Article

The Role of Hotel Environmental Communication and Guests' Environmental Concern in Determining Guests' Behavioral Intentions

Alessia Acampora [1] [iD], Michele Preziosi [2] [iD], Maria Claudia Lucchetti [1] and Roberto Merli [1,*][iD]

[1] Department of Business Studies, Roma Tre University, Via Silvio D'Amico 77, 00145 Roma, Italy
[2] Energy Efficiency Department, ENEA (Italian National Agency for New Technologies, Energy and Sustainable Economic Development), Lungotevere Thaon di Revel, 76, 00196 Roma, Italy
* Correspondence: roberto.merli@uniroma3.it

Abstract: Over time, more and more hotels have begun to include sustainability policies into their operations management. Hotels go green for a variety of reasons, including cost savings, public funding, staff commitment, public scrutiny, investor relations, and general societal good. However, one of the primary motivations for hotels to go green is to respond to rising consumer awareness of environmental issues. Indeed, consumers are becoming increasingly aware of hotels' environmental impact and seem to appreciate hoteliers' efforts towards sustainability, enhancing customer satisfaction and contributing to the formation of positive behavioral intentions and indirectly increasing firms' competitiveness. By reason of that situation, many hotels started to introduce green practices in a proactive manner, with the double goal to involve green consumers and to improve their economic performance. Third-party verified eco-labels ensure that hotels meet environmental performance criteria and provide reliable communication to their customers in this context. We propose a conceptual framework to investigate whether green practices implemented by Italian "Legambiente Turismo" certified hotels contribute significantly to the formation of guests' positive behavioral intention toward green hotels and the importance of green communication on guest attitude and behavior, starting with a review of the literature on eco-labelled hotels. To test the hypotheses, a survey of visitors from two Italian hotels with the ecolabel was undertaken, and Partial Least Square Structural Equation Modelling (PLS-SEM) was used. The PLS-SEM analysis leads to accepting eight out of the eleven hypotheses tested. Results from the model testing show the role played by guest environmental concern in influencing guests' perception of hotels' green communication and the role of the latter in influencing guest perception of hotel green practices. The findings of the study are useful for hotel managers and decision-makers because they clarify the relevance of environmental communication and guest environmental awareness in visitor recognition of hotels' environmental efforts. The study also confirms the link between green practices implementation and increased market awareness and loyalty to green hotels.

Keywords: green practices; green hotel; ecolabel; environmental communication; guest loyalty; PLS-SEM

1. Introduction

The growth of the tourism sector goes hand in hand with its increasing environmental impact [1]. Tourism activity and the environment have always had a complex and dual relationship: on the one hand, tourism depends on the environment to attract tourist flows; on the other hand, the environment depends on tourism, as it generates negative impacts on the tourism ecosystem, with the risk of damaging it permanently [2]. It is therefore necessary to find a balance between the economic profitability of the tourism sector and the quality of the ecosystem in which tourism activities take place [3]. Tourism, as a dynamic industry subordinated to the changes in consumer preferences, has been

influenced by the development of the sustainability concept [4]. In fact, part of the tourism demand has become more and more interested in a type of consumption that is sensitive to the environmental protection and to the respect of local populations' cultures [5]. After this change in consumption styles, all the actors of the tourism system (tourism industry, local populations, non-profit organizations, and local bodies) have worked both for the identification of strategies to satisfy these new needs, and to communicate to the public this new sustainable approach to tourism, to make customers able to perceive the benefit of their choices. The assimilation of the concept of sustainable tourism is a long and challenging process: in fact, it requires a gradual collective path involving all the stakeholders operating in the industry. In this context, the lodging industry has been a leader in implementing sustainable practices and establishing environmental accreditations and ecolabels [6], also in response to the changing in consumers' preferences [7]. Indeed, consumers are increasingly looking for environment-friendly lodging options but they are also feeling uninformed about whether hotels are truly eco-friendly [8]. To encourage this involvement, ecolabels are useful tools for hotel facilities, as they support the management in meeting specific environmental performance criteria and help increase the business success of the hotel, thanks to the positive effects they have on the green image of the facility. Green techniques should lower operational costs for tourism facilities (e.g., through water and energy savings) while also adding value to customers in order to be successful [9]. However, the fundamental difficulty that hotels, marketers, and practitioners face is consumers' distrust of "greenwashing". Greenwashing refers to: *"intentionally misleading or deceiving consumers with false claims about a firm's environmental practices and impact"* [10]. When customers believe a company's claim is "greenwashed," they lose faith in the brand, putting its brand equity at risk. As a result, it is critical that customers regard businesses' initiatives as genuine commitments to sustainability and climate change mitigation. This is particularly critical for the hotel sector, where the term greenwash was created. The term was, indeed, coined by prominent environmentalist Jay Westerveld in a 1986 essay [11]. The author critiqued the hotels industry practice of promoting the reuse of towels as part of a broader environmental strategy when, in fact, the only driver of the hotels was to promote a cost-saving measure [12]. In this sense, eco-labels and certification can counterbalance the "distortive effect" of greenwashing and the resulting consumer mistrust by providing acknowledged and recognized certification systems that can offer customers with trustworthy and clear information [13,14]. This considered, understanding how consumers perceive and evaluate environmental quality and eco-friendly practices in hotels helps to plan and define win-win strategies for tourism sustainable management. In response to consumers' increasing environmental concern, particularly when making a purchasing decision [15], tourism facilities started "*to go green*", adopting more environmentally friendly practices. As a result of consumers' concern for environmental sustainability, the hospitality industry is also developing voluntary-based tools to reduce its environmental impacts and to satisfy the increasing market segment of green customers. In this context, third-party certified ecolabels ensure hotel compliance with specific environmental performance criteria and offer a reliable communication to their guests. In the Italian context, Legambiente Turismo Ecolabel supports tourism facilities in implementing green practices and in spreading sustainability values to customers and citizens. Starting with the analysis of literature, we propose a conceptual framework to investigate whether green practices implemented by the Italian "Legambiente Turismo" certified hotels contribute significantly to the formation of guest positive behavioral intention toward green hotels. Understanding the role of hotels' environmental practices is pivotal in the hotel decision-making process and strategy. To clarify this point, a survey was conducted with guests of two Italian hotels awarded with the ecolabel and 335 questionnaires were usable and employed in the analysis, adopting Partial Least Square Structural Equation Modelling (PLS-SEM) to test the hypotheses. Finally, the paper discusses the results, presents implications both for academics and practitioners, and identifies potential future lines on research on the topic.

2. Literature Review and Hypothesis Development

2.1. Guest Environmental Concern, Green Practices and Environmental Communication

Environmental concern has been defined as: "*the degree to which people are aware of problems regarding the environment and support efforts to solve them*" [16]. Additionally, this concept, according to Mat Said et al. (2003), refers to "*a belief, stance and the degree of concern an individual hold towards the environment*" [17]. Another definition of environmental concern is provided by Lee et al. (2014) that describe this concept as a: "*general attitude toward environment that reflects the extent to which consumers are worried about threats to the environment*" [18]. In fact, the alternative use of environmental concern and environmental attitude is not uncommon in academic literature [19]. Scholars have also studied the factors that triggered environmental concern defining four major approaches [20]. The first is related to consumers' specific background (i.e., age, income, education etc.) [21]; the second expresses environmental concern as a function of the risks people attribute to environmental problems [22]; the third sees it as developmental phenomenon [23]; the fourth approach sees environmental concern as a: "*subset of morally tinged human concerns, rooted in universal values*" [24]. Recently, consumers' concern about sustainability issues has increased sharply, and previous research has identified that eco-friendly behavior is under the significant influence of consumers environmental concern [5,25]. Moreover, environmental concern has been found as a significant determinant in consumers environmentally responsible decision-making process and intention formation [26–28]. However, the relationship between environmental concern and actual behavior has showed inconsistency in scientific research, remaining complex and nonconclusive [29,30]. In green hotels research, environmental concern has been extensively studied as a moderator in guests decision-making process [15,26]. Additionally, in several other studies, environmental concern has been incorporated as an additional variable with the aim to extend the theory of planned behavior (TPB) [31,32].

This link has also been proven in tourism research, where a higher level of environmental concern is associated with a positive attitude toward facilities that are committed to sustainability, as seen by a higher importance placed on green practices [32,33].

Furthermore, research has indicated that customers' perceptions of green practices in the hotel business are influenced by environmental concerns [29,33].

In this context, environmental communication is pivotal in boosting guests' concerns towards the environmental issues. Hotels managers can enhance guest perceptions of hotel green practices through green marketing activities, using their environmental concern as a stimulus towards their appreciations. Han and Yoon (2015) found that hotel visual marketing materials is significant in the formation of guest's environmental concern [28]. Moreover, Ham and Han (2013) have found environmental communication to be an effective strategy to increase guests' environmental concern and to intensify the commitment of those guests already characterized by high levels of environmental concern [15].

Furthermore, customers with a higher level of environmental awareness were able to clearly detect the hotel's efforts to promote these green practices, resulting in a more favorable attitude and confidence [25,34,35].

Given these factors, and the fact that environmental concern has been identified as an essential antecedent of an individual's eco-friendly purchasing behavior, we hypothesize that the amount of guest environmental concern has a considerable impact on the visitors' assessment of hotel green practices (H1), and on the perception of hotel environmental communication (H2).

H1. *Guest environmental concern influences guest perception of hotel green practices.*

H2. *Guest environmental concern influences guest perception of hotel environmental communication.*

2.2. Hotel Environmental Communication and Green Practices

Environmental communication is defined as: "the process of communicating environmental information to build acceptance, reliability, and partnerships, to raise awareness, and to use in decision making. The processes used and the content of environmental

communication will vary with objectives and circumstances of the organization" [36]. The term green marketing refers to the "holistic management process responsible for identifying, anticipating and satisfying the needs of customers and society, in a profitable and sustainable way" [37]. In some ways, environmental communication can be observed as part of a larger marketing plan to achieve corporate goals as well as long-term sustainable development goals.

With the increasing consumers demand for eco-friendly products, hotels are nowadays implementing different sustainability strategies to reduce their impact on the environment and, at the same time, they are working on more effective ways to communicate to consumers these efforts [38]. In fact, through green marketing communication, green initiatives put in place by hotels' managers can be more easily appreciated by guest [39,40]. Indeed, some of the established green initiatives are not always visible to guests (i.e., energy efficiency measure, renewable energy sources etc.), so emphasizing specific information in communications regarding these practices makes it easier for guests to appreciate them [39,41]. Therefore, green marketing can be an effective way to disclose hotels' efforts towards sustainability and can assist guests in building a favorable attitude toward green hotels by educating them [42–44]. Additionally, a well-structured green marketing strategy can help green hotels to position it distinctly in the marketplace and to build a strong differentiation strategy [35]. Hotels' environmental communication can also help them to set up a good corporate image to consolidate their favorable position among consumers [44]. However, the hospitality industry is often said to "greenwash" its environmental claim, and consumers are becoming more aware of the greenwashing phenomenon [45]. So, hotels should use environmental communication carefully, enhancing their credibility and avoiding consumers becoming skeptical about their environmental claims [46]. Based on these findings, we hypothesized that hotel environmental communication is pivotal in the formation of guest perception of hotel green practices. Furthermore, we can predict that environmental communication will serve as a critical connection in establishing the relevance of the link between guest environmental concern and their feelings about hotel green activities. The following hypotheses will be put to the test:

H3. *Hotel environmental communication influences guest perception of hotel green practices.*

H4. *Hotel environmental communication mediates the relationship between guest environmental concern and guest perception of hotel green practices.*

2.3. Hotel Green Practices and Guests' Behavioral Intentions

Green hotels are defined as those hospitality facilities "that have made a commitment to various ecologically sound practices such as saving water, saving energy, and reducing solid waste" [35]. Similarly, the Green Hotel Associations (GHA) (2009) defined a green hotel as "an eco-friendly lodging property that has implemented various green practices and institutes sound and environmentally friendly programs to protect the environment and reduce operational costs". Several researchers devoted their studies to investigate the effects of these practices on consumers and particularly on consumers' satisfaction and behavioral intentions [47]. As the green movement in the hotel industry is spreading, a growing number of hotels are investing in green practices in order to evaluate if their investments in eco-friendly practices will be repaid by more loyal and satisfied guests [48].

Customer loyalty has been defined by Oliver (1997) as "a deeply held commitment to rebuy or re-patronize a preferred product or service consistently in the future, despite situational influences and marketing efforts having the potential to cause switching behavior" [49]. To increase customer loyalty is crucial for hotels' long-term success [26]. Several researchers found that the implementation of green practices is a powerful means to increase customer loyalty [33,50]. Additionally, some scholars focused on the specific relationships between green practices and revisiting intention for green hotels [5,51,52]. Others concentrate their attention on the influence of green practices on guest intention to recommend the hotel to others and word of mouth, founding a meaningful relation-

ship [25,44]. More specifically, researchers also focused on the impact of green activities on the willingness to pay for them [53] and for green hotels [54,55]. In particular, Martínez García de Leaniz (2015) developed the concept of "green loyalty" defined as the "consumer commitment to repurchase or otherwise continue using a green brand" [43]. In this study, the author discovered that guests who stay at hotels that put in place environmentally friendly initiatives acquire a special form of green loyalty. Indeed, this research examines whether a hotel with a higher level of dedication to green practices will cause visitors to feel more loyal to the hotel and to the green hotel category. Thus, the following assumptions are formulated:

H5. *Hotel environmental practices positively influence guest loyalty toward the hotel.*

H6. *Hotel environmental practices positively influence guest loyalty toward green hotels.*

The link between green practices implemented by hotels and guests' satisfaction still remain controversial even if it has been widely studied by scholars [56–58]. Consumer satisfaction is one of the main aims of the firms, as it is pivotal in maintaining firms' competitiveness [59], as well as increasing their market performances [60,61] and financial success [62]. Numerous scholars have tested the influences of green practices and guest satisfaction [42,51,63]. For instance, Berezan et al. (2013) tested the impact of the different sustainability practices on guest satisfaction [64]. Han and Kim (2010) integrated satisfaction, together with other variables, in a Theory of Planned Behavior model to investigate guest revisit intentions in green hotels [48]. In contrast, Robinot and Giannelloni (2010) suggest that hotel green practices are considered by guests as a "basic" attribute and that it would be preferable to inform customers about environmental initiatives only if the hotel is able to deliver them properly and constantly, in order to limit the risk of being unfavorably evaluated on these attributes and therefore negatively influence their satisfaction [9]. Accordingly, this work tries to verify the influence of hotel green initiatives on hotel guest satisfaction.

H7. *Hotel environmental practices positively influence guest satisfaction with the hotel.*

Considering the crucial role of customer loyalty for firms' success, marketers should investigate its relationship with customer satisfaction [48,65]. In fact, satisfaction has been found to be positively related to repeat sales, positive word of mouth, and customer loyalty [65]. Indeed, satisfied customers are more likely to spread word of mouth and to revisit green hotels [66]. The academic literature suggests that customer satisfaction is an antecedent of customer loyalty [67–69]. Guest satisfaction with the green hotel and their loyalty toward it has been tested by several scholars [42,70]. Additionally, Wang et al. (2018) and Sukhu et al. (2019) and [71] found that guest satisfaction is related to their desire to endorse green hotels, a phenomenon known as word-of-mouth marketing (WOM) [44,71]. Moreover, Prud'homme and Raymond (2013) and Ramseook-Munhurrun et al. (2015) found customer satisfaction to be positively related to both return and recommendation intentions [42,72]. Additionally, Martínez García de Leaniz (2015) and Han and Kim (2010) investigated whether guests who are satisfied with a green hotel's performance generate higher degrees of loyalty toward it [43,48]. Nonetheless, the relationship between customer satisfaction and loyalty is not always so conclusive [73]. Fyall et al. (2003) and Faullant et al. (2011) [74] suggest that even satisfied customers can prefer to visit new destinations or hotels [74,75]. Thus, this work tested the following hypothesis:

H8. *Guest satisfaction is a significant antecedent of guest loyalty toward the hotel.*

H9. *Guest satisfaction is a significant antecedent of guest loyalty toward green hotels.*

Mediation occurs when an intermediate variable or mechanism transmits the effect of an antecedent variable to an outcome [76]. For instance, scholars have often investigated the mediating role of satisfaction in the relation between perceived service quality and behavioral intentions [57,77,78]. Customer satisfaction has been found acting as a mediator between service quality and loyalty in the context of hotels [72,73]. Furthermore, researchers

have found this relation significant also in the context of green hotels, suggesting that guest satisfaction is a mediator between green practices and loyalty toward green hotels [51,57,79]. Considering what is stated above, the following hypotheses will be tested:

H10. *Guest satisfaction mediates the relationship between hotel environmental practices and guest loyalty toward the hotel.*

H11. *Guest satisfaction mediates the relationship between hotel environmental practices and guest loyalty toward green hotels.*

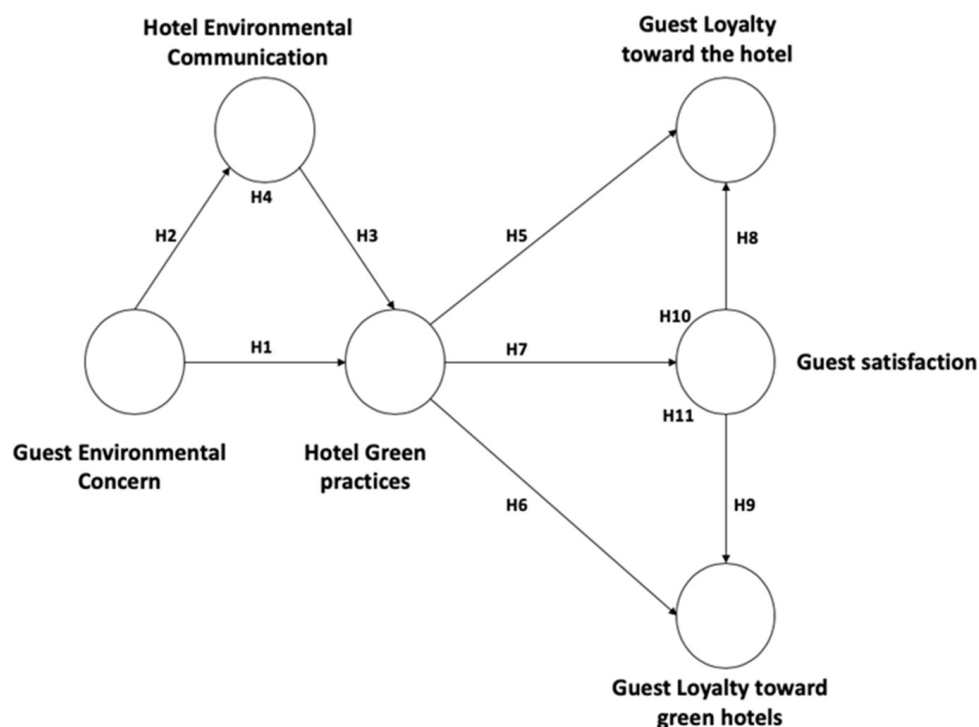Figure 1 shows the proposed theoretical model and hypotheses tested.

Figure 1. Theoretical model and hypotheses.

3. Research Methods

3.1. Survey Design

A survey was developed and administered to the guests of two hotels to collect data and measure the constructs in the research model. The questionnaire was built following three main steps. Firstly, through an in-depth literature review of previous studies dealing with similar constructs, a preliminary list for the measurement scales was identified. Then, the list of chosen criteria was refined through semi-structured interviews with a panel of ten managers working in hotels who had received the Legambiente Turismo eco-label.

Interviews with hotel managers enabled the dropping of redundant items, reducing the number of items and improving the semantic comprehensibility and the question clarity.

Afterwards, the questionnaire was pretested with 30 hotel guests, randomly chosen, to assess the suitability of the survey to test the hypothesis formulated [80]. This phase yielded minimal adjustments in phrase wording to increase readability and clarity of the questions. Finally, the authors examined and finalized the questionnaire.

Figure 2 summarizes the process of identification and refinement of the items selected for the questionnaire.
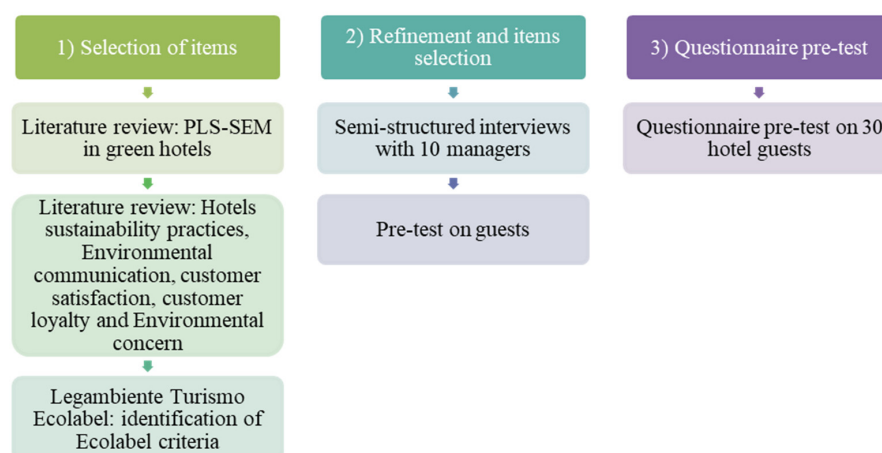
Figure 2. Survey instrument development process.

In its final version, the questionnaire consists of five sections. The first section aims to evaluate guest environmental concern. The second aims to measure guest evaluation of hotel environmental communication. In these sections, all items are measured with a 7-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree).

The third is made up of seven items adapted from earlier studies with the purpose of measuring guests' perceptions of hotel green practices. The items detected in prior studies were combined with conditions that the hotel must meet to receive the Legambiente Turismo eco-label. A Likert-type scale ranging from 1 (poor performance) to 7 (great performance) is used to assess guests' perceptions of hotel green features.

Six factors make up the fourth segment, which assesses guests' overall satisfaction, loyalty to the hotel, and loyalty to environmentally friendly hotels. The two measures that evaluate overall satisfaction were taken from Lai and Hitchcock's studies [81,82]. Chi (2011) and Xu and Gursoy (2015) measures were used to shape loyalty metrics such as revisit intention and word of mouth [79,83]. Moreover, a scale was derived from Han et al. (2011) and Han and Kim (2010) studies to assess loyalty toward green hotels [48,56]. Satisfaction and loyalty are both assessed using a Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree).

Guests' demographic information (age, gender, length of stay, type of travel), awareness of the hotel's eco-label, and prior staying in a green hotel are all included in the last part [61] (Table 1). Table 2 will show the measuring scales, with mean values and standard deviations for each item (scale 1 to 7). The questionnaire was first written in Italian and then translated into English. The two versions of the questionnaire were compared to make sure that the Italian and English questions conveyed the same meaning, and both were made available to participants.

Table 1. Guests' demographics and awareness of hotel ecolabel.

Variable	Range	Percentage
Gender	Female	45.12%
	Male	54.88%
Age	18–29	12.73%
	30–39	39.70%
	40–49	30.61%
	50–59	10.30%
	over 60	6.67%

Table 1. *Cont.*

Variable	Range	Percentage
Type of traveller	Single	15.07%
	Couple	45.89%
	Family	29.11%
	Friends	7.19%
	Others	2.74%
Purpose of stay	Leisure	76.17%
	Business	23.83%
Nights of stay	1–2	29.66%
	3–5	44.95%
	6–10	22.32%
	over 10	3.06%
Hotel Eco-label awareness	Yes	46.55%
	No	53.45%
Hotel Eco-label awareness before visit	Yes	50%
	No	50%
Other experiences in eco-label hotels	Yes	31.65%
	No	68.35%

Table 2. Measurement model evaluation results (α = Cronbach's alpha; CR = composite reliability; AVE = average variance extracted: Rho_A = reliability coefficient).

Constructs/Indicators	Mean	St. dev.	Loading
Green practices (Env_perf) α = 0.953; CR = 0.953; AVE = 0.742; rho_A = 0.955			
The hotel implements water saving practices (e.g., the hotel encourages guests to ask for new linen only when necessary)	6.112	0.808	0.937
The hotel implements energy saving practices (e.g., automatic lights switching-off)	6.152	0.789	0.906
The hotel tries to avoid disposable or single-dose products	6.101	0.847	0.889
In the hotel, separated waste collection is available	6.218	0.798	0.768
The hotel uses environmental certified or green labeled products (e.g., toiletry products, paper)	6.096	0.846	0.800
The hotel provides its guests bicycles for free or for rent	6.157	0.862	0.845
The hotel cares about sustainability and adopts good practices of environmental management	6.207	0.847	0.874
Environmental Communication (Env_Com) α = 0.924; CR = 0.925; AVE = 0.755; rho_A = 0.927			
The hotel informs the guests about the good environmental practices implemented	6.006	0.856	0.881
The hotel provides its guests with information on how they can contribute to reduce the hotel's environmental impact	6.027	0.878	0.895
The hotel provides its guests with information on the environmental and cultural activities available in the area	6.030	0.929	0.900
The hotel provides information on public transportation	6.150	0.940	0.795

Table 2. *Cont.*

Constructs/Indicators	Mean	St. dev.	Loading
Environmental Concern (Env-Conc) α = 0.924; CR = 0.925; AVE = 0.805; rho_A = 0.931			
Environmental sustainability is one of the main problems for today's society	5.792	1.100	0.928
In everyday life, environmental sustainability is an important criterion in my choice of products and services	5.693	1.149	0.950
I am willing to pay more for environmentally sustainable products and services	5.625	1.163	0.807
Guest satisfaction (Sat) α = 0.962; CR = 0.962; AVE = 0.895; rho_A = 0.963			
I am satisfied with my experience in this hotel	6.048	0.950	0.940
My expectations have been satisfied	6.096	0.971	0.950
My experience in this hotel matches with what I would expect from my ideal hotel	6.030	0.984	0.949
Guest loyalty towards the hotel (Loy) α = 0.947; CR = 0.947; AVE = 0,.99; rho_A = 0.947			
I would come back again in this hotel	6.146	0.943	0.947
I would recommend this hotel in the future	6.150	0.955	0.950
Guest loyalty toward green hotels (Loy_env) α = 0.958; CR = 0.958; AVE = 0.920; rho_A = 0.959			
I would come back in a hotel that implements good environmental practices	6.006	0.997	0.974
I would recommend a hotel that implements good environmental practices	6.036	1.008	0.944

α = Cronbach's Alpha; CR = Composite reliability; AVE = Average Variance Extracted: Rho_A = reliability coefficient.

3.2. Data Collection

The Legambiente Turismo in 1997 carried out the project "Council for the commitment in defense of the environment", an agreement between tourist accommodation facilities, institutions, and local administrations, to try to reach a common goal: maintaining quality and comfort tourism services while respecting the environment. Moreover, Legambiente, through the release of an eco-label, is committed to enhancing the environmental footprint of accommodation facilities. Legambiente created a set of guidelines and check lists in which the Decalogue of actions required for the member companies of the association are listed. Legambiente Turismo eco-label aims to qualify the tourist and accommodation facilities through disciplinary measures to reduce their environmental impact, while at the same time increasing the quality of the service and the experience of the guests. In Italy, Legambiente Turismo is the most widespread environmental label [84], which currently counts 95 hotels awarded with the eco-label [84].

The two hotels under investigation are certified with the Legambiente Turismo Ecolabel and are located in Tuscany.

Hotel A is three-star hotel certified by 2003 with "Legambiente Turismo" ecolabel. Moreover, the hotel since 2012 uses only energy from renewable sources, which it produces in part through its own photovoltaic system and boasts the prestigious European Ecolabel EU mark (IT/051/018), which certifies the products and services of the European Community with low environmental impact. Finally, in 2022, the hotel obtained Cets2 certification and became the official partner of Europarc and the Tuscan Archipelago National Park.

Hotel B is a family-run hotel surrounded by greenery. The restaurant's cuisine is at km 0 and for its principles on healthy and organic eating it uses only genuine and natural products, also satisfying vegetarian tastes and dietary needs. The hotel has chosen ecological panels made from 100% recycled wood and with FSC certification for the furnishing of its rooms.

A total of 500 questionnaires were distributed to two Italian hotels that had been awarded the Legambiente Turismo ecolabel after getting clearance from the managers.

The survey was conducted throughout the summer since it appears to be the most appropriate season because it is when the most visitors arrive. After being briefed and told about the study, hotel personnel were asked to deliver the questionnaire to all hotel guests after check-out. Guests were chosen using the convenience sample method, which is commonly used in consumer research. A total of 373 completed questionnaires were collected, with a 74.60 percent response rate. Thirty-eight cases were eliminated because they were either incomplete or unusable in any other way. A total of 335 questionnaires were usable and used in the study (210 from Hotel A and 125 from Hotel B).

In PLS-SEM, the minimum sample size should be 10 times the number of formative indicators used to measure a specific construct or ten times the number of structural paths directed at a specific latent construct. Table 2 shows that one construct has the most indicators in the measurement model, which is seven. As a result, the sample meets the required criteria [85].

3.3. Data Analysis

Partial least squares structural equation modelling (PLS-SEM) was used to test the proposed hypotheses [86]. PLS-SEM is a "regression-based" approach aimed at maximizing the explained variance of the dependent latent constructs [85]. Recently, PLS-SEM has gained momentum in marketing and other business disciplines, increasing the number of studies utilizing this approach [87]. Additionally, in recent studies in the sector of hospitality and tourism, empirical applications of PLS-SEM have been employed to examine structural research models [88,89]. Compared to traditional covariance-based structural equation modelling (CB-SEM), PLS-SEM is well-suited for assessing complex predictive models under conditions of non-normality and smaller sample sizes [90]. The fact that the questionnaire's measures were generated using a Likert scale and the data had a non-normal distribution was one of the grounds for choosing PLS-SEM. PLS-SEM does not require any normality assumptions and is capable of handling non-normal distributions. Additionally, the presented research model has an exploratory nature, and while CB-SEM is better indicated for theory testing [91], PLS-SEM is more adapted for theory building applications to develop new models or conceptions [85]. Finally, the mediation analysis proposed in this research works well with PLS. The software SmartPLS (V.3.2.8) was used to create models and assess their validity.

4. Results

The analyses' outcomes are presented in this section. First, data on the major characteristics of respondents' profiles, such as traveler type and purpose of stay, as well as guest information on the eco-label, are provided (Section 4.1). The measurement model's validity and reliability are next tested (Section 4.2). Finally, the structural models are used to test the hypotheses generated in Section 3.2. (Section 4.3).

4.1. Profile of Respondents

The descriptive analysis of the sample shows that the 54.88% are males, while females are 45.12%. Most respondents were in the age range 30–39 (39.70%) and 40–49 (30.61%). Leisure travel is the most cited purpose of travel (76.17%), and almost half of the guests were travelling in couple (45.89%). About the nights of stay, the majority stayed at the hotel 3–5 nights (44.95%), 29.66% 1–2 nights, 22.32% 6–10 nights and only 3.06% stayed at the hotel for over 10 nights (Table 1). Table 1 also shows the level of awareness with respect to the hotel "Legambiente Turismo" ecolabel; almost half of the sample (46.55%) knew that the facility was certified. Of this percentage, the 50% had this information before visiting it. Moreover, only 31.65% declared to have had previous experiences in an ecolabel certified hotel (Table 1).

4.2. Measurement Model Evaluation

We stated the reflecting nature of the constructs under consideration in the model, as proposed by Hair et al. (2014) and Jarvis et al. (2003) [92,93]. This decision was based on the following factors: indicators were conceptualized as manifestations of the construct; indicators shared a common theme; and eliminating an indicator has no effect on the construct's conceptual scope. The PLS-SEM model's assessment is comprised by two stages: the evaluation of the outer (measurement) and of the inner (structural) model [94].

The measurement model must be evaluated for its reliability and validity to ensure that all constructs are appropriately measured through the indicators.

Firstly, indicators' reliability was examined. According to Hair et al. (2014), indicators' outer loading values should be higher than 0.708 [95]. Table 2 shows that in the model all indicators' outer loadings for the reflective constructs exceed the suggested threshold value. Additionally, Cronbach's alphas for all constructs in this study ranged from 0.924 to 0.962 and the composite reliability ranged from 0.925 to 0.962, well above the suggested thresholds of 0.7, which indicated satisfactory internal consistency of the measurement model [96]. In order to assess convergent validity, the average variance extracted (AVE) was calculated for each construct. Every construct had an AVE value well above the suggested threshold of 0.50 [94].

Next, both the Fornell–Larcker criterion (Table 3) and the heterotrait–monotrait (HTMT) ratios (Table 4) were assessed to ensure an adequate discriminant validity of the measurement model. The Fornell–Larcker criterion suggests that the square root of each construct's AVE should be greater than its correlations with other constructs [97]. Table 3 demonstrates that the square root of each AVE (given in bold on the diagonal) is bigger than the associated inter-construct correlations in the construct correlation matrix, showing that all reflective constructs have appropriate discriminant validity.

Table 3. Fornell–Larcker discriminant validity criteria.

	Env_Com	Env_Conc	Env_Perf	Loy	Loy-Env	Sat
Env_Com	**0.869**					
Env_Conc	0.376	**0.897**				
Env_Perf	0.822	0.327	**0.862**			
Loy	0.442	0.561	0.424	**0.948**		
Loy_Env	0.413	0.697	0.372	0.850	**0.959**	
Sat	0.448	0.543	0.428	0.879	0.770	**0.946**

Table 4. HTMT discriminant validity criteria.

	Env_Com	Env_Conc	Env_Perf	Loy	Loy-Env	Sat
Env_Com						
Env_Conc	0.376					
Env_Perf	0.821	0.324				
Loy	0.443	0.563	0.421			
Loy_Env	0.413	0.700	0.369	0.850		
Sat	0.449	0.545	0.425	0.879	0.770	

More recently, Henseler et al. (2015) suggested a new and more conservative tool to assess discriminant validity: the heterotrait–monotrait (HTMT) ratio of correlations. All values of the HTMT are below the suggested 0.9 threshold (Table 4), which confirms that there is no issue of discriminant validity [98].

4.3. Assessment of the Structural Model

The structural model investigates the links between the endogenous and exogenous latent variables in the model in terms of weights and magnitudes [85]. It is critical to analyze the predictive relevance of exogenous constructs on endogenous constructs before presenting the hypothesis testing results. The blindfolding procedure revealed that all the Stone–Geisser's Q^2 values were above zero, indicating the satisfactory predictive relevance of the structural model (Table 5). Next, the coefficient of determination (R^2) was calculated to evaluate the predictive accuracy of the model, which expresses the amount of variance in each endogenous latent variable that can be ascribed to all the exogenous latent variable connecting to it [92]. Following Cohen (1988) guidelines, the rule of thumb for R^2 predictive accuracy is 0.02 for small effect, 0.15 for medium effect, and 0.35 for large effect [99]. In the model, we have medium effects for environmental communication ($R^2 = 0.142$) and guest satisfaction ($R^2 = 0.183$) and large effects for green practices ($R^2 = 0.677$), guest loyalty towards the hotel ($R^2 = 0.776$) and guest loyalty towards green hotels ($R^2 = 0.595$). Thus, the predictive power of the model was generally substantial.

Moreover, following Henseler et al.'s (2016) more recent guidelines, which propose using the standardized root mean square residual (SRMR) as the only approximate model fit criterion, we estimated an SRMR value of 0.038 for our model, showing a more than satisfactory model fit. An SRMR value of zero indicates a perfect fit, while an SRMR value of less than 0.08 is generally considered appropriate for PLS path models [100].

Finally, to test the structural model and the hypotheses, SmartPLS was employed. Specifically, a consistent PLS bootstrapping, with 5000 iterations, evaluated the statistical significances of the paths. The results of hypotheses testing are provided in Table 5. As we can see from the table, all hypotheses are accepted except for H1, H5 and H6. The *p* values assess the significance of the relationships but fails to account for effect sizes. So, the f^2, measuring the relative impact of a particular exogenous construct on an endogenous construct, has been calculated. The guidelines of [99] for effect size assessment, 0.02 for small, 0.15 for medium, and 0.35 for large effects, were followed. As displayed in Table 5, all the effect sizes were large (H3, H8, H9) or medium (H2, H7).

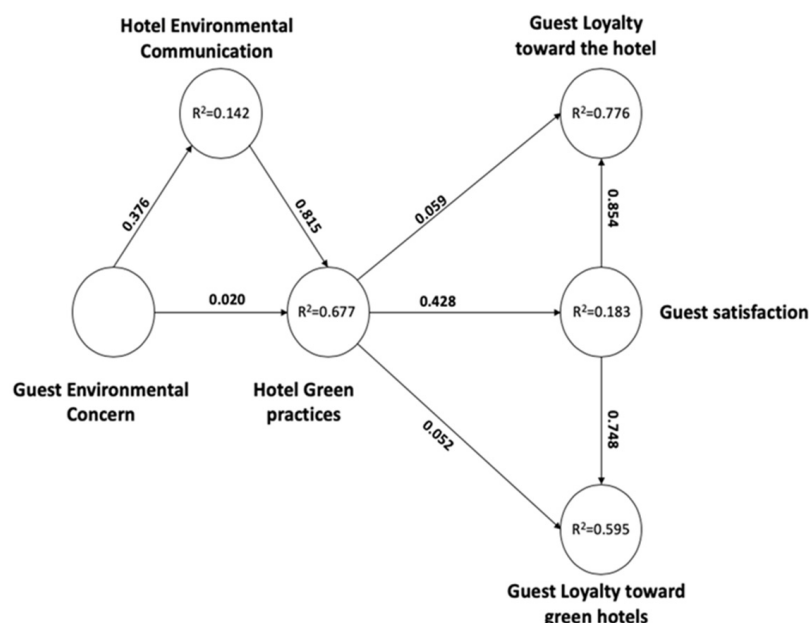Figure 3 provides a graphical description of the tested model.

Figure 3. Structural model with β for path coefficients and R^2 for the exogenous constructs.

Table 5. Model hypotheses statistics (bootstrapping) and endogenous constructs assessment (R^2, Q2 and f^2).

	Path Coefficients and Bootstrapping				
	Hypothesis	**Original Sample**	**T Statistics**	***p* Values**	**f^2**
H1	Environmental concern → Green practices	0.020	0.484	0.628	0.001
H2	Environmental concern → Environmental communication	0.376	4.924	0.000 ***	0.165
H3	Environmental communication → Green practices	0.815	21.891	0.000 ***	1.763
H5	Green practices → Guest loyalty towards the hotel	0.059	1.284	0.199	0.013
H6	Green practices → Guest loyalty towards green hotels	0.052	1.051	0.293	0.005
H7	Green practices → Guest satisfaction	0.428	5.331	0.000 ***	0.224
H8	Guest satisfaction → Guest loyalty towards the hotel	0.854	21.009	0.000 ***	2.663
H9	Guest satisfaction → Guest loyalty towards green hotels	0.748	13.249	0.000 ***	1.130
	Endogenous constructs assessment				
		R^2	**R^2 Adjusted**		**Q^2**
Environmental communication		0.142	0.139		0.087
Green practices		0.677	0.675		0.425
Guest loyalty towards the hotel		0.776	0.775		0.640
Guest loyalty towards green hotels		0.595	0.593		0.501
Guest satisfaction		0.183	0.180		0.146

*** $p < 0.001$.

4.4. Testing the Mediation Effect

The last step in the model assessment is to test the multiple mediations effect. A mediation effect arises when a direct causal relationship within an independent variable and a dependent variable is affected by a third variable [101]. In the context of SEM, a mediation occurs when a mediator variable affects the structural relationship between the exogenous and an endogenous construct [92]. Different approaches on the evaluation of mediation exist, and there is no general consensus on a preferable procedure to evaluate it in PLS-SEM [92,102]. Previously, the most employed procedures were the Sobel test [103] and the Baron and Kenny approach [101]. More recently, the effectiveness of these procedures has been widely criticized [104–106]. Therefore, this paper analyses the mediation effect through a nonparametric bootstrapping approach testing the significance of the indirect effect proposed by Preacher and Hayes (2008) and Zhao et al. (2010) [104,105]. Following Carrión et al. (2017), the percentile bootstrap and bias-corrected bootstrap, with 5000 resample, is calculated to test the specific indirect effects [76]. The results show that the mediations are significant (*p* values = 0.000 ***); thus, H4, H10, and H11 are accepted (Table 6).

We also calculated the Variance Accounted For (VAF), which evaluates the strength of the mediation, to quantify the extent of the indirect effect on the total effect. VAF can range from 0 to 100 percent, with values greater than 80 percent indicating full mediation, 20 to 80 percent partial mediation, and less than 20 percent no mediation effect. The size of the indirect effect with respect to the total effect is determined by the VAF (Equation (1)) [95].

Equation (1)—Variance Accounted For (VAF)

$$\textbf{\textit{indirect effect}}(\textbf{\textit{a}} \times . \textbf{\textit{b}}) = \textbf{\textit{total effect}} \ (\textbf{\textit{c}}) - \textbf{\textit{direct effect}} \ \left(\textbf{\textit{c}}^{'}\right) \tag{1}$$

$$VAF = \frac{a \times b}{a \times b + c'}$$

Table 6 shows that the VAF calculated for our relationship indicates all full mediation, 93.88%, for the environmental communication as a mediator between environmental concern and green practices and 86.08% and 82.02% for guest satisfaction as a mediator between green practices and, respectively, guest loyalty towards the hotel and guest loyalty towards green hotels.

Table 6. Summary of mediating effect test.

Hypothesis	*p*-Value (Bootstrap)	Total Effect	Direct Effect	Indirect Effect	VAF	Mediation
H4: Environmental Concern → Environmental communication → Green practices	0.000 ***	0.327 ***	0.020	0.307 ***	0.9388	93.88%
H10: Green practices →Guest satisfaction → Guest loyalty towards the hotel	0.000 ***	0.424 ***	0.059	0.365 ***	0.8608	86.08%
H11: Green practices →Guest satisfaction → Guest loyalty towards green hotels	0.000 ***	0.372 ***	0.052	0.320 ***	0.8602	86.02%

*** $p < 0.001$.

5. Discussion

The results of this work are contributing to the body of literature concerning the role of green practices in influencing customer behavioral intentions. Both theoretical and practical implications can be drawn from the results obtained. Considering that the roles of guest environmental concern and hotel environmental communication have been scarcely studied in the context of Italian environmental certified hotels, this work contributes to enrich the academic literature on the topic. Moreover, the construct of loyalty towards green hotels has been proposed, contributing to establish a new relationship between hotel green practices and this construct and enriching the literature of a new research concept. Eight out of the eleven research hypotheses tested in the research model proposed in this study were accepted.

- *Guest environmental concern does not influence guest perception of hotel green practices directly but through the hotel environmental communication that act as a mediator between these two constructs*

Results from the study led to the rejection of the hypothesis according to which guests' environmental concern directly influences their perception of hotel green practices. This result is in contrast with previous studies' findings [15,29]. Academic literature on this topic mostly agreed in assigning at guest environmental concern a predictive role in determining guest appreciation of hotel green practices [35,48], even if through a mediator role [26]. However, the research model confirms that hotel environmental communication plays a full mediation role in the relationship between guest environmental concern and hotel green practices (environmental communication mediates for 93.88 percent of the relationship between these two variables), confirming the study's hypothesis. This finding confirms the pivotal role of environmental communication in guests' appreciation of hotel green practices and its ability to exploit and transform the environmental concern of guests in appreciation for the efforts the hotel makes to improve its environmental impact. Through environmental communication, hotels can improve their green image, which has been found to be critical in assisting consumers in forming a positive attitude towards green hotels [44] and to enhancing guest behavioral intention in terms of word of mouth and willingness to revisit the hotel [5,69]. For hoteliers and practitioners, these findings

should lead to rethinking their communication strategy. They should continuously inform customers about environmental problems and impacts and through that strengthen guest environmental concern. Additionally, as stated by Kim and Han (2010), they should: "*constantly communicate the positive changes resulting from individuals' green actions effort and through persuasive communication channels, stressing the ability of each individual customer to decrease environmental deterioration*" [107].

- *Guest environmental concern influences guest perception of hotel environmental communication*

This study demonstrates that hotel environmental communication is positively influenced by visitor environmental concern. These results are consistent with the findings of Chan (2004) and Chan and Lau (2000), who discovered that consumers' environmental concerns had a major impact on the effectiveness of environmental advertising [108,109]. Furthermore, data reveals that guests who are concerned about environmental conservation have a more favorable reaction to environmental advertising than consumers who are less concerned. Moreover, Chan and Han (2014) discovered that environmental concerns influenced customer perceptions toward commercials [110]. Additionally, according to Penz et al. (2017) and Hu (2012), this study suggests that guest more concerned with environmental problems will better appreciate the efforts of hotels in communicating their environmental strategy and their actions to improve the environmental impacts of their activities [111,112]. Finally, guests that are sensitive about the environment will most likely have more information about environmental programs and certifications, and this would lead to being more responsive towards hotel environmental claims and advertisement [25].

- *Hotel environmental communication influences guest perception of hotel green practices*

According to the proposed model, hotel environmental communication has a beneficial impact on guests' perceptions of the hotel's green practices. There are two main reasons for hotels to communicate their green practices: one is to enhance customers in supporting and participating in the hotel's in-room green programs (e.g., turning off the lights, reusing towels) [113,114]; the other refers to increasing guest knowledge and appreciation of hotel green practices [115]. In fact, Wang et al. (2017) found that guests are more likely to engage in the hotel environmental programs if the hotel's commitment is visible and communicated to customers [39]. Some scholars argued that, for customers, it is important not only what the hotel does, since they would rarely know about that, but what the hotel communicates that it does and how these messages are perceived [116,117]. Furthermore, visitors can embody the reasons that prompted the hotel to embrace green practices and participate in the hotel's green strategy through the hotel's environmental communications. Hotel environmental communication, according to Terrier and Marfaing (2015), can influence visitors' environmental commitment and involvement in minimizing environmental impacts [118]. Green communication can boost environmentally friendly guest behavior and reduces guests' self-serving behaviors [69,113]. Hotel communication of the green practices implemented can also contributes to a positive impact on the corporate image [119] and green image [43,120] that is crucial for firm long-term success, providing a competitive advantage and differentiation market position [121] and helping to increase sales, attract new investors and employees, and improve customer loyalty [57]. Lee et al. (2010) found that green hotel's overall image favorably enhances guests' behavioral intentions, including willingness to pay a premium, word-of-mouth and revisiting intentions [5]. In particular, Wang et al. (2018) demonstrated that green image not only positively affects the consumers' word-of-mouth intention about green hotels but also affects green trust and green satisfaction [44]. These relations are especially true for "millennials" and female consumers that, if reached with the right communication channels, may be the best targets for green hotels [45]. Moreover, green hotels' overall image and green image are central in building a firm's credibility [122], and for this reason hoteliers should choose the right communication strategy to increase it [123,124]. This is particularly important since, if a hotel guest is confused about what the hotel's green practices are [125]

or skeptical about the motive for hotels to go green [45], this may lead to distrusting the hotel green efforts [126]. In fact, nowadays, consumers are also becoming more critical of hotels' green practices and increasingly aware of hotels' greenwashing propensities, and this trend can negatively affect purchase intentions and behavioral intentions [45]. For this reason, between hoteliers, the phenomenon of "greenhushing" is spreading [14]. Hotels are under-communicating their sustainability practices to mitigate the negative consequences of a perceived greenwashing from customers and to avoid: "*a potential disconnection between their perception of customer expectations and their own operational position concerning sustainability issues*" [14]. In a related study line, Robinot and Giannelloni (2010) argued that a lack of environmental communication can minimize the chance of visitors negatively evaluating environmental activities, which could lead to potential guest discontent [9]. In this context, third-party ecolabel and sustainability certification can improve a hotel's overall image and the credibility of its environmental claims, reducing the danger of being regarded critically by customers for greenwashing [45]. As a result, adopting clear communication methods to make ecolabels visible and salient to guests can assist customers in understanding the hotel's environmental practices and clearly recognizing what it does for the environment and why it does it [111]. Providing guests with this kind of information can also help them become more environmentally conscious [25]. Furthermore, Pérez and Rodrìguez del Bosque (2014) and Martìnez and Rodrìguez del Bosque (2013) advised managers to share information on key environmental performance indicators, as this could help to increase customer satisfaction and loyalty by establishing a process of identification between the hotel and its guests [69,127].

- *Hotel environmental practices positively influence guest satisfaction with the hotel. Guest satisfaction has been identified as a significant antecedent of guest loyalty toward the hotel and toward green hotels*

This study's findings demonstrate a strong link between hotel environmental practices and guest delight. This outcome is consistent with prior research findings showing that eco-friendly hotel policies improve customer satisfaction [42,61,128]. Satisfaction has been defined by Yoon and Uysal (2005) as "*a delightful level of feeling arising from the ability of a product or service to satisfy consumers' needs, wants, and desires*" [129]. Guest satisfaction is one of the most studied constructs in hospitality research [44] because of its pivotal role in hotels success and competitive position on the market. Robinot and Giannelloni (2010) investigated the role of a hotel's green attributes on overall satisfaction. With one exception, the study finds that all environmental attributes fall into the "basic" group. This group covers characteristics that have a detrimental impact on the formation of satisfaction when they are regarded negatively but have no substantial positive impact when they are appraised positively [9]. In addition, Gao and Mattila (2014) discovered that when service quality is delivered effectively, green activities improve client experience. In service failure situations, however, the favorable impact of being green was not found. Furthermore, they imply that perceived intentions influence customer happiness in green hotels, and that guests are more satisfied with the hotel when they believe the hotel's objective for going green is to benefit society (public-serving) rather than to generate more revenue (self-serving) [130]. Additionally, in the context of the lodging industry, Slevitch et al. (2013) investigated the role of "green" attributes in the formation of customer satisfaction. The study showed that the "green" attributes are facilitating attributes, considered as excitement attributes. However, the results also revealed that "green" attributes' effect on customer satisfaction is moderated by core attributes' performance [131].

The role of green practices in influencing satisfaction is particularly important, as satisfaction has been found as a significant antecedent of guest loyalty and guest behavioral intention towards green hotels [42,50,66]. In particular, Wang et al.'s (2018) findings support the hypothesis that customer satisfaction is a significant determinant of repeat behavior intentions such as word-of-mouth intention [44]. Several scholars argue that customer satisfaction has often been related to guest revisiting intentions [28,42,51]. Furthermore, the results from this study confirm Martínez García de Leaniz (2015) and Shih's (2018)

findings that guest satisfaction is a significant determinant in the formation of customer "green loyalty", a specific type of loyalty directed towards the general category of green hotels [43].

- *Hotel green practices do not directly influence guest loyalty toward the hotel and toward green hotels; in fact, guest satisfaction acts as a full mediator between hotel environmental practices and guest loyalty toward green hotels, and between hotel environmental practices and guest loyalty toward the hotel*

Contrary to other studies' findings, the research hypotheses about the direct positive relation between green practices and guest loyalty towards the hotel and green hotels tested in this model have been rejected. Indeed, previous scholars' findings have suggested that hotel environmental practices would affect customer loyalty towards the hotel directly [5,42,48] and that guests appreciating the green practices would also develop a favorable loyalty toward this type of hotel [25,44,56]. However, this study found that customer satisfaction fully mediates the relationship between green practices and loyalty towards the hotel (for the 86.08%) and towards green hotels (for the 86.02%).

6. Limitations and Future Research

This study has several weaknesses that should be pointed out. The first limitation refers to the sample size and the convenience sample choice. The sample of the analysis is 335 guests from two Italian "Legambiente Turismo" certified hotels. Therefore, study results may not be applicable to green hotels with different ecolabels or green certifications and in other destinations and countries. Consequently, scholars should handle findings carefully before generalizing. Moreover, as we chose the "Legambiente Turismo" ecolabel, the items selection reflects the criteria that hotels had to meet to be awarded with this specific ecolabel certification. Future investigations may need to expand the scope of the analysis to different ecolabels or green certification schemes. Another research stream to explore in the future could be the evaluation of the efficacy of specific ecolabels programs, also analyzing the same research model in non-certified hotels. Additionally, other lines of future research are pointed out:

- The characteristics of the sample have not been considered in the analysis. This limitation may serve as an opportunity for further research to integrate the model to evaluate the role of green practices on customer satisfaction and loyalty considering different segments of the customer population and investigating as these factors impact on different types of consumers.
- It may be interesting to study hotel guests' nationality as a control variable, testing its effect on environmental concern, satisfaction, and loyalty.
- Because the behavioral intention measure in this study is solely connected to word of mouth (WOM) and intentions to return, further research into willingness to pay (WTP) is recommended.

In addition, given the critical role of hotel environmental communication in determining guest appreciation of green practices, future research could look into the effectiveness of various marketing strategies and environmental claims in generating positive behaviors from guests, as well as how to effectively deliver the information to them. Following that, because service quality is a multi-attribute construct, the survey's scope should be expanded to include other hotel service aspects as well as those related to environmental sustainability. This will aid both researchers and practitioners in better understanding the impact of green factors, in combination with other service quality criteria, on customer satisfaction and behavioral intentions. Finally, additional research may be conducted to determine whether and how the ecolabel certification adds value to hotel customers, thereby encouraging favorable behavioral intentions and attitudes toward ecolabel hotels.

7. Conclusions

This analysis leads to accepting eight out of the eleven hypotheses tested. Results from the model testing show the role played by guest environmental concern in influencing guests' perception of hotels' green communication. This feature is of particular relevance to hoteliers because it demonstrates how guests' concern for the environment lead them to see the hotel's efforts to communicate these green policies more effectively [25,34,35]. As a result, by identifying these niche markets, they can improve their outcomes by raising consumers' environmental concerns and informing uneducated customers about the harmful environmental implications that non-environmentally certified hotel enterprises have [25]. In addition, the model shows that guests' perceptions of hotel environmental communication have a beneficial impact on their perceptions of green practices. As a result, hotels should adopt communication strategies to make eco-labels and their green initiatives visible and prominent to visitors in order for them to understand and interpret the information connected with an ecolabel. According to Wang et al. (2017), communication aids consumers in observing a hotel's engagement to environmental sustainability by visibly showing the hotel's efforts. Engaging in environmental campaigns and green marketing, as well as investing in advertising on current sustainability programs, such as ecolabels, is the strategy for taking this path [132]. Managers may also work with governments and local municipalities to promote tourist awareness by informing and educating them about the tourism industry's environmental impact [32,57]. Because this relationship is totally mediated by hotels' environmental communication, the model does not confirm a direct association between visitor environmental concern and green practices appreciation. Green practices must be publicized in order to be recognized [39,40], by implementing a proactive green marketing plan that includes all essential stakeholders [38]. Furthermore, because environmental communication affects this relationship, it is critical to place a greater emphasis on the establishment of a shared identity between the guest and the hotel, as well as an affective relationship, rather than simply passively informing customers, as indicated by [5,33,69]. This has significant implications for hotel sustainability management, since the findings show that customers with a high level of environmental awareness are more likely to have a positive mindset toward green activities, making it easier to choose ecolabel facilities over ordinary ones [35], and to develop positive behavioral intentions [35]. Furthermore, the results of the model testing reveal that customers appreciate the hotel's environmental commitment, which influences their pleasure. Customer satisfaction, on the other hand, totally mediates the relationship between green practices and loyalty toward the hotel and green hotels, and there is no direct beneficial effect between hotel green practices and loyalty toward the hotel and green hotels, according to this study. These findings have meaningful implications for hoteliers and practitioners, since guests' loyalty towards the hotel passes through their satisfaction with the hotel. Satisfaction with the hotel is a multi-attribute construct, only partially explained by environmental attributes, and it is influenced by several variables, including service quality and consumers' attitudes [133]. In this sense, hoteliers should concentrate their efforts not only on green practices but also in delivering a high-quality service. Indeed, if non-environmental features are not delivered correctly, satisfaction and, as a result, loyalty may suffer. As a result, green practices may improve customer satisfaction only if there is no service failure [130].

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