. The Influence of Green Promotion on Green Satisfaction

Green promotion is a key element of Green Marketing aimed at educating, raising awareness, and encouraging consumers to support eco-friendly products or services [42]. Previous studies suggest that Green Promotion can have a significant impact on Green Satisfaction, although results vary. Some studies support a positive relationship between Green Promotion and Green Satisfaction. Bugis, et al. [35] showed that elements of the Green Marketing Mix, including Green Promotion, significantly enhance customer satisfaction with eco-friendly products. This is also supported by Herawati [38] who found that Green Promotion significantly influences eco-friendly purchase intentions, which can be interpreted as a factor contributing to customer satisfaction.

However, other studies report different findings. Astuti, et al. [36] found that Green Promotion did not significantly affect Green Satisfaction, although other elements like Green Product and Green Price contributed positively. This variation could be due to differences in research context, target consumers, or the green marketing communication strategies employed by companies. Furthermore, Yoningsih, et al. [4] and Román-Augusto, et al. [34] suggested that Green Trust often acts as an important mediator linking Green Marketing Mix elements, including promotions, with satisfaction. Therefore, the effectiveness of Green Promotion in influencing Green Satisfaction may depend on how well the promotion builds consumer trust in the company's green claims. Based on this empirical evidence, the hypothesis is proposed as follows:

*H<sub>5</sub>: Green Promotion significantly influences Green Satisfaction among visitors of 3-star hotels in Surabaya.*

#### 2.2.6. The Influence of Green Image on Green Trust

Green Brand Image refers to the beliefs, ideas, and impressions that individuals have about a brand [43]. Based on previous studies, Green Brand Image has been shown to significantly influence Green Trust. Dewanti, et al. [1] found that Green Brand Image has a significant effect on Green Trust, indicating that an eco-friendly brand image can enhance consumer trust in that brand. Research by

Yoningsih, et al. [4] also supports this finding, showing that Green Brand Image significantly affects Green Trust. Furthermore, Rosyana and Zulfitri [44] confirmed that Green Brand Image positively influences Green Trust. Findings by Hidayat [45] also show that Green Brand Image plays a crucial role in strengthening the relationship between consumers and brands, with Green Trust mediating that relationship.

Based on these findings, it can be expected that Green Image will enhance the level of trust among visitors of 3-star hotels in Surabaya. Therefore, the hypothesis is proposed as follows:

*H<sub>6</sub>: Green Image significantly influences Green Trust among visitors of 3-star hotels in Surabaya.*

#### *2.2.7. The Influence of Green Product on Green Trust*

Consumers translate environmental concerns into a strong commitment to purchasing eco-friendly products [46, 47]. Green Product has been shown to significantly influence Green Trust. Several studies have demonstrated that eco-friendly products can increase consumer trust in a brand. Lestari, et al. [48] found that Green Product positively influences Green Trust, a finding further reinforced by Setyabudi and Adialita [49]. Research by Khan, et al. [50] also indicated that both physical and perceived attributes of eco-friendly products significantly impact Green Trust. Additionally, research by Dewanti, et al. [1] shows that trust in eco-friendly products plays an important role in fostering stronger relationships between consumers and the brand. This indicates that well-designed eco-friendly products can boost consumer trust, which in turn influences their purchasing decisions.

*H<sub>7</sub>: Green Product significantly influences Green Trust among visitors of 3-star hotels in Surabaya.*

#### *2.2.8. The Influence of Green Price on Green Trust*

Green Price can significantly influence Green Trust. Green Price refers to the price considered based on sustainability factors, often viewed as an indicator of the quality of eco-friendly products. Research by Dewanti, et al. [1] showed that Green Price significantly influences Green Purchase Intention, highlighting the important relationship between eco-friendly pricing and consumer perception of the value of green products. Esfahani [32] also found that Green Price plays a role in enhancing brand equity, which indirectly affects consumer trust. Additionally, research by Setyabudi and Adialita [49] showed that pricing perceived as eco-friendly can strengthen the relationship between Green Trust and Green Purchase Intention, indicating that price can serve as a factor reinforcing consumer trust. Therefore, the hypothesis is proposed as follows:

*H<sub>8</sub>: Green Price significantly influences Green Trust among visitors of 3-star hotels in Surabaya.*

#### *2.2.9. The Influence of Green Place on Green Trust*

The influence of Green Place on Green Trust can be justified by previous studies showing the importance of the Green Place element in the Green Marketing Mix. Studies by Astuti, et al. [36] and Bugis, et al. [35] found that Green Place is directly linked to customers' experiences with eco-friendly products and services, which can increase their trust in the company's sustainability and the quality of its products. Furthermore, Green Trust plays an important mediating role between various green product elements and customer purchase intentions or loyalty, as shown in the research by Lestari, et al. [48] and Khan, et al. [50]. Although not all aspects of Green Place have a direct impact on Green Trust, research shows that customer experiences supported by eco-friendly distribution and location policies can reinforce this relationship. Other studies, such as Pakutandang [40] also indicate that Green Place can affect Green Satisfaction and Green Loyalty, which are relevant in the hotel industry. Additionally, Green Brand Image, which is often influenced by Green Place, plays a significant role in boosting Green Trust, as found by Firmansah, et al. [51] and Rosyana and Zulfitri [44]. Based on this evidence, the hypothesis is proposed as follows:

*H<sub>9</sub>: Green Place significantly influences Green Trust among visitors of 3-star hotels in Surabaya.*

### 2.2.10. *The Influence of Green Promotion on Green Trust*

The influence of Green Promotion on Green Trust in the hospitality industry can be justified by various previous studies that highlight the relevance of environmentally-friendly promotions in building consumer trust. Green Promotion includes promotional activities that support environmental sustainability, such as green advertisements and environmentally-based promotions [52]. Several studies, such as those conducted by Dewanti, et al. [1] and Herawati [38] show that elements in the Green Marketing Mix, including Green Promotion, significantly affect Green Trust and Green Purchase Intention. Lestari, et al. [53] also found that Green Promotion can positively contribute to Green Trust, which in turn enhances the intention to buy eco-friendly products. Although Astuti, et al. [36] found that Green Promotion does not significantly affect customer satisfaction, other studies, such as those by Khan, et al. [50] and Mohammadi, et al. [39] reveal that environmentally-friendly promotions strengthen consumer trust in the brand and their loyalty. Additionally, Bugis, et al. [35] showed that elements of the Green Marketing Mix, including promotion, have a positive impact on customer satisfaction with eco-friendly products. Based on this evidence, the hypothesis proposed is that Green Promotion significantly influences Green Trust among visitors of 3-star hotels in Surabaya.

*H<sub>10</sub>: Green Promotion significantly influences Green Trust among visitors of 3-star hotels in Surabaya.*

### 2.2.11. *The Influence of Green Satisfaction on Green Loyalty*

Green Satisfaction refers to consumers' satisfaction or pleasure derived from selecting products that meet their environmental concerns and needs (green needs), and this satisfaction is enjoyable for the consumers (Bansal and Barnett in Chang and Fong [54]). Chrisjatmiko [55] found that consumer satisfaction with eco-friendly products can enhance their loyalty to the brand or product. Other studies, such as Tarabieh [27] also confirm that customer satisfaction with green products positively influences customer loyalty. Furthermore, research by Upe and Usman [33] indicates that Green Marketing plays a crucial role in increasing both customer satisfaction and loyalty, particularly relevant in the hospitality sector, which prioritizes sustainability and environmental care. Esfahani [32] and Bugis, et al. [35] also found that elements like Green Product and Green Price influence customer loyalty through enhanced brand equity, reinforcing the relevance of this hypothesis in the context of eco-friendly hotels. Additionally, Green Trust acts as a mediator in the relationship between Green Satisfaction and Green Loyalty, as discussed by Yoningsih, et al. [4] and Yuwanti, et al. [56]. This suggests that customers who are satisfied with eco-friendly products tend to have greater trust in the brand, which further enhances their loyalty. Thus, this study aligns with consumer satisfaction and loyalty theories, which state that positive and satisfying experiences will drive higher loyalty. Based on this evidence, the hypothesis is proposed as follows:

*H<sub>11</sub>: Green Satisfaction significantly influences Green Loyalty among visitors of 3-star hotels in Surabaya.*

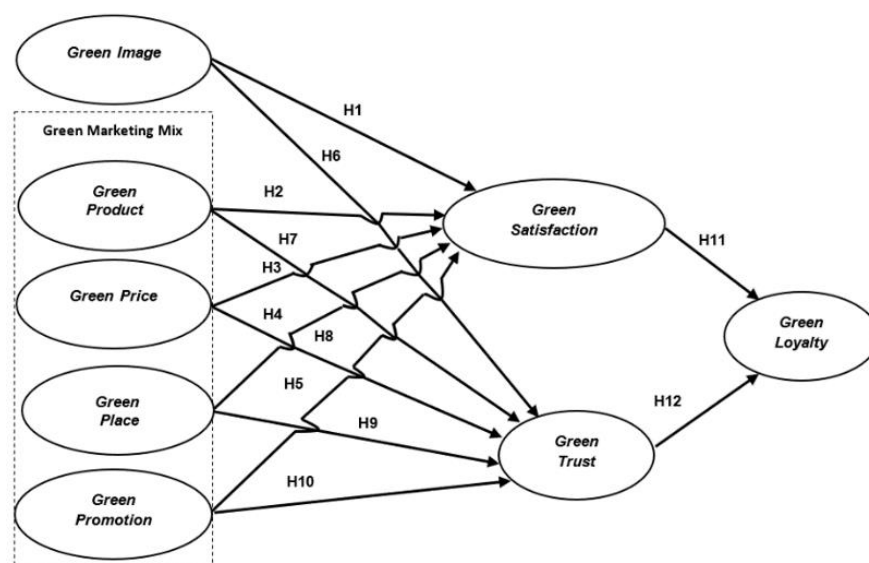
### 2.2.12. *The Influence of Green Trust on Green Loyalty*

Research by Firmansah, et al. [51] and Astuti and Sukaatmadja [57] demonstrates that Green Trust has a significant influence on Green Loyalty, indicating that consumers who trust eco-friendly products tend to be more loyal to those brands. Chrisjatmiko [55] also found that Green Trust is positively related to Green Loyalty, providing further evidence that trust in eco-friendly products can enhance customer loyalty. Moreover, [1] shows that Green Brand Image significantly influences Green Trust, which in turn increases Green Purchase Intention. This highlights the importance of brand image in building consumer trust in eco-friendly products, which can further strengthen customer loyalty. Another study by Maharani [2] suggests that Green Trust and Green Perceived Quality directly influence Green Purchase Intention, providing evidence that Green Trust plays an essential role in influencing purchase intentions and loyalty to eco-friendly products. Firmansah, et al. [3] also confirm that Green Trust, along with Green Satisfaction, significantly influences Green Loyalty, further supporting the hypothesis that Green Trust significantly influences Green Loyalty. Based on this body of evidence, the hypothesis proposed is:

*H<sub>12</sub>: Green Trust significantly influences Green Loyalty among visitors of 3-star hotels in Surabaya.*

### 2.3. Conceptual Framework

Based on existing theories, such as consumer behavior theory, green marketing theory, and the concepts of customer satisfaction and loyalty, this conceptual framework is developed to illustrate the relationships between relevant variables. Independent variables such as Green Image, Green Product, Green Price, Green Place, and Green Promotion are expected to influence Green Loyalty as the dependent variable. Additionally, Green Satisfaction and Green Trust act as moderating variables that can either strengthen or weaken the relationship between the independent and dependent variables. The conceptual framework, depicted in Figure 1, aims to provide a clear understanding of how environmentally friendly factors in the hospitality industry can enhance customer loyalty and serve as a guide for testing these influences in this research. The independent variables involved include Green Image (X1), Green Product (X2), Green Price (X3), Green Place (X4), and Green Promotion (X5), while the dependent variable is Green Loyalty (Y), with Green Satisfaction (Z1) and Green Trust (Z2) acting as mediating variables. This conceptual framework is designed to illustrate how environmental factors within the hotel industry can influence customer loyalty, and it will serve as a foundation for examining these relationships in the research study. The framework is illustrated in Figure 1.



**Figure 1.**  
Conceptual framework.

## 3. Method

### 3.1. Population, Sample, and Research Variables

The population in this study consists of customers of three-star hotels in Surabaya, with a sample selected using purposive sampling based on the criteria of customers aged over 20 years. The sample size was calculated using the Leme show formula, resulting in 96 respondents. The variables in this study include independent variables (Green Image, Green Product, Green Price, Green Place, Green Promotion), intervening variables (Green Satisfaction and Green Trust), and the dependent variable (Green Loyalty).



**Table 1.**  
Operational matrix of research variables.

No.	Variable	Operational research variables	Source
1	Green image (X1)	Best benchmark (X1.1)	Chen, et al. [58]
		Well established (X1.2)	
		Successful (X1.3)	
		Trustworthy (X1.4)	
2	Green product (X2)	Product hazard level (X2.1)	Rath [59]
		Product packaging (X2.2)	
		Raw material used (X2.3)	
3	Green price (X3)	Higher price (Premium price) (X3.1)	Rahman, et al. [14]
		Product price reflects quality (X3.2)	
4	Green place (X4)	Environmentally friendly hotel location (X4.1)	Davari and Strutton [19]
		Eco-friendly products found in hotels supporting environmental sustainability (X4.2)	
5	Green promotion (X5)	Provides information about green products in advertising (X5.1)	Davari and Strutton [19]
		Offers promotions and special deals to respondents who purchase green products (X5.2)	
6	Green satisfaction (Z1)	Respondents are happy with their decision to choose this brand due to environmental commitment (Z1.1)	Chen [11]
		Respondents believe it is the right choice to buy this brand due to environmental performance (Z1.2)	
		Overall, respondents are happy buying this brand because it is environmentally friendly (Z1.3)	
		Overall, respondents are satisfied with this brand due to environmental concern (Z1.4)	
7	Green trust (Z2)	Respondents feel that this brand's environmental commitment is generally trustworthy (Z2.1)	Chen [11]
		Respondents feel that this brand's environmental performance is reliable (Z2.2)	
		Respondents feel that this brand's environmental promises are trustworthy (Z2.3)	
		The environmental concern of this brand meets respondents' expectations (Z2.4)	
		This brand fulfills its environmental promises and commitments (Z2.5)	
8	Green loyalty (Y)	Purchase intent (Y1.1)	Mohd Suki [60] and Chang and Fong [54]
		Word-of-mouth (WoM) intentions (Y1.2)	
		Willingness to Pay (Y1.3)	

### 3.2. Operational Variables

This study uses a questionnaire with a Likert scale to measure consumer perceptions of eco-friendly hotels. Data analysis is conducted using Structural Equation Modeling (SEM) with Smart PLS Ver 3.28 to test the hypotheses. Model evaluation is done through validity and reliability testing (Convergent Validity, Discriminant Validity, Composite Reliability, Cronbach's Alpha) and examining relationships between latent variables using R-squares. Hypothesis testing checks the significance of the effects of independent variables on the dependent variable, with results considered significant if the t-statistic is greater than 1.96. as explained in Table 1.

## 4. The Result and Discussion

### 4.1. Three-Star Hotels

This research data includes information collected from respondents and documents, both in statistical and other forms, for research purposes. The data used consists of descriptive respondent

characteristics and responses related to the research variables. A three-star hotel is an accommodation that is located in a strategic area such as downtown or near shopping centers, with better facilities compared to two-star hotels and below four-star hotels. These facilities include at least 30 standard rooms with a minimum size of 24 square meters, suites with a minimum size of 48 square meters, en-suite bathrooms, recreational facilities such as swimming pools, air conditioning, television, restaurants, as well as spacious parking and lobby areas. A Green hotel or Eco-Lodge is an environmentally friendly accommodation concept aimed at reducing the negative impact on nature. The main principles of green hotels include local community participation in planning and development, environmental conservation through water, waste, and energy management, pollution reduction, and conservation education for employees, tourists, and local communities. This research focuses on the management of three-star hotels with a green hotel concept. Some examples of three-star hotels in Surabaya include:

**Table 2.**

Three-star hotels in Surabaya.

No	Hotel name	Address
1	Fave Hotel MEX Tunjungan	Mex Building, Jl. Pregolan No.1-3-5, Tegalsari
2	Gunawangsa Manyar	Jl. Menur Pumpungan No.62, Menur Pumpungan
3	Quest Hotel Darmo	Jl. Ronggolawe No.27-29, Wonorejo
4	Maxone Hotel Dharmahusada	Jl. Dharmahusada No.189, Mojo
5	My Tower Hotel	Jl. Rungkut Industri Raya No.4, Kutasari
6	Aston Inn	Jl. Sidosermo II No.70a, Sidosermo
7	Ibis Surabaya City Center	Jl. Basuki Rahmat No.94-96, Embong Kaliasin
8	Fave Hotel Rungkut	Jl. Raya Kalirungkut No.23-25, Kali Rungkut
9	Country Heritage Hotel	Jl. Nginden Intan Utara No.7, Nginden Jangkungan
10	Yello Hotel Jemursari	Jl. Raya Jemursari No.176, Kendangsari

#### 4.2. Respondent Characteristics

The analysis from the table above shows that the majority of respondents are male (55.2%), followed by female (44.8%). In terms of age, the largest group of visitors is from the 36-45 years age range (39.6%), followed by the 20-35 years group (31.3%) and those above 46 years (29.2%). This indicates that the majority of visitors to three-star hotels in Surabaya are male, with the 36-45 years age group being the largest, reflecting a tendency for more middle-aged, productive visitors, such as for business or leisure purposes, as explained in Table 3.

**Table 3.**

Respondent characteristics.

Characteristics	Classification	Number of respondents	Percentage (%)
Gender	Male	53	55.2
	Female	43	44.8
	Total	96	100.0
Age	20 – 35 years	30	31.3
	36 – 45 years	38	39.6
	> 46 years	28	29.2
	Total	96	100.0

#### 4.3. Descriptive Respondent Answers

The analysis of respondents' answers was conducted by calculating the mean class interval to determine the average rating position of respondents on each variable asked. The class interval is calculated by dividing the difference between the highest and lowest values ( $5 - 1 = 0.8$ ) by the number of classes, resulting in a class interval of 0.8. As shown in Table 4, based on this class interval, the average ratings are divided into five categories: Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree. The descriptive analysis results indicate that Green Image (X1) has an average score of 4.14, reflecting a positive image of Green Hotels. Green Product (X2) also has an average score of 4.00,

showing a positive response toward eco-friendly products. Green Price (X3) received an average score of 4.31, indicating that visitors tend to accept premium prices for environmentally friendly services. Green Place (X4) and Green Promotion (X5) scored averages of 4.22 and 4.18, respectively, indicating that the location, facilities, and promotions are satisfactory.

However, Green Satisfaction (Z1) with an average score of 3.71 and Green Trust (Z2) with an average score of 3.63 suggest that there is room for improvement in customer satisfaction and trust in the hotel's environmental commitment. Nevertheless, Green Loyalty (Y) shows a high average of 4.24, indicating strong loyalty to hotels with a Green Hotel concept. Overall, the analysis shows a positive response toward Green Hotels in Surabaya, particularly in Green Image, Green Price, and Green Loyalty. However, there are still areas that need improvement, such as Green Satisfaction and Green Trust, to further enhance customer satisfaction and trust in the eco-friendly services provided by the hotel.

**Table 4.**  
Descriptive respondent answers.

No.	Variable	Indicator	Mean	Standard deviation
1	Green image (X1)	(X1.1)	4.04	0.869
		(X1.2)	4.16	0.829
		(X1.3)	4.20	0.881
		(X1.4)	4.16	0.841
		Mean	4.14	-
2	Green product (X2)	(X2.1)	3.89	0.900
		(X2.2)	4.05	0.886
		(X2.3)	4.06	0.818
		Mean	4.00	-
3	Green price (X3)	(X3.1)	4.36	0.782
		(X3.2)	4.27	0.814
		Mean	4.31	-
4	Green place (X4)	(X4.1)	4.13	0.789
		(X4.2)	4.23	0.736
		Mean	4.22	-
5	Green promotion (X5)	(X5.1)	4.13	0.789
		(X5.2)	4.23	0.736
		Mean	4.18	-
6	Green satisfaction (Z1)	(Z1.1)	3.75	0.929
		(Z1.2)	3.79	0.928
		(Z1.3)	3.62	1.038
		(Z1.4)	3.69	1.106
		Mean	3.71	-
7	Green trust (Z2)	(Z2.1)	3.57	0.981
		(Z2.2)	3.64	0.994
		(Z2.3)	3.67	0.978
		(Z2.4)	3.66	1.052
		(Z2.5)	3.93	0.856
		Mean	3.63	-
8	Green loyalty (Y)	(Y1.1)	4.27	0.732
		(Y1.2)	4.17	0.781
		(Y1.3)	4.30	0.697
		Mean	4.24	-

#### 4.4. Analysis and Research Results

Table 5 presents the results of the Convergent Validity test, which measures how well the indicators used in this study assess the intended constructs. The values shown include Original Sample (O), Sample Mean (M), Standard Deviation, T Statistics ( $|O/STDEV|$ ), and P-Value for each item tested. All T-Statistics values above 1.96 and P-Values below 0.05 indicate good convergent validity,

meaning that the indicators successfully measure the intended constructs. For example, Green Image (X1) indicator X1.1 has a T-Statistic of 63.567 with a P-Value of 0.000, showing it is highly valid in measuring Green Image. The same applies to other indicators in the table, including those for Green Product (X2), Green Price (X3), Green Place (X4), Green Promotion (X5), Green Satisfaction (Z1), Green Trust (Z2), and Green Loyalty (Y). All indicators show very high T-Statistics and very low P-Values (0.000), indicating excellent convergent validity for all constructs tested. Overall, the table shows that all indicators used to measure the constructs in this study have significant convergent validity, meaning the data obtained is reliable for further analysis.

**Table 5.**

Convergent validity.

Item	Original sample (O)	Sample mean (M)	Standard deviation	T statistics ( O/STDEV )	P-value
Green image (X1)					
X1.1	0.936	0.934	0.015	63.567	0.000
X1.2	0.864	0.866	0.059	14.664	0.000
X1.3	0.848	0.845	0.040	20.954	0.000
X1.4	0.763	0.758	0.057	13.433	0.000
Green product (X2)					
X2.1	0.836	0.832	0.073	11.376	0.000
X2.2	0.912	0.914	0.019	47.769	0.000
X2.3	0.902	0.904	0.024	38.254	0.000
Green price (X3)					
X3.1	0.939	0.934	0.028	33.256	0.000
X3.2	0.958	0.959	0.010	95.609	0.000
Green place (X4)					
X4.1	0.939	0.938	0.014	65.344	0.000
X4.2	0.918	0.914	0.025	36.748	0.000
Green promotion (X5)					
X5.1	0.893	0.887	0.043	20.766	0.000
X5.2	0.922	0.923	0.018	50.978	0.000
Green satisfaction (Z1)					
Z1.1	0.902	0.900	0.032	28.529	0.000
Z1.2	0.933	0.932	0.015	62.242	0.000
Z1.3	0.949	0.950	0.012	78.783	0.000
Z1.4	0.927	0.925	0.020	47.503	0.000
Green trust (Z2)					
Z2.1	0.902	0.901	0.024	37.682	0.000
Z2.2	0.931	0.932	0.016	59.779	0.000
Z2.3	0.917	0.916	0.021	43.170	0.000
Z2.4	0.921	0.922	0.025	36.797	0.000
Z2.5	0.862	0.860	0.035	24.718	0.000
Green loyalty (Y)					
Y.1	0.839	0.839	0.086	9.788	0.000
Y.2	0.891	0.894	0.022	40.874	0.000
Y.3	0.871	0.871	0.040	21.963	0.000

#### 4.4.1. Discriminant Validity

Table 6 presents the Cross Loading as part of the Discriminant Validity test, which evaluates how well the indicators differentiate one construct from another. In discriminant validity testing, the correlation between an indicator and its intended construct should be higher than the correlation between that indicator and other constructs. This can be seen in the table, where the values in the construct columns (e.g., X1, X2, X3, etc.) are higher than the values in the rows where indicators cross with other constructs. For example, for indicator X1.1, the value for the Green Image (X1) construct is 0.936, which is higher than the correlation values with other constructs such as X2 (0.578), X3 (0.534),

and others. This condition applies to all indicators and constructs in the table, indicating that each indicator is more relevant to its intended construct than to other constructs.

Additionally, to ensure Convergent Validity, the Average Variance Extracted (AVE) value is used. The AVE test measures the extent to which variance in indicators can be explained by the related construct. An AVE value of 0.50 or higher indicates good convergent validity. Therefore, the results shown in Table 6 suggest that all constructs in this study have both discriminant and convergent validity, meaning the indicators effectively differentiate from each other and accurately measure their respective constructs.

**Table 6.**  
Cross loading.

	X1	X2	X3	X4	X5	Z1	Z2	Y
X1.1	0.936	0.578	0.534	0.492	0.508	0.598	0.597	0.698
X1.2	0.864	0.587	0.639	0.557	0.597	0.633	0.609	0.739
X1.3	0.848	0.436	0.372	0.458	0.408	0.542	0.510	0.634
X1.4	0.763	0.682	0.661	0.515	0.566	0.513	0.574	0.602
X2.1	0.629	0.836	0.468	0.431	0.479	0.568	0.578	0.630
X2.2	0.571	0.912	0.629	0.640	0.701	0.591	0.686	0.680
X2.3	0.581	0.902	0.640	0.660	0.670	0.603	0.692	0.660
X3.1	0.572	0.576	0.939	0.649	0.664	0.433	0.407	0.491
X3.2	0.654	0.667	0.958	0.660	0.674	0.498	0.504	0.538
X4.1	0.574	0.676	0.701	0.939	0.737	0.623	0.608	0.634
X4.2	0.524	0.538	0.572	0.918	0.685	0.574	0.491	0.592
X5.1	0.522	0.601	0.569	0.717	0.893	0.579	0.519	0.682
X5.2	0.584	0.671	0.703	0.679	0.922	0.620	0.660	0.725
Z1.1	0.582	0.548	0.387	0.573	0.588	0.902	0.763	0.655
Z1.2	0.621	0.607	0.427	0.643	0.591	0.933	0.874	0.673
Z1.3	0.655	0.655	0.508	0.566	0.648	0.949	0.866	0.707
Z1.4	0.633	0.653	0.505	0.616	0.625	0.927	0.850	0.653
Z2.1	0.578	0.643	0.413	0.533	0.536	0.843	0.902	0.589
Z2.2	0.603	0.721	0.488	0.593	0.652	0.881	0.931	0.698
Z2.3	0.623	0.685	0.437	0.511	0.604	0.802	0.917	0.677
Z2.4	0.607	0.721	0.447	0.546	0.601	0.814	0.921	0.637
Z2.5	0.635	0.580	0.405	0.516	0.569	0.761	0.862	0.698
Y.1	0.753	0.630	0.394	0.467	0.545	0.529	0.569	0.839
Y.2	0.680	0.705	0.609	0.609	0.818	0.671	0.700	0.891
Y.3	0.625	0.595	0.394	0.628	0.630	0.672	0.616	0.871

#### 4.4.2. Average Variance Extracted

The Table 7 below shows the Average Variance Extracted (AVE) values for each variable in the study, which are used to assess Convergent Validity. All variables have AVE values greater than 0.50, indicating that these constructs have good convergent validity. For example, Green Price (X3) has the highest AVE value at 0.900, followed by Green Place (X4) and Green Satisfaction (Z1) with AVE values of 0.863 and 0.861, respectively, indicating that their indicators are well explained by these constructs. Overall, these results show that the constructs in the research model have good convergent validity.

**Table 7.**

Average variance extracted (AVE).

Variable	Average variance extracted (AVE)
Green image (X1)	0.731
Green product (X2)	0.781
Green price (X3)	0.900
Green place (X4)	0.863
Green promotion (X5)	0.824
Green satisfaction (Z1)	0.861
Green trust (Z2)	0.823
Green loyalty (Y)	0.752

#### 4.4.3. Composite Reliability

**Table 8.**

Composite reliability.

Variable	Composite reliability
Green image (X1)	0.919
Green product (X2)	0.911
Green price (X3)	0.927
Green place (X4)	0.913
Green promotion (X5)	0.885
Green satisfaction (Z1)	0.961
Green trust (Z2)	0.959
Green loyalty (Y)	0.904

This table provides a comprehensive overview of the reliability of the constructs within the study, confirming their consistency in measuring the underlying concepts.

#### 4.4.4. Cronbach Alpha

Table 9 shows the Cronbach Alpha values for each variable in the study. All variables have Cronbach Alpha values greater than 0.6, which indicates that all variables in this research model are reliable. For example, Green Satisfaction (Z1) and Green Trust (Z2) have the highest values, 0.946, indicating very high reliability. Thus, it can be concluded that all variables in this study meet the criteria for good reliability and can be used for further analysis.

**Table 9.**

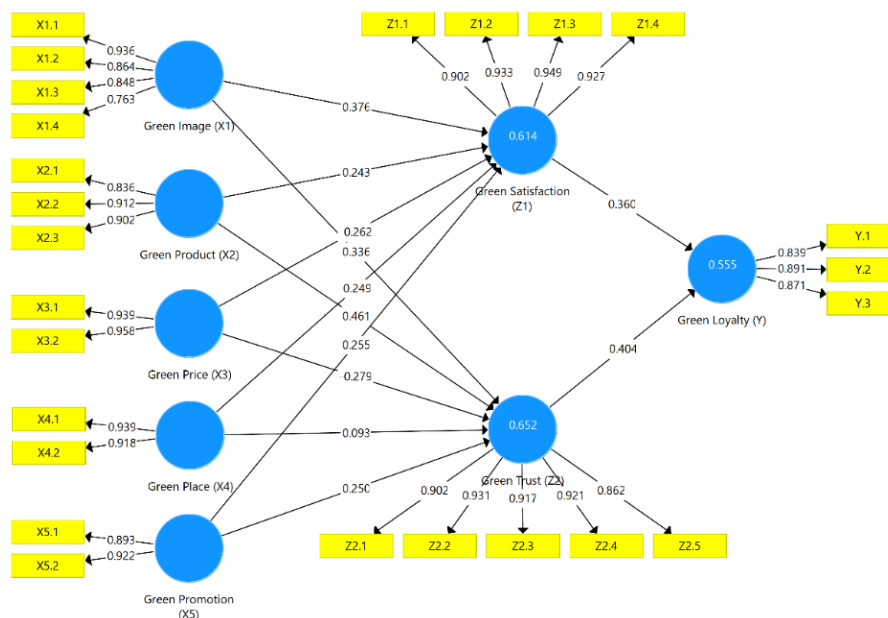
Cronbach alpha.

Variable	Cronbach alpha
Green image (X1)	0.875
Green product (X2)	0.860
Green price (X3)	0.890
Green place (X4)	0.842
Green promotion (X5)	0.788
Green satisfaction (Z1)	0.946
Green trust (Z2)	0.946
Green loyalty (Y)	0.836

Table 8 shows the composite reliability values for each variable in the study. All variables have composite reliability values above 0.60, meeting the criteria established by Ghazali and Latan [61] indicating that these constructs are reliable. For example, Green Satisfaction (Z1) has the highest composite reliability value of 0.961, followed by Green Trust (Z2) with 0.959. The high composite reliability values indicate that all variables in this study have adequate internal consistency in measuring the intended constructs. Therefore, all variables in the research model can be considered reliable.

#### 4.5. Structural Model Analysis (Inner Model)

The inner model is a structural model used to predict causal relationships (cause-effect relationships) among latent variables or variables that cannot be directly measured. Below is the illustration of the Partial Least Squares Structural Model:



**Figure 2.** Structural model of partial least squares (PLS).

The structural model in Partial Least Squares (PLS) is used to predict causal relationships between latent variables, which cannot be measured directly. Based on Figure 2, it can be seen that the variables Green Satisfaction (Z1) and Green Trust (Z2) are influenced by the independent variables Green Image (X1), Green Product (X2), Green Price (X3), Green Place (X4), and Green Promotion (X5). Meanwhile, Green Loyalty (Y) is influenced by Green Satisfaction (Z1) and Green Trust (Z2). The structural equations generated in this model are as follows:

- $Z1 = 0.376X1 + 0.243X2 + 0.262X3 + 0.249X4 + 0.255X5$
- $Z2 = 0.336X1 + 0.461X2 + 0.279X3 + 0.093X4 + 0.250X5$
- $Y = 0.360Z1 + 0.404Z2$

In the evaluation of the inner model, two key metrics are used:  $R^2$  and  $Q^2$ .  $R^2$  measures how well the independent variables in the model explain the dependent variables, while  $Q^2$  is used to assess the predictive relevance of the model. The next step is to conduct an inner model test to evaluate the strength of relationships between variables.

##### 4.5.1. R-Square ( $R^2$ )

Assessing the model with PLS begins with observing the R-Square for each endogenous latent variable. Changes in the R-Square values can be used to assess the effect of certain independent latent variables on the dependent latent variables and whether they have a substantive impact. For endogenous latent variables in the structural model, an  $R^2$  value of 0.75 indicates that the model is “good,” 0.50 indicates that the model is “moderate,” and 0.25 indicates that the model is “weak” [62]. The PLS output is as shown in Table 10.

**Table 10.**

R-Square.

Variable	R-square
Green satisfaction (Z1)	0.614
Green trust (Z2)	0.652
Green loyalty (Y)	0.555

Based on Table 10, the Green Satisfaction (Z1) variable is influenced by the Green Image (X1), Green Product (X2), Green Price (X3), Green Place (X4), and Green Promotion (X5) variables, with an R<sup>2</sup> value of 0.614, indicating that the independent variables explain 61.4% of the variation in Green Satisfaction, which falls into the "Moderate" category. The Green Trust (Z2) variable, influenced by the same independent variables, has an R<sup>2</sup> value of 0.652, indicating a 65.2% effect, also classified as "Moderate." Meanwhile, the Green Loyalty (Y) variable, influenced by Green Satisfaction (Z1) and Green Trust (Z2), has an R<sup>2</sup> value of 0.555, indicating a 55.5% effect, which also falls into the "Moderate" category.

Table 10 shows the R-Square values for the dependent latent variables in the PLS structural model. The R-Square value is used to assess how much the independent latent variables affect the dependent latent variables. According to Ghazali [62] an R<sup>2</sup> value of 0.75 is considered "good," 0.50 is considered "moderate," and 0.25 is considered "weak." In this table, the Green Satisfaction (Z1) variable has an R<sup>2</sup> of 0.614, showing a 61.4% effect, classified as "Moderate." Green Trust (Z2) has an R<sup>2</sup> of 0.652, indicating a 65.2% effect, also in the "Moderate" category. The Green Loyalty (Y) variable, influenced by Green Satisfaction (Z1) and Green Trust (Z2), has an R<sup>2</sup> of 0.555, which means a 55.5% effect, also in the "Moderate" category. Overall, these results show that the model has a moderate influence on the dependent variables.

#### 4.5.2. Q-Square (Q<sup>2</sup>)

The Q-Square or Predictive Relevance test is used to assess how well the structural model predicts. The Q-Square value is calculated using the blindfolding procedure, and if the result is greater than 0, the model is considered to have good predictive relevance. If the Q-Square value is less than 0, the model lacks predictive relevance. The Q<sup>2</sup> is calculated using the formula:

$$Q^2 = 1 - [(1 - R_1)(1 - R_2)(1 - R_3)...(1 - R_n)]$$

Substituting the R<sup>2</sup> values from the previous table:

$$Q^2 = 1 - [(1 - 0.614)(1 - 0.652)(1 - 0.555)]$$

$$Q^2 = 1 - [(0.386)(0.348)(0.445)]$$

$$Q^2 = 1 - [0.0617]$$

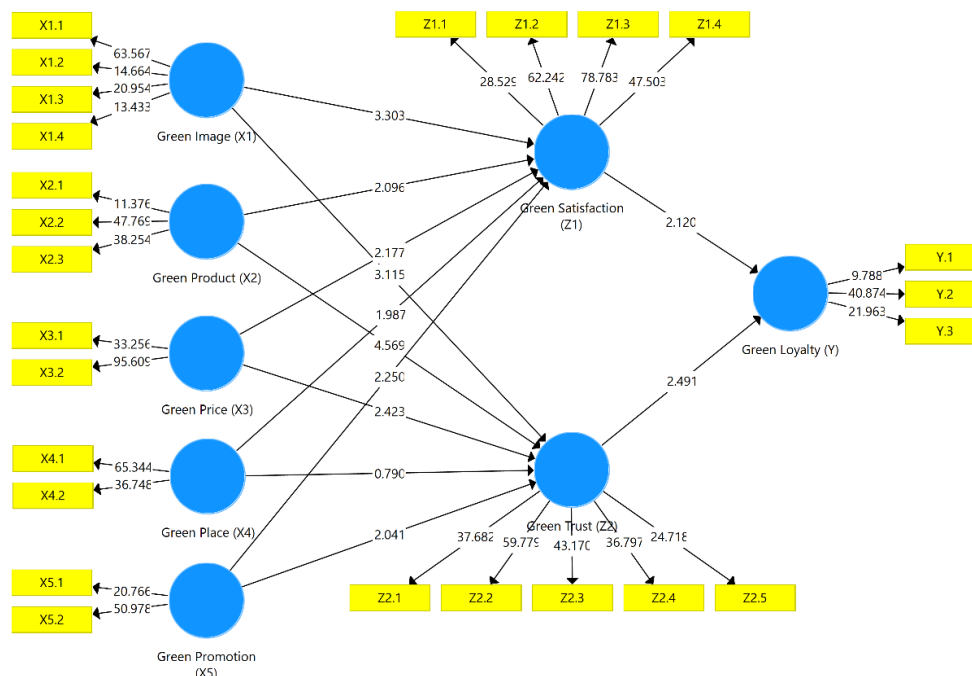
$$Q^2 = 0.941$$

Since the Q<sup>2</sup> value is 0.941, which is greater than 0, it can be concluded that the structural model has excellent predictive relevance. This indicates that the model effectively predicts the relationships between variables.

#### 4.6. Hypothesis Testing

The next stage, do Bootstrapping and the results obtained are:





**Figure 3.**  
Bootstrap.

**Table 11.**  
Research Hypothesis.

H	Relationship variables	Original sample (O)	T statistics ( O/STDEV )	P values	Result
H <sub>1</sub>	Green image (X1) -> Green satisfaction (Z1)	0.376	3.303	0.001	Significant
H <sub>2</sub>	Green product (X2) -> Green satisfaction (Z1)	0.243	2.096	0.037	Significant
H <sub>3</sub>	Green price (X3) -> Green satisfaction (Z1)	0.262	2.177	0.030	Significant
H <sub>4</sub>	Green place (X4) -> Green satisfaction (Z1)	0.249	1.987	0.047	Significant
H <sub>5</sub>	Green promotion (X5) -> Green satisfaction (Z1)	0.255	2.250	0.025	Significant
H <sub>6</sub>	Green image (X1) -> Green trust (Z2)	0.336	3.115	0.002	Significant
H <sub>7</sub>	Green product (X2) -> Green trust (Z2)	0.461	4.569	0.000	Significant
H <sub>8</sub>	Green price (X3) -> Green trust (Z2)	0.279	2.423	0.016	Significant
H <sub>9</sub>	Green place (X4) -> Green trust (Z2)	0.093	0.790	0.430	Not significant
H <sub>10</sub>	Green promotion (X5) -> Green trust (Z2)	0.250	2.041	0.042	Significant
H <sub>11</sub>	Green satisfaction (Z1) -> Green loyalty (Y)	0.360	2.120	0.034	Significant
H <sub>12</sub>	Green trust (Z2) -> Green loyalty (Y)	0.404	2.491	0.013	Significant

#### 4.7. The Effect of Green Image on Green Satisfaction (H1)

The hypothesis testing results indicate that Green Image has a significant positive effect on Green Satisfaction with a T-statistic value of 3.303 (greater than 1.96) and an Original Sample value of 0.376. This shows a positive relationship between the two variables. Previous studies, such as those by Tarabieh [27] support this finding, suggesting that Green Brand Image significantly contributes to Green Satisfaction. Therefore, H1 is accepted, meaning that Green Image has a significant positive effect on Green Satisfaction among three-star hotel visitors in Surabaya.

#### 4.8. The Effect of Green Product on Green Satisfaction (H2)

The hypothesis testing results show that Green Product has a significant positive effect on Green Satisfaction with a T-statistic value of 2.096 (greater than 1.96) and an Original Sample value of 0.243. Previous studies, such as those by Firmansyah, et al. [28] and Dewanti, et al. [1] also support that

Green Product positively impacts Green Satisfaction. Thus, H2 is accepted, which indicates that Green Product has a significant positive effect on Green Satisfaction among three-star hotel visitors in Surabaya.

#### 4.9. *The Effect of Green Price on Green Satisfaction (H3)*

The hypothesis testing results indicate that Green Price has a significant positive effect on Green Satisfaction with a T-statistic value of 2.177 (greater than 1.96) and an Original Sample value of 0.262. Previous research, as noted by Astuti, et al. [36] and Dewanti, et al. [1] supports the idea that Green Price plays an important role in enhancing Green Satisfaction. Therefore, H3 is accepted, suggesting that Green Price has a significant positive effect on Green Satisfaction among three-star hotel visitors in Surabaya.

#### 4.10. *The Effect of Green Place on Green Satisfaction (H4)*

The hypothesis testing results show that Green Place has a significant positive effect on Green Satisfaction with a T-statistic value of 1.987 (greater than 1.96) and an Original Sample value of 0.249. Previous research, such as Astuti, et al. [36] and Bugis, et al. [35] supports the notion that Green Place has a significant impact on Green Satisfaction. However, some studies, like Herawati [38] report inconsistent results. Based on these findings, H4 is accepted, indicating that Green Place has a significant positive effect on Green Satisfaction among three-star hotel visitors in Surabaya.

#### 4.11. *The Effect of Green Promotion on Green Satisfaction (H5)*

Hypothesis testing shows that Green Promotion has a significant positive effect on Green Satisfaction with a T-statistic value of 2.250 (greater than 1.96) and an Original Sample value of 0.255. Previous research, such as Bugis, et al. [35] and Herawati [38] confirms that Green Promotion can increase Green Satisfaction. Therefore, H5 is accepted, indicating that Green Promotion has a significant positive effect on Green Satisfaction among three-star hotel visitors in Surabaya.

#### 4.12. *The Effect of Green Image on Green Trust (H6)*

The hypothesis testing results show that Green Image has a significant positive effect on Green Trust with a T-statistic value of 3.115 (greater than 1.96) and an Original Sample value of 0.336. This finding is supported by previous studies, such as Dewanti, et al. [1] and Yoningsih, et al. [4]. Therefore, H6 is accepted, indicating that Green Image has a significant positive effect on Green Trust among three-star hotel visitors in Surabaya.

#### 4.13. *The Effect of Green Product on Green Trust (H7)*

The hypothesis testing results show that Green Product has a significant positive effect on Green Trust with a T-statistic value of 4.569 (greater than 1.96) and an Original Sample value of 0.461. Previous research, such as Lestari, et al. [53] and Setyabudi and Adialita [49] supports that environmentally friendly products increase consumer trust in the brand. Therefore, H7 is accepted, indicating that Green Product has a significant positive effect on Green Trust among three-star hotel visitors in Surabaya.

#### 4.14. *The Effect of Green Price on Green Trust (H8)*

The hypothesis testing results show that Green Price has a significant positive effect on Green Trust with a T-statistic value of 2.423 (greater than 1.96) and an Original Sample value of 0.279. Research, such as Esfahani [32] and Setyabudi and Adialita [49] confirms that environmentally friendly pricing can strengthen consumer trust in a brand. Therefore, H8 is accepted, indicating that Green Price has a significant positive effect on Green Trust among three-star hotel visitors in Surabaya.

#### 4.15. *The Effect of Green Place on Green Trust (H9)*

The hypothesis testing results show that Green Place does not have a significant effect on Green Trust, as the T-statistic value is 0.790 (less than 1.96) and the Original Sample value is 0.093, indicating an insignificant relationship. While some previous studies suggest that Green Place can influence customer satisfaction and loyalty (such as [35, 36]) this study shows that in the context of three-star hotel visitors in Surabaya, Green Place does not have a significant effect on Green Trust. Therefore, H9 is rejected, indicating that Green Place does not significantly affect Green Trust among three-star hotel visitors in Surabaya.

#### 4.16. *The Effect of Green Promotion on Green Trust (H10)*

The hypothesis testing results show that Green Promotion has a significant positive effect on Green Trust with a T-statistic value of 2.041 (greater than 1.96) and an Original Sample value of 0.250. Previous studies, such as those by Dewanti, et al. [1]; Herawati [38] and Lestari, et al. [53] confirm that Green Promotion can enhance consumer trust in the brand. Therefore, H10 is accepted, suggesting that Green Promotion has a significant positive effect on Green Trust among three-star hotel visitors in Surabaya.

#### 4.17. *The Effect of Green Satisfaction on Green Loyalty (H11)*

The hypothesis testing results show that Green Satisfaction has a significant positive effect on Green Loyalty, with a T-statistic value of 2.120 (greater than 1.96) and an Original Sample value of 0.360. Previous research by Firmansah, et al. [3] and Chrisjatmiko [55] also confirms that satisfaction with environmentally friendly products can enhance consumer loyalty. Therefore, H11 is accepted, indicating that Green Satisfaction has a significant positive effect on Green Loyalty among three-star hotel visitors in Surabaya.

#### 4.18. *The Effect of Green Trust on Green Loyalty (H12)*

The hypothesis testing results show that Green Trust has a significant positive effect on Green Loyalty, with a T-statistic value of 2.491 (greater than 1.96) and an Original Sample value of 0.404. Research by Firmansah, et al. [51] and Astuti and Sukaatmadja [57] supports that trust in environmentally friendly products can increase consumer loyalty to the brand. Therefore, H12 is accepted, indicating that Green Trust has a significant positive effect on Green Loyalty among three-star hotel visitors in Surabaya.

## 5. Conclusion

Based on the data analysis, it can be concluded that Green Image, Green Product, Green Price, Green Place, and Green Promotion significantly and positively affect Green Satisfaction among visitors to three-star hotels in Surabaya that implement the Green Hotel concept. This indicates that consumer expectations for eco-friendly products and services play a key role in creating satisfaction. Furthermore, Green Image, Green Product, Green Price, and Green Promotion also positively influence Green Trust, while Green Place did not show a significant effect on Green Trust. Moreover, Green Satisfaction has a significant positive effect on Green Loyalty, showing that consumer satisfaction with eco-friendly services enhances their loyalty to continue using the hotel's services. Green Trust also significantly and positively influences Green Loyalty, suggesting that consumer trust in eco-friendly services can foster their loyalty.

### 5.1. *Theoretical and Practical Implications*

#### 5.1.1. *Theoretical Implications*

This study contributes significantly to the understanding of the relationship between eco-friendly factors and consumer satisfaction, trust, and loyalty. The findings show that Green Image, Green

Product, Green Price, Green Place, and Green Promotion significantly influence Green Satisfaction and Green Trust, which in turn impacts Green Loyalty. This research enriches the existing literature, particularly in the context of the hospitality industry that prioritizes sustainability and environmental concern.

### 5.2. Practical Implications

Based on the research findings, it is recommended that three-star hotels in Surabaya focus on strengthening several elements of the Green Hotel concept to enhance Green Satisfaction, Green Trust, and Green Loyalty among guests. Hotels should prioritize improving Green Image by offering eco-friendly products and adhering to Green Hotel standards. Competitive pricing (Green Price) and promotions emphasizing sustainability (Green Promotion) are also essential. Adding more green elements around the hotel (Green Place) can improve the customer experience, although its impact on Green Trust was not significant. More intensive promotion via social media and collaboration with influencers can increase public awareness of the hotel's commitment to sustainability.

### 5.3. Limitations of the Study and Recommendations

This study has several limitations, including limited literature on the influence of Green Place and Green Promotion on Green Trust, and the potential impact of using questionnaires on the validity of results, especially if respondents are not careful when filling them out. Additionally, the study only involved 96 respondents from three-star hotels in Surabaya, which limits the generalizability of the results to hotel guests in other cities. For future research, it is recommended to involve a larger sample and participants from different locations to broaden the generalizability of the findings. Future studies could also explore other variables that may affect Green Satisfaction and Green Loyalty, such as social, cultural, or consumer behavior factors, to provide a more comprehensive understanding of consumer loyalty dynamics toward eco-friendly hotels.

### Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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