



# Article Determinants and Consequences of Green Investment in the Saudi Arabian Hotel Industry

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Abstract: Hotels in today's business environment are no longer solely concerned with profit, but rather with profit, people, and the planet (3Ps). In corporate terms, green investment (GI) is regarded as a strategy that aims for maximum profit with minimal environmental impact. As a result, the current study primarily aims to empirically investigate the impact of internal and external drivers on GI adoption in Saudi Arabian eco-friendly hotels. Additionally, it explores to what extent GI affects eco-friendly hotels' environmental, economic, and social performance. To achieve these objectives, a web-based questionnaire was developed and addressed to the senior manager/director in charge of environmental management in all four- and five-star eco-friendly hotels in Saudi Arabia. The total number of certified eco-friendly hotels in all regions of Saudi Arabia was 403. Only 298 forms were received and were valid for statistical analysis. A structural equation modeling (SEM) technique with maximum likelihood estimation was employed to test the study hypotheses. The findings of this study illustrate that GI is significantly positively affected by external as well as internal drivers. Adaptation to/mitigation of climate change was the highest perceived driver. Additionally, GI has a significant positive contribution to enhancing hotels' environmental performance, increasing economic performance, and boosting social performance. Based on the study findings, eco-friendly hotel operators should consider GI in their strategic plans, as a corporate strategy aiming at maximizing profit and enhancing the quality of social life without harming the environment.

**Keywords:** green investment; eco-friendly hotels; environmental investment; sustainable performance; environmental performance; Saudi Arabia

# 1. Introduction

In recent years, climate change has been one of the biggest changes we have faced [1,2]. Due to climatic changes and environmental degradation, it has become increasingly important for industries, especially hospitality, to invest sustainably [3]. It is obvious that investors are becoming increasingly interested in resource efficiency and environmental issues [4]. In the hospitality industry context, it is widely believed that the hotels more significantly contribute to negative environmental impacts than is generally recognized. Throughout their daily operations, hotels consume vast amounts of natural resources, which negatively impacts the ecosystem. Hotel operations consume great amounts of water, energy, and nondurable materials and emit significant amounts of CO<sub>2</sub> emissions [5–7]. Consequently, it is essential to adopt eco-friendly practices and invest in green innovative technologies to eliminate their adverse impacts on the environment [8]. Hence, hotel investors have become increasingly interested in green investment (GI). This is also known



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**Copyright:** © 2022 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https:// creativecommons.org/licenses/by/ 4.0/). as environmental, social, and governance investing (ESGI), eco-friendly investing, and responsible investing (RI) [4]. Environmental investment also refers to social investments that addresses environmental issues [9]. This concept describes investments aimed at protecting the environment, reducing pollution, reducing GHG emissions, using alternative sources of energy, and conserving natural resources. According to Chen and Ma [10], GI represents the capital that is spent focusing on developing technologies, products, practices, and management systems to mitigate the negative effects that may result from operational processes on the environment.

Over the past few years, a variety of internal and external factors have encouraged hoteliers to be more committed to going green. External factors include the increasing consumer demand for green/eco-friendly products and services, the increase in ecolog-ical/environmental regulations and legislation, pressure from competitors, the growing interest in sustainable development principles, and the need to mitigate/adapt to environmental degradation and climate change [11,12]. However, the internal ones include owner-manager attitudes regarding the environment, organizational commitment to environmental sustainability, concern for the environment among hotel staff, perceived financial benefits, maintaining competitive advantages, and hotel size [13]. Other perceived benefits that could contribute to investing in hotels greenly are the need for utilizing operational resources efficiently, retaining staff, and improving brand image [14]. In response to these forces and the continuous increase in environmental awareness among customers and other stakeholders (i.e., suppliers), more hotels have invested in green innovative practices and technologies as a way to increase their market share, improve their image, and gain a competitive advantage [3,14].

Moving toward sustainable development requires keeping the balance between the three bottom pillars namely, social, economic, and environmental dimensions [15]. As a result, hotels should be encouraged to take optimistic measures for protecting the biophysical environment from its negative impacts. One of these approaches is green investment [3,14]. In this context, numerous scholars have examined GI's relationship with firms' sustainable performance in different contexts. For instance, in the small- and micro-firm context in Italy, Testa et al. [16] illustrated that green investment significantly strongly impacts firms' environmental performance. With regard to the nexus between GI and economic performance, the findings of Chen and Ma's [10] study suggested that GI is significantly positively correlated with financial performance, which means that an increase in GI significantly improves firms' financial performance. Despite a significant positive relationship between GI and economic performance, limited studies on the economic consequences of GI found that companies are encouraged to invest in green technologies only when the profits are high [17]. From a social point of view, GI significantly positively improves social livability [18]. It lowers the employment level and boosts health and social justice in the local community.

Although numerous studies have examined the factors affecting green investment in different contexts (i.e., [4,16,19,20]), no study has previously investigated the external and internal drivers of GI and their impacts in the hospitality industry context. In terms of the link between sustainable performance and GI, most of the earlier research was conducted in different contexts rather than the hotel industry context. For example, Indriastuti and Chariri [8] as well as Chen and Ma [10] investigated the impact of GI on sustainable performance in manufacturing companies and energy firms, respectively. Further, most previous research has examined the influence of GI on just one or two dimensions of the three bottom pillars of sustainability (particularly environmental and/or economic performance) (i.e., [8,10,19,21,22]). Based on the authors' knowledge, there have been no previous studies examining the effect of GI on environmental, economic, and social performance in the eco-friendly hotel context. In addition, as mentioned by Myung et al. [23], most of the environmental-related research in the hospitality industry context was undertaken in developed countries, while environmental-related research focusing on developing countries is still limited.

To fill the gaps in green investment literature regarding the hospitality sector, the present study primarily aims to empirically find pieces of evidence on the determinants and consequences of GI in the context of the eco-friendly hotel sector. More specifically, this study seeks to investigate the impact of internal as well as external drivers on green investments in Saudi Arabian eco-friendly hotels, and additionally to empirically explore to what extent green investment affects eco-friendly hotels' environmental, economic, and social performance. These objectives are to be achieved by answering the following questions: (1) To what extent do the internal and external drivers impact GI adoption in eco-friendly hotels in Saudi Arabia? (2) What are the most perceived drivers affecting GI adoption? (3) To what extent does GI influence hotels' environmental, economic, and social performance?

Compared to previous literature on GI, this study may have the following contributions: Firstly, this study is considered to be a pioneer in determining the significant internal and external factors affecting green investment in eco-friendly hotels. These findings may provide hotel operators with an in-depth understanding of the key predictors that significantly affect GI, which should be considered in their strategic plans. Secondly, this study directly examines the impact of GI adaptation on the three bottom pillars of sustainability performance (environmental, economic, and social performance). The findings of these relationships can be a valuable guide for hotel managers and investors seeking to enhance and boost their financial and social performance without harming the environment. Thirdly, we develop a novel model including the internal and external drivers as determinants of green investment and environmental, economic, and social performance as consequences, which may be a basis for hospitality scholars' forthcoming research examining GI in different hospitality sectors. Fourthly, the conclusion of this study will contribute to filling the gap in the green investment literature in terms of its determinants and consequences in the hospitality industry context, particularly in a developing nation (i.e., Saudi Arabia).

The structure of this study is divided into six sections. Following this section, Section 2 is devoted to the theoretical background and the development of hypotheses. The sample and methodology of data collection are described in Section 3. The results of our analysis are presented in Section 4. Section 5 represents the discussion of the study's findings. Finally, theoretical and practical implications as well as the limitations of the current study and possible future research areas are outlined in Section 6 (Conclusions).

#### 2. Theoretical Background and Hypothesis Development

#### 2.1. Green Investment Concept

In the last few years, world governments have become increasingly concerned about the need to coordinate sustainable development across society, the economy, and the environment [24]. Market demand changes, increased stakeholder pressure, the increasing complexity of products and services, as well as climate and environmental changes all require organizations to implement innovative management practices and capabilities to continue to be efficient and competitive [25]. One of the corporate strategies that has been used widely to eliminate negative impacts on the environment is green investment (GI) [10,26]. GI encompasses many different concepts. It can be considered as an independent term, as part of a larger investment theme, or as directly related to another investment approach [4]. Due to its importance, several studies have been empirically and theoretically conducted focusing on its definition, the benefits it generates for sustainable development and companies' performance, as well as the factors affecting it (i.e., [4,9,19,20]).

In terms of its definition, GI is described as the investment required to mitigate greenhouse gas emissions and air pollution, without substantially decreasing the production and consumption of non-energy goods [26]. Additionally, it is seen as a corporate strategy that aims at maintaining legitimacy and supporting stakeholders. In this way, companies reduce the adverse environmental impacts of operational activities by reducing energy consumption and minimizing  $CO_2$  [16,27,28]. Based on research carried out by Palma-Ruiz et al. [29], GI is regarded as an appropriate strategy for enhancing competitive advantages and improving a company's reputation among stakeholders. Moreover, GI is considered a part of the bioeconomy concept, which is defined as an economic system based on generating renewable resources and converting waste streams into value-added products, such as food, feed, biobased products, and bioenergy [27]. As a modern concept of resource allocation for companies, GI is focused on developing green technologies and renewable energy resources. Consequently, pollutant emissions can be reduced, and environmental quality can be improved by energy reduction, increasing the efficiency of resource utilization, and using renewable energy as an alternative source [10].

### 2.2. Drivers of Green Investment

Numerous studies have examined the factors affecting GI in different contexts. For instance, in the Vietnamese business context, Tran et al. [20] found that GI is affected by nine groups of elements, including GI infrastructure, difficulty in accessing financing sources for GI activities, preferential access to GI capital, knowledge of GI, government and bank policies supporting access to capital for GI, accessible capital for GI, businesses that have plans for GI, businesses that have already adopted GI, and the specific benefits and incentives of GI. Further, a hybrid analysis carried out by Du et al. [9] suggested that the most important factors impacting GI are classified into three categories, namely, political, economic, and environmental factors. Political factors significantly affect GIs through the creation of facilities and the implementation of rules/laws aimed at protecting the environment. Some of these factors are providing subsidies and incentives to companies that invest in green technology, environmental taxes, providing discounts to consumers who purchase green/organic products, and imposing penalties on firms that do not comply with environmental regulations. A company's environmental practices are revealed by economic factors, which are an important driver of green investment [9,30,31]. They are referred to the link between the consumption of energy, greenhouse gas emissions, and sustainable financial development. These factors are the most important drivers of GI, as the primary goal of GI is to avoid ecological risks and improve the health of the environment. Additionally, Chariri et al. [19] mentioned that GI is significantly positively affected by types of industry. Moreover, the findings of the bibliometric and systematic review conducted by Chițimiea et al. [4] classified the drivers influencing GI into two categories, namely, internal, and external drivers. Internal drivers included investors' concerns, financial performance, the culture of the organization, reputational concerns, as well as efficiency gains. On the other hand, the external ones included climate change, consumer behavior, stakeholder behavior, target market, environmental legislation, and regulations, as well as incentives and public financing.

In terms of hotels' internal drivers, due to their huge daily consumption of energy and resources (such as lighting, water, and many disposable products), hotels have launched various initiatives to reveal their commitment to supporting sustainability and integrate it into their strategic plans, such as putting up eco-labels, investing in innovative technologies for water and energy consumption, and adopting environmental management systems (i.e., ISO 14001) [32–34]. To be more sustainable, firms must integrate sustainability efforts internally, vertically, and between divisions and departments [35]. A hotel's values, policies, and strategic goals drive its need to operate more sustainably. For instance, one of the strategic sustainable objectives of Marriott International is to decrease its environmental footprint by 15% for water, 30% for carbon intensity, 45% for waste to landfill, and 50% for food waste by 2025 (from a 2016 baseline) [36]. Further, one of the main factors driving hotels to be environmentally responsible is the financial performance and the economic value created by adopting GI, such as the reduction in operational costs, increase in sales volume, and the increase in market share [37]. Securing competitive advantages among hotel competitors as well as gaining and creating a positive image among hotel customers lead hotels to be greener. In the context of the information and electronics industries in Taiwan, as Chen et al. [38] concluded, companies with a higher level of investment in green products and services have a greater competitive edge.

Externally, numerous drivers affect green investment in the hotel industry context. For instance, customers increasingly prefer to purchase environmentally responsible goods and services that support environmental/green initiatives and strive to minimize adverse environmental impacts [11]. Increasing customers' awareness of environmental sustainability and concerns about the environment have contributed to the increased demand for green hospitality products, such as eco-friendly/green hotels, green restaurants, green cafés, green cruises, and green resorts [39–41]. Supplier pressure is regarded as another key driver that encourages firms to implement green initiatives, as suppliers become more likely to supply goods and materials only to eco-friendly organizations. Due to climate-change adaptation and GHG-emission mitigation, hotels are becoming more environmentally friendly [42]. Abdou et al. [34], in their empirical study, illustrated that the commitment of hotels to environmental sustainability was the key predictor for the investigated hotels being eco-friendly. Moreover, rewards and incentives (i.e., tax breaks, and lowered taxes) provided by governments and public authorities significantly encourage hotels to embrace green technologies and practices in their operations [43,44]. As a way of encouraging companies to invest in green energy, a ten-year tax exemption of 100% of statutory income is offered to hotels that generate energy from renewable sources in Malaysia [45]. Additionally, complying with governmental and environmental regulations and legislation was one of the major reasons for a hotel to go green [46]. A recent empirical study carried out by Gu [47] on a sample of Chinese hotels indicated that investment in green innovation is significantly and positively influenced by environmental regulations. From the previous findings, it could be assumed that internal and external drivers could significantly affect GI. Hence, we hypothesize that.

**H1.** *GI* is significantly positively affected by internal drivers (organizational culture, investors' preferences, financial performance, efficiency gains, and reputational considerations).

**H2.** *GI* is significantly positively affected by external drivers (consumers and stakeholders' behavior, climate change, legislation and regulations, and target market, as well as public financing and incentives).

## 2.3. The Impact of GI on Environmental, Economic, and Social Performance

Environmental performance refers to the company's ability to reduce emissions and waste generation, decrease hazardous and harmful substances, and decrease environmental incident levels [48]. Organizations in a wide range of industries, particularly hotels, are now adopting strategic environmental performance programs to gain competitive benefits [49]. Investment in green innovations and green technologies as well as renewable energies significantly contributes to enhancing and improving environmental performance. Numerous studies in different contexts have examined the GI-environmental-performance relationship. For instance, an empirical study conducted by Chen and Ma [10] on energylisted firms in China from 2008–2017 concluded that GI significantly positively contributed to reducing environmental violations and promoting firms' environmental performance. In another recent study in the Indonesian manufacturing company context, it was found that GI significantly positively improves companies' sustainable performance [8]. Further, the new empirical research conducted by Ren et al. [50] suggests that GI is an important driving force by which China can achieve sustainable development. According to them, green investments have a negative impact on environmental pollution. GI reduces environmental pollution by enhancing the conservation of energy and reduction in emissions, developing innovative technologies, and renovating industrial infrastructure [50]. In addition, in the Malaysian hotel industry, Asadi et al. [3] indicated that hotels' environmental performance is highly significantly influenced by investment in green innovation ( $\beta = 0.745$ , t = 15.672, p = 0.001). Based on these findings, it could be assumed that:

**H3.** Green investment has a significant effect on enhancing eco-hotel environmental performance.

Regarding economic performance, we refer to the improvement of financial and marketing capabilities as a result of the adoption of green strategies that have helped organizations to significantly outperform the industry average [51]. Green investment is regarded as one of the key determinants of economic advancement. It is important to point out that GI practices can positively impact organizational costs. In this context, several studies (i.e., [8,26,52]) suggested that economic performance is significantly affected by GI. Asadi et al. [3] illustrated that investment in green innovations significantly improves hotels' economic performance, namely decreasing the cost of energy consumption, improving capacity utilization, decreasing fees for waste treatment, and reducing penalties for environmental accidents. Furthermore, Yannan et al. [24] concluded the sales growth of Chinese and Saudi Arabian manufacturing industries is significantly enhanced by GI. Hence, we suggest that:

# H4. Green investment has a significant effect on maximizing eco-hotels economic performance.

Organizations tend to emphasize economics rather than other aspects, particularly in the short term [53,54]. In spite of this, adhering to economic objectives alone is not enough to achieve permanent sustainability [54]. In order to achieve the associated economic advantages, it is essential to create criteria that enhance the social and environmental aspects of performance [55]. Companies would definitely benefit from handling environmental issues, which go beyond employee satisfaction and retention to better interaction with local communities and higher acceptance of the brand [56]. Additionally, there are various benefits, including developing social awareness among the staff and being able to recruit and retain the right people [57]. As Wagner [58] argues, firms that invest in social responsibility and accountability can gain numerous advantages by attracting talented employees, retaining customers, and fostering innovation. All of these contribute to the consolidation of their social performance. In the tourism-industry context in Thailand, Yang [18] investigated the influence of GI on social livability (the quality of life in society), including various indicators such as employment level, personal safety (death rate), and social justice, and concluded that GI significantly positively contributes to boosting social livability (i.e., increasing the chances of employment for the low-income population, creating so-called green jobs, lowering the gross death rate, and raising the justice level in society). Thus, based on the foregoing, we propose the following hypothesis:

**H5.** *Green investment has a significant effect on improving eco-hotel social performance.* 

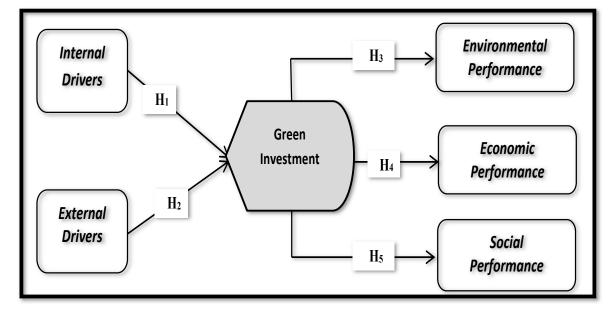


Figure 1 illustrates the study's conceptual framework.

Figure 1. The study's conceptual framework.

#### 2.4. A Brief of Tourism, Hospitality, and Sustainability in Saudi Arabia's Vision 2030

The tourism and hospitality industry in the Kingdom of Saudi Arabia (KSA) is considered one of the significant contributors to the gross domestic product (GDP). The sector contributed 4.64 percent of its GDP in 2018 [59]. According to STR data, hotel supply in Saudi Arabia is growing at the fastest rate in the world [60]. A total of 73,057 hotel rooms are currently in the planning, final planning, and construction phases, representing a 67.1% increase in room supply when completed [60]. In accordance with Vision 2030, Saudi Arabia intends to welcome 30 million Umrah visitors every year by 2030, achieve 100 million domestic and international overnight visits annually, boost the country's GDP by 10% with tourism, improve procedures of visa issuance for visitors, and increase foreign direct investment from 3.8% to 5.7% of GDP [59].

In light of Vision 2030, KSA aims to achieve sustainable development in all sectors, including the tourism and hospitality sector. As part of this vision, sustainability aims to preserve the environment and its natural resources and improve the quality of life for future generations. To accomplish this, waste-management efficiency, energy consumption, recycling projects, reducing pollution, and fighting desertification need to be improved. Additionally, Saudi Arabia seeks to maximize the utilization of water resources by lowering consumption and using renewable and treated water, and ensuring that beautiful beaches, natural reserves, and islands are protected, restored, and accessible to everyone [61]. Consequently, various green initiatives have been launched by the Saudi government in this context such as the Saudi Green Initiative (SGI) and Middle East Green Initiative (MEGI). To achieve a common goal of a green future, SGI combines environmental preservation, energy transformation, and sustainable development programs to achieve three overarching targets as follows: by 2030, Saudi Arabia will reduce carbon emissions by 278 million tons per year, plant ten billion trees, and protect 30% of Saudi Arabia's land and sea [62]. As a first step toward achieving these objectives, the first program of the public investment fund (PIF) is focused on sustainable sectors, including projects associated with the efficiency of energy, renewable energy, the efficiency of water, wastewater treatment, green buildings, clean transportation, pollution control, and sustainable management of living natural resources and land use [63].

#### 3. Materials and Methods

#### 3.1. Measures and Instrument Development

In the current study, data were gathered using an online questionnaire. Earlier published empirical studies were analyzed and reviewed extensively to derive the multi-item measurements used in this study. As a result, six constructs were created, each of which contained a unique set of items specifically modified for achieving the objectives of the current study. A seven-part questionnaire was administered. The first part provides demographic information about the investigated participants, including their gender, age, educational level, work position, years of work experience in the current position, and the hotel's ownership and management structure. The second and third parts explore the perceptions of the investigated respondents toward the internal as well as external drivers of green investment, respectively. The fourth section intended to reveal to what extent the investigated respondents apply GI to their operations. The hotel's environmental, economic, and social performance was rated in the fifth, sixth, and seventh sections, respectively.

First, the internal and external drivers affecting GI as found by Chiţimiea et al. [4] were modified and utilized. Five items were included on each scale. A example of internal drivers is the hotel's organizational culture toward environmental sustainability and a example of external drivers is adaptation to/mitigation of climate change and ecological degradation. A reliability analysis of these scales shows that they have a high degree of internal consistency ( $\alpha = 0.925$  and  $\alpha = 0.920$ , respectively).

Green investment measures determined by Elzek et al. [64], and Chen and Ma [10] were modified and adopted. The scale included six items. A sample of these items is "The

hotel updates equipment-operating processes to save energy". With a Cronbach's alpha of 0.933, the green-investment scale is internally consistent.

The questionnaire items used for measuring sustainable hotel performance in terms of environmental, economic, and social performance were based on those used by Fernando et al. [65] and Ch'ng et al. [66]. A modified four-item scale was employed to assess the impact of GI on the hotel's environmental performance. Examples of these items include "GI mitigates climate change and ecological degradation" and "GI improves the hotel's environmental situation". As evidenced by the reliability analysis, the scale has high internal consistency ( $\alpha = 0.942$ ). Further, the hotel's economic performance was measured using a three-item scale. An example of this scale's items is "GI increases hotel's sales volume and profit margin". A good internal consistency is shown by this scale ( $\alpha = 0.844$ ). Similarly, a three-item scale was used for measuring the hotel's social performance. A sample of this scale includes "GI improves the quality of life". The internal consistency of social performance scales was good ( $\alpha = 0.847$ ). Generally, the investigated participants rated their level of agreement with each item on a five-point Likert scale, where 1 represented 'strongly disagree' and 5 represented 'strongly agree'. All constructs of the study and their associated items are presented in Appendix A.

First of all, the questionnaire form was written in English and then translated into Arabic by two researchers familiar with both languages. Upon completion of the Arabic translation, two more experts back-translated the survey from Arabic to English to verify the linguistic consistency between the two versions. The version revised after the translation was identical to the original English one. For this questionnaire, a high level of content validity is required. As a result, the survey content was revised, and feedback was given by five hospitality scholars who specialize in sustainability and environmental management in order to ensure the content validity is accurate and that it measured the variables that it was intended to measure. Furthermore, 25 participants took part in the pilot study who had been excluded from the main research sample, to determine whether the questionnaire was clear, consistent, simple, and free of ambiguities. Accordingly, some statements on the questionnaire were modified based on participants and scholars' feedback. In addition, some statements have been reorganized and rearranged.

## 3.2. Data Collection and Sampling

As mentioned before, this study aims to investigate the impact of internal as well as external drivers of green investments in Saudi Arabian eco-friendly hotels, and additionally to empirically explore to what extent green investment affects eco-friendly hotels' environmental, economic, and social performance. In this study, all four- and five-star eco-friendly hotels with significant commitment to adopting environmentally sustainable practices [34] were examined. Data on sustainable and eco-friendly hotels published on the ETIC hotels' website [67] show that (403) hotels in Saudi Arabia are certified eco-friendly. Saudi Arabia is a Western Asian country, officially known as the Kingdom of Saudi Arabia (KSA). It is the largest country in Western Asia and the Middle East, and the second largest country in the Arab world (See Figure 2). The KSA covers most of the Arabian Peninsula and has a land area of more than 2,000,000 km<sup>2</sup>.

To fulfill the objectives of the study, a web-based questionnaire was developed and emailed to each hotel. All listed hotels, in all regions of Saudi Arabia, were surveyed with one survey, which was addressed to a senior manager, such as the general manager or the director in charge of environmental activities (i.e., environmental manager). The questionnaire was administered through an electronic Google form. A welcome message and details about the study's objective were provided. Study participants were informed that participation was voluntary. On a scale of 1 to 5, they were asked to rate the appropriate answer. Following completion of the survey, they were requested to submit it. Out of the 403 questionnaires distributed, only 298 were valid for statistical analysis, representing a 73.9% response rate. The data-collection period lasted almost two months (July–September 2022).



Figure 2. The research area (Saudi Arabia).

A total of 298 participants was a sufficient sample size for structural equation modeling (SEM) testing. This was because it met Nunnally's [68] criteria, which suggest that a study's sample size should be decided based on the number of items to be examined. A case-to-item ratio of 10:1 is acceptable. Hence, to analyze 26 variables in our study, 260 participants were required. Further, it is in line with Hair et al.'s [69] requirement of 100 to 150 samples in order to achieve the acceptable maximum likelihood estimation (MLE). Moreover, it complies with Boomsma [70], who recommended a sample size of at least 200 for structural equation modeling.

## 3.3. Data Analysis

SPSS version 22 and AMOS version 26 were used for data analysis in this study. The analysis of the collected data was carried out using percentages, frequencies, means, and standard deviations. Further, a confirmatory factor analysis (CFA) and Cronbach's alpha were used to evaluate the validity and reliability of the study items. In order to verify convergence validity, the average variance extracted (AVE) and composite reliability (CR) were employed. Additionally, the Fornell–Larcker criterion was utilized to determine discriminant validity. To detect common method variance (CMV), the Harman single-factor test was applied. Lastly, SEM with maximum likelihood estimation (MLE) was performed for testing the study's hypotheses and determining the direction of interrelationships among study constructs.

# 4. Results

## 4.1. Demographic Data Analysis

Based on the valid responses of 298 participants, Table 1 shows that 89.3% of the investigated participants were males. Meanwhile, 10.7% were females. Concerning their ages, the results reveal that participants' ages ranged from 30 to less than 40 years, representing the higher category (52.3%), followed by those whose age falls between 40 and 50 years (37.9%). The lowest percentage (9.8%) of participants were those over 50 years of age. In terms of their level of education, 60.7 percent hold a university degree, followed by 27.2% and 12.1% with master's degrees and doctorates, respectively. Regarding their current position, environmental managers accounted for 43.3%, followed by general managers of hotels (30.9%). More than 40 percent of the participants had worked in their current positions for 5 to 10 years. More than two-thirds of participants (64.1%) worked in independently owned hotels that were administrated by management contracts.

Table 1. Participants' characteristi	cs.
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Characteristic	No.	%
Gender		
Male	266	89.3
Female	32	10.7
Age		
30 to less than 40 years old	156	52.3
40 to 50 years old	113	37.9
More than 50 years old	29	9.8
Educational level		
University degree	181	60.7
Master's degree	81	27.2
Doctorate degree	36	12.1
Current position		
General manager	92	30.9
Environmental manager	129	43.3
Director of maintenance and engineering	42	14.1
Others	35	11.7
Years of experience in current position		
Less than 5 years	34	11.4
5 to less than 10 years	122	40.9
10 to less than 15 years	95	31.9
More than 15 years	47	15.8
Hotel's ownership and management structure		
Owned and operated independently	31	10.4
Owned independently, and operated by a franchise agreement	55	18.5
Owned independently, and operated by a management contract	191	64.1
Owned, and operated by chain	21	7.0
Total	298	100%

# 4.2. Descriptive Statistics

In Table 2, we present the descriptive statistics of the investigated variables as well as the items they were related to. On average, participants rated internal drivers of GI at a higher level, ranging from 3.99 to 4.27. The highest internal driver that motivates the hotel management to adopt GI was financial performance (i.e., returns on green investments). Further, the respondents strongly perceived external drivers to be key predictors of GI, where the average mean ranged from 3.98 to 4.33. Adaptation to/mitigation of climate change and adapting to continuous market changes were the highest perceived external factors, with an average mean of 4.33 and 4.20, respectively. Concerning the adoption of GI into operating processes, the surveyed participants revealed that they were highly committed to supporting green technologies and water-conservation activities and programs, encouraging the use of eco-labeling products and services, and updating equipment-operating processes to save energy, respectively. In terms of their perceptions of the effect of GI on hotels' environmental, economic, and social performance, the results illustrated that they strongly perceived that GI, environmentally, reduces greenhouse gas emission levels, economically, increases the hotel's sales volume and profit margin, and, socially, improves quality of life, respectively.

Construct	Items	Mean (S.D.) <sup>1</sup>	Std. Loading (CFA) <sup>2</sup>	$\alpha^{3}$	CR <sup>4</sup>	AVE <sup>5</sup>
	Intr_1	4.01 (0.91)	0.816 ***			
Internal Drivers	Intr_2	4.21 (0.92)	0.911 ***			
	Intr_3	4.27 (0.91)	0.851 ***	0.925	0.923	0.706
	Intr_4	4.15 (0.89)	0.802 ***			
	Intr_5	4.24 (0.83)	0.817 ***			
	Extr_1	4.11 (0.96)	0.763 ***			
	Extr_2	4.33 (0.85)	0.832 ***			
External Drivers	Extr_3	4.01 (0.05)	0.748 ***	0.920	0.919	0.659
	Extr_4	4.20 (0.86)	0.964 ***			
	Extr_5	3.98 (1.07)	0.844 ***			
	Grinvst_1	4.21 (0.89)	0.704 ***			30 0.688
	Grinvst_2	3.89 (1.02)	0.840 ***			
Green	Grinvst_3	4.33 (0.82)	0.820 ***	0.000	0.000	
Investment	Grinvst_4	4.26 (0.83)	0.898 ***	0.933	0.930	
	Grinvst_5	4.10 (1.01)	0.879 ***			
	Grinvst_6	4.15 (0.99)	0.822 ***			
	Env_1	4.34 (0.81)	0.907 ***			
Environmental	Env_2	4.27 (0.84)	0.953 ***	0.042	0.942 0.941	0.000
performance	Env_3	4.32 (0.79)	0.911 ***	0.942		0.800
	Env_4	4.29 (0.83)	0.800 ***			
Economic	Eco_1	4.33 (0.81)	0.865 ***			
	Eco_2	4.20 (0.89)	0.862 ***	0.880	0.879	0.707
performance	Eco_3	4.28 (0.81)	0.794 ***			
Social	Soc_1	4.30 (0.85)	0.777 ***			
	Soc_2	4.25 (0.90)	0.921 ***	0.847	0.887	0.725
Performance	Soc_3	4.18 (0.83)	0.851 ***			

Table 2. The properties of descriptive statistics, reliability, and confirmatory factor analysis.

S.D. <sup>1</sup> = Standard Deviation, Std. Loading, (CFA) <sup>2</sup> = Standardized Factor Loading,  $\alpha$  <sup>3</sup> = Cronbach's Alpha, CR <sup>4</sup> = Composite Reliability, AVE <sup>5</sup> = Average Variance Extracted. Model fit; x<sup>2</sup>/df = 3.224 *p* < 0.001, CFI = 0.965, GFI = 0.903, RFI = 0.946, IFI = 0.962, NFI = 0.928, RMSEA = 0.077, RMR = 0.052, \*\*\* *p* < 0.001.

# 4.3. Common Method Variance/Bias (CMV)

A common method variance/bias may exist since the data were gathered by an online questionnaire. Therefore, three approaches were employed to reduce the probability of CMV: anonymity, confidentiality, and honesty [71]. The researchers informed participants that all information and responses would remain confidential and anonymous and would be used only for research purposes. When anonymity is assured, it is less likely that response bias will be detected [72]. Participants were asked to answer all questions honestly, with no true or false answers. A decrease in response bias becomes more observable when honesty is assured [73]. In addition, Harman's single-factor test (a well-known statistical test) was used for the detection of CMV. In accordance with the findings of the exploratory factor analysis, 42.3% of the variance can be explained by one factor. CMV may be a problem when one factor explains the majority of variance and exceeds the threshold value of 50%. As a result, CMV did not pose a significant problem for this study [74].

## 4.4. Measurement Model

Based on maximum likelihood estimation, a CFA was carried out to assess the study constructs' validity and reliability (see Table 2). Firstly, two tests (composite reliability and Cronbach's alpha) were conducted to examine the study constructs' reliability. The results presented in Table 2 illustrated that Cronbach's alpha values as well as CR cores are higher than the threshold of 0.80 [69], demonstrating good internal reliability. Secondly, both convergent and discriminant validity were analyzed to assess the study constructs' validity. For convergence validity, at least 0.50-factor loadings and 0.50 average variance extracted coefficients are required [75]. It was found that all constructs' items loaded over

0.50, with a significant *p*-value (p > 0.001), and that the AVE score for each construct ranged from 0.659 to 0.800, indicating convergent validity. Concerning the discriminant validity, the Fornell–Larcker criterion suggests that a construct must be discriminately valid if its square root is greater than the correlation it has with the other constructs [76]. All latent variables in Table 3 have a higher AVE square root (diagonal bold numbers) than their correlations with all other variables, representing discriminant validity has been achieved.

Table 3. A Fornell-Larcker method for discriminant validity.

Construct	1	2	3	4	5	6
1—Internal Factors	0.840 <sup>a</sup>					
2—External Factors	0.521 *** <sup>b</sup>	0.812 <sup>a</sup>				
3—Green Investment	0.363 *** <sup>b</sup>	0.442 *** <sup>b</sup>	0.829 <sup>a</sup>			
4—Environmental Performance	0.311 *** <sup>b</sup>	0.421 *** <sup>b</sup>	0.535 *** <sup>b</sup>	0.894 <sup>a</sup>		
5—Economic Performance	0.272 *** <sup>b</sup>	0321 *** <sup>b</sup>	0.301 *** <sup>b</sup>	0.477 *** <sup>b</sup>	0.841 <sup>a</sup>	
6—Social Performance	0.304 *** <sup>b</sup>	0.324 *** <sup>b</sup>	0.261 *** <sup>b</sup>	0.297 *** <sup>b</sup>	0.411 *** <sup>b</sup>	0.851 <sup>a</sup>

Note: <sup>a</sup> The AVE study construct's square root. \*\*\*<sup>b</sup> Latent variable correlation (\*\*\* p < 0.001).

Several goodness-of-fit criteria were used to assess measurement model fit. The value of "normed chi square  $(x^2/df)$ " was less than 5 at 3.224. Further, there was a root-mean-square residual (RMR) score of 0.054 and a root-mean-square error of approximation (RMSEA) score of 0.077, respectively, lower than the threshold of 0.08. In addition, the values of the "goodness of fit index" (GFI), "comparative fit index" (CFI), "relative fit index" (RFI), "normed fit index" (NFI), and "incremental fit index" (IFI) are higher than the cut-off value of 0.90 as suggested by Hu and Bentler [77] and Hair et al. [69]. Based on these indices, the data fit well with the measurement model.

#### 4.5. Structural Equation Modeling (SEM) Results

In the current study, the SEM approach was employed to explore the effect of internal and external drivers on GI, and, moreover, to examine how GI adoption affects hotels' environmental, economic, and social performance. The results of the SEM are summarized in Table 4. In accordance with the model fit measures recommended by [77] and [69], the proposed structural model is well-fitted (see Table 4).

	Hypothesized	Path	Standardized Path Coefficients	t-Value	Results
H <sub>1</sub> : Internal Factors	>	Green Investment	0.332 ***	7.424	Supported
H <sub>2</sub> : External Factors		Green Investment	0.423 ***	8.985	Supported
H <sub>3</sub> : Green Investment		Environmental Performance	0.511 ***	10.554	Supported
H <sub>4</sub> : Green Investment		Economic Performance	0.294 ***	6.245	Supported
H <sub>5</sub> : Green Investment		Social Performance	0.241 ***	5.004	Supported
Model-fit criteria			RN G C N I R	3.224 *** p < 0.0 MR = 0.052 FI = 0.903 FI = 0.965 FI = 0.928 FI = 0.962 FI = 0.946 SEA = 0.077	001

Table 4. Structural Parameter Estimates.

\*\*\* p < 0.001.

In terms of the relationship between the constructs of the study, the results presented in Table 4 and illustrated in Figure 3 confirmed that all estimated paths are significant and positive, and all hypotheses are accepted. Hypothesis H<sub>1</sub>, which predicts that GI is significantly positively affected by internal drivers, is supported ( $\beta = 0.332$ , *t*-value = 7.424, *p* < 0.001). Additionally, GI is significantly positively affected by the external drivers ( $\beta = 0.423$ , *t*-value = 8.985, *p* < 0.001). As a result, H<sub>2</sub> is supported. Moreover, the results of the SEM also supported H<sub>3</sub> and H<sub>4</sub>, which claim that GI has significant effects on enhancing hotels' environmental performance and maximizing economic performance, respectively ( $\beta = 0.511$ , *t*-value = 10.554, *p* < 0.001;  $\beta = 0.294$ , *t*-value = 6.245, *p* < 0.001). Lastly, H<sub>5</sub>, predicting that GI has a significant effect on boosting hotels' social performance, is also supported ( $\beta = 0.241$ , *t*-value = 5.004, *p* < 0.001).

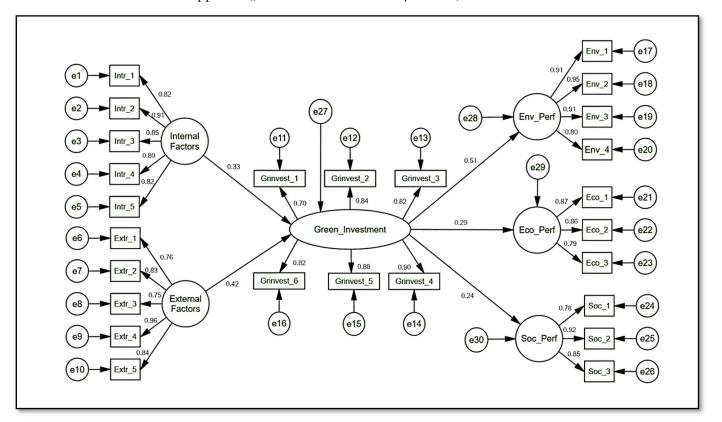


Figure 3. The structural model.

#### 5. Discussion

This study aims to empirically investigate the impact of internal and external drivers on green investments in Saudi Arabian eco-friendly hotels, and, in addition, to empirically explore to what extent green investments affect hotels' environmental, economic, and social performance. Considering the results of the hypotheses tested in this study, we can draw several significant findings as follows. Firstly, concerning the first hypothesis, suggesting GI is significantly positively affected by internal drivers, the results of SEM showed that the hypothesis was accepted. This means that the implementation of GI in eco-friendly hotels is significantly positively influenced by financial return on GI, efficiency gains (securing competitive advantages), as well as a hotel's organizational culture toward environmental sustainability. These findings agreed with the results of earlier research, which ascertained that financial returns (such as net return and reduced cost in the long run) and sustainability have a close relationship [4,14,78,79]. Further, Chariri et al. [19] stated that a company's high sensitivity to environmental management significantly positively affects the implementation of environmental sustainability. Additionally, Chițimiea et al. [4] concluded that securing competitive advantages (i.e., saving costs, customer demand, tax incentives, and risk reduction) and gaining a good environmental reputation among green service providers are key predictors affecting GI implementation.

Secondly, the findings illustrated that external drivers have a significant positive impact on GI implantation in the investigated eco-friendly hotels. This implies that hotels implementing green investment must comply with external drivers, such as adaptation to/mitigation of climate change, adapting to the continuous market changes, and consumers and stakeholders' environmental behavior. This study's findings are similar to those from former studies, confirming that adaption to climate change, adaption to continuous market change, commitment to satisfying consumers and stakeholders' environmental behavior, and maintaining governmental environmental legislation and regulations are the key predictors affecting GI implantation [4,20,26,29,31,80,81].

Thirdly, regarding the influence of GI implementation on hotels' environmental performance, the findings of this study illustrated that GI significantly positively affects hotels' environmental performance, which confirms that investments in green practices and innovative technologies significantly contribute to the reduction in GHG emission levels, a decreasing frequency of environmental accidents, mitigating climate change and ecological degradation, and lastly but not least improving the hotel's environmental situation. These findings are in accordance with Tran et al. [20], who mentioned that GI targets mobilizing green capital from both the public and private sectors to provide eco-friendly goods and services, protect natural landscapes and maintain ecosystem diversity, and prevent, eliminate, or compensate environmental degradation and climate change. Further, these findings support the result of data derived from energy-listed firms in China, which illustrated that GI helps to promote firms' environmental performance and reduces their environmental violations [10]. In the context of Indonesian manufacturing companies, these findings agree with those suggesting that green investment implementation significantly positively affects a firm's sustainable performance ( $\beta = 0.339$ , t = 3.266, p = 0.001) [8]. Based on data collected from 3706 firms from 20 countries between 2002 and 2013, Yan et al. [82] found that there is a significant positive correlation between the relative size of GIs and firm-level environmental performance. As a result of the previous findings, it can be suggested that the greater the implementation of GIs, the better the environmental performance.

Fourthly, in terms of the effect of GI on hotels' economic performance, the findings of the study confirmed that GI significantly positively contributes to enhancing hotels' economic performance, specifically an increase in hotel's sales volume and profit margin, an increase in hotel's market share, and a reduction in hotel costs (i.e., energy and water consumption costs) in the long term. These findings agree with those of Chariri et al. [83] who found that financial performance (profitability) in Indonesian companies is significantly positively influenced by green investment. In line with numerous scholars (i.e., [8,10,24,26,52,84]) green investment could be considered a key predictor of firms' economic performance which significantly reduces operational costs, increases firm value, increases market share with customers who are interested with eco-friendly products and services, decreases penalty costs for environmental accidents, promotes company reputation, and allows one to gain competitive advantage, supporting sustainable growth and enhancing sales volume and profit margin.

On the other hand, the findings of the current study are contradictory, with limited studies which have shown that GI has no or partial significant impact on firms' economic performance. For example, in the Portuguese green auto-component sector, a study conducted by Azevedo et al. [85] illustrated that "environmental collaboration with suppliers," "ISO 14001 certification", and "environmentally friendly purchasing practices" are not significantly correlated with economic performance. However, Jin and Xu [22] as well as D'Angelo et al. [51] highlighted that environmental investments have a significant inverted U-shaped impact on economic performance, meaning there is a cutoff value beyond which further increases in GIs have a negative impact on financial/ economic performance. As a result of the attention-based view, companies may lose focus on other quality aspects of their products when they invest too much in green activities, and thereby not be able to provide customers with better products.

Fifthly, concerning the nexus between GI and hotels' social performance, the findings of SEM indicated that hotels' social performance is significantly positively affected by GI, which means that the higher the hotels' GI, the better the hotels' social performance. These findings are matching with green investment indicators for quality of social life (such as achieving public personal welfare, realizing satisfaction with life, and raising cultural, heritage, and environmental awareness among the local community) as determined by Abou-Liela [86]. In addition, these findings are consistent with those found by Yang [18] who explored the impact of GI on the degree of social livability in Thailand and illustrated that GI significantly positively contributes to promoting social livability (i.e., boosting the employment level by creating so-called green jobs or green-collar work, raising social justice among members of society, reducing the GINI index, and avoiding income polarization). Moreover, in Indonesian manufacturing companies, GI enhances trust and helps to maintain a good and healthy relationship with stakeholders [8]. From the previous findings, it could be suggested that GI is the key determinant of hotels' social performance.

From the previous findings, it could be noticed that green investment plays a vital and imperative role in achieving sustainable development goals (SDGs) not only in Saudi Arabia but also in other eco-tourism destinations. For instance, from the environmental side, GI contributes to achieving environmentally related SDGs such as SDG6, "providing all people with access to water and sanitation and manage them sustainably"; SDG7, "the provision of affordable, reliable, and sustainable energy"; SDG11, "sustainable cities and communities"; SDG12, "maintaining sustainable patterns of consumption and production"; and SDG13, "taking urgent action against climate change". From the economic point of view, GI contributes to maintaining a sustainable economy, promoting full and productive employment, and providing decent work for all (SDG8). In terms of social performance, GI contributes to promoting health and well-being for all ages (SDG2) and ensuring sustainable development through peaceful and inclusive societies (SDG16).

## 6. Conclusions

The main aim of this study is to empirically investigate the impact of internal and external drivers on green investments in Saudi Arabian eco-friendly hotels. Besides this, we explore to what extent green investments contribute to enhancing hotels' environmental, economic, and social performance. To achieve the study's objectives, a web-based questionnaire was developed and directed to senior managers/directors of environmental management in all four- and five-star eco-friendly hotels in Saudi Arabia. A total of 298 forms were received and were valid for statistical analysis. SEM was employed to test the study's hypotheses. The findings of the study revealed that GI is significantly positively affected by external as well as internal drivers, respectively. Adaptation to/mitigation of climate change was the highest perceived driver of GI adoption. Additionally, GI makes a significant positive contribution to enhancing hotels' environmental performance, maximizing economic performance, and boosting social performance. Consequently, the study's findings have led to some theoretical and practical implications along with recommendations for further investigations as follows.

#### 6.1. Theoretical Implications

Several theoretical implications can be drawn from this study. First, the findings of the study contribute significantly to the literature on GI in the eco-friendly hotel context by providing a comprehensive understanding of the impact of internal and external drivers on GI implementation in eco-friendly hotels. Despite the higher impact of external drivers than internal ones, the study findings concluded that both of them significantly positively affect GI. Adaptation to climate change was the factor most perceived to affect the implementation of green investment. The higher the need for adaptation to climate change, the greater the GI incurred by the hotel. Second, the study findings confirmed the role of GI as a key predictor in enhancing and promoting hotels' sustainable performance. The results of this study revealed that GI significantly positively influences hotels' environmental,

economic, and social performance. Third, the study findings support legitimacy theory, which contends that in order to gain legitimacy and public support, organizations should be able to determine any practices and activities that are in line with the expectations of the public and stakeholders [87], including policies and practices that are related to GI. Based on legitimacy theory, the study findings show that the hotels could gain their legitimacy from the surrounding community and their stakeholders by caring about investing in green practices and policies which significantly positively contribute to mitigating climate change and ecological degradation, reducing greenhouse gas emission levels, boosting the employment level, and improving the quality of life for the local community. Fourth, as far as the authors know, this is the first study of its kind that empirically investigates the impact of internal and external drivers on GI as well as examines its consequences on environmental, economic, and social performance in the green hospitality industry context, particularly in one of the developing countries. Fifth, a new theoretical framework including the determinants and consequences of GI, in the context of the eco-hotel industry, was developed and validated. The findings were significant, implying that it could be a valuable guide for future research aiming to examine the GI's drivers and consequences in the other hospitality industry contexts.

## 6.2. Practical Implications

Based on the results of the study, some practical implications are identified. Firstly, according to the findings of this study, GI is positively significantly affected by both internal and external drivers, particularly the need for hotels to adapt to climate change and ecological degradation as well as the financial return on GI, which must be considered in the hotel strategical plans to mitigate the negative impact of the environment. Secondly, based on the significant positive relationship between GI and hotels' environmental performance, it is important for hotel managers, in Saudi Arabia as well as other eco-tourism destinations, to invest in green innovations. Many innovative green practices and processes, such as using renewable energy, encouraging the use of eco-label products, and using green technologies for water and energy conservation, should be considered by hotel operators. This will enhance their environmental, economic, and social performance and sustain corporate competitive advantage. Thirdly, in accordance with the significant positive relationship between GI and economic performance, hotels can use GI as a corporate strategy aiming to maximize profit without harming the environment. Fourthly, governments and public authorities, not only in Saudi Arabia but also in other eco-tourism destinations, should play a leading role in promoting GI by developing policies aiming to incentivize, support, and promote the implementation of GI in hotel businesses. Green investments can be stimulated by public authorities by offering a variety of policy instruments, including lowering the taxes paid, offering guaranteed credits, providing grants for purchasing green technology, and offering free courses dedicated to hotel managers and investors about the importance of green investments. Fifthly, hotel operators must pay significant attention to raising employees' environmental awareness, through continuous training courses about the importance of green investment practices for the environment and their quality of life. Sixthly, green investment significantly positively contributes to enhancing the quality of life, boosting the employment level and relationship with the local community, and increasing staff and guest social responsibility. As a result, hotel managers should invest more in corporate social initiatives, which help the hotel to achieve competitive advantages. Samples of these initiatives include supporting local communities during pandemics and disasters, food-donation programs, and sourcing from the local community, as well as supporting charitable foundations. Finally, in light of the important role green investment plays in the hospitality industry context, tourism and hospitality academicians can incorporate GI as a part of their academic learning and research.

The current study has some limitations, as follows. Firstly, our study focused primarily on four- and five-star eco-friendly hotels in Saudi Arabia to investigate the determinants and consequences of green investment. It may not be possible to generalize the findings to other nations or populations. In order to gain additional insights, it would be helpful to conduct further research using a broader and larger sample size. Secondly, the study analyzed the impact of internal and external drivers on GI as unidimensional constructs composed of five factors. It may be possible to examine the effects of each of these drivers separately on GI in future research. In addition, other variables can be used rather than those examined. Thirdly, the study focused only on eco-friendly hotels; future studies may investigate the concept of GI in other hospitality sectors, such as green restaurants or green resorts. Fourthly, the study participants were asked to fill out an online questionnaire based on their subjective perspectives. Mixed-method approaches (qualitative and quantitative) may provide a deeper understanding. Furthermore, GI was examined in terms of its direct impact on environmental, economic, and social performance. A mediator or moderator variables such as organizational behavior toward the environment, employees' environmental commitment, and green intellectual capital may help to explore these relationships indirectly. Furthermore, demographic characteristics may be utilized as moderators in the relationship between GI and sustainable performance.

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# Appendix A

Table A1. Constructs of the study and their associated items.

Construct	Items	Statement
	Intr_1	Investors' environmental preferences.
	Intr_2	The hotel's organizational culture toward environmental sustainability
Internal Drivers	Intr_3	Financial performance (returns on green investment)
	Intr_4	Reputational considerations (creating a good reputation)
	Intr_5	Efficiency gains (i.e., achieving/securing a competitive advantage)
	Extr_1	Consumers' and stakeholders' environmental behavior
	Extr_2	Adaptation to/mitigation of climate change
External Drivers	Extr_3	Governmental environmental legislation and regulations
	Extr_4	Adapting to the continuous market changes
	Extr_5	Public financing and incentives

Construct	Items	Statement
	Grinvst_1	The hotel invests in updated equipment in operating processes to save energy.
	Grinvst_2	The hotel contributes to investing in renewable energy (i.e., solar and wind energy).
Green Investment	Grinvst_3	The hotel actively supports investment in green technologies and activities for water conservation.
	Grinvst_4	The hotel supports the use of eco-labeling products and services.
	Grinvst_5	The hotel supports investment in innovative waste reduction, treatment, and recycling practices.
	Grinvst_6	The hotel invests in sourcing raw materials from the local community.
	Env_1	GI mitigates climate change and ecological degradation.
	Env_2	GI improves the hotel's environmental situation
Environmental Performance	Env_3	GI reduces greenhouse gases emissions level
	Env_4	GI decreases the frequency of environmental accidents
	Eco_1	GI increases the hotel's sales volume and profit margin
Economic Performance	Eco_2	GI reduces hotel costs (i.e., energy and water consumption costs) in the long term
	Eco_3	GI increases the hotel's market share
	Soc_1	GI improves the quality of life
Social Performance	Soc_2	GI boosts the employment level and relationship with the local community
	Soc_3	GI increases staff and guest social responsibility

## Table A1. Cont.

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