The Impact of Hotel Green Marketing Mix on Purchase Intention (Applied on Red Sea Hotels)

تأثير المزيج التسويقي الأخضر للفنادق على نية الشراء (بالتطبيق على فنادق البحر الأحمر)

Hamad Ali Batikh Hamdoun*

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Abstract

This study investigates the effect of the Green Marketing Mix (GMM) on purchase intention within Red Sea hotels, emphasizing seven key components: product, price, place, promotion, people, process, and physical evidence. Data were gathered through a structured questionnaire administered to 398 hotel guests. The analysis reveals that the GMM positively influences guests' intention to purchase, with particular significance placed on the visibility of sustainable practices and the role of employee involvement in promoting eco-friendly choices. The findings underscore the value of integrating environmental responsibility into all aspects of hotel operations. This research provides actionable insights for hotel managers and marketers, suggesting that green strategies not only enhance brand perception but also appeal to the growing segment of environmentally conscious tourists. By adopting comprehensive green initiatives, hotels in the Red Sea region can improve customer loyalty, differentiate themselves in a competitive market, and contribute to broader environmental goals.

الملخص

تبحث هذه الدراسة في تأثير المزيج التسويقي الأخضر (GMM) على نية الشراء في فنادق البحر الأحمر، مع التركيز على سبعة مكونات رئيسية: المنتج، السعر، المكان، الترويج، الأفراد، العملية والأدلة المادية. جُمعت البيانات من خلال استبيان أُكمل من قبل ٣٩٨ نزيلاً فندقياً. يكشف التحليل أن المزيج التسويقي الأخضر يؤثر إيجابياً على نية الشراء لدى النزلاء، مع إيلاء أهمية خاصة لوضوح الممارسات المستدامة ودور مشاركة الموظفين في الترويج للخيارات الصديقة للبيئة. تؤكد النتائج على أهمية دمج المسؤولية البيئية في جميع جوانب عمليات الفنادق. يوفر هذا البحث رؤى عملية لمديري الفنادق والمسوقين، مما يشير إلى أن الاستراتيجيات الخضراء لا تعزز فقط تصور العلامة التجارية، بل تجذب أيضاً الشريحة المتنامية من السياح المهتمين بالبيئة. من خلال تبني مبادرات خضراء شاملة، يمكن للفنادق في منطقة البحر الأحمر تحسين ولاء العملاء، وتمييز نفسها في سوق تنافسية، والمساهمة في تحقيق أهداف بيئية أوسع.

Keywords: Marketing, Green Marketing Mix, Purchase Intention, Red Sea.	*الكلمات الدالة:* التسويق، المزيج التسويقي الأخضر، نية الشراء، البحر الأحمر.

* Lecturer, Hotel Studies Department, Faculty of Tourism and Hotels, Luxor University

Introduction

The growing global emphasis on environmental sustainability has significantly influenced consumer behavior across various sectors, including hospitality. Travelers are increasingly seeking eco-friendly accommodation options that align with their environmental values (Han et al., 2022). In response, the hospitality industry has adopted green marketing strategies as part of its commitment to sustainability and differentiation in competitive markets. A key framework guiding these efforts is the Green Marketing Mix (GMM), which expands the traditional marketing mix by integrating sustainability into seven elements: product, price, place, promotion, people, process, and physical evidence (Zameer *et al.,* 2023) .

In tourist destinations that depend heavily on natural resources, such as Egypt's Red Sea region, the adoption of GMM is not only a competitive advantage but also an ecological imperative. The Red Sea's delicate ecosystem, including its coral reefs and marine biodiversity, faces threats from mass tourism and unsustainable development (Elshahed & Abdelrahman, 2024). Hotels in such areas have a dual responsibility: to minimize their environmental footprint and to engage guests in sustainability practices. When implemented effectively, green marketing can enhance guest satisfaction, strengthen brand image, and increase the likelihood of repeat visits and positive word-of-mouth (Pham *et al.,* 2023).

While many studies have confirmed the positive relationship between green marketing practices and consumer behavior, there is still limited empirical evidence on how each of the seven GMM elements specifically influences purchase intention within environmentally sensitive destinations (Yusof *et al.,* 2021; Sharma & Sharma, 2023) .

This study addresses the lack of focus on the green marketing mix within Red Sea hotels, which results in the region missing out on key benefits. Despite the growing environmental trend and the increasing importance of green marketing, hotels in the Red Sea still lack a strong emphasis on sustainability. This study explores the impact of green marketing elements on guests' purchase intentions. By adopting these green strategies, Red Sea hotels can attract environmentally conscious travelers and better align with global sustainability efforts and national policies promoting environmental responsibility.

Theoretical Background

Green Marketing Mix

The green marketing mix refers to the adaptation of traditional marketing elements—product, price, place, promotion, people, process, and physical evidence—to align with environmental sustainability goals. It emphasizes developing and promoting products and services in a way that minimizes negative environmental impact while fulfilling customer needs. Each element of the mix is adjusted to support eco-friendly practices throughout the business process, especially in sectors like hospitality, tourism, and retail (Ali, & Khalid, 2024).

This approach not only enhances environmental performance but also improves brand image, increases customer loyalty, and appeals to the growing segment of environmentally conscious consumers (Nguyen & Bui, 2023).

The following are the elements of the green marketing mix:

1 .Green Product

This pertains to environmentally sustainable products or services provided by a hotel. Examples include biodegradable personal care items, energy-saving lighting, organic linens, solar energy, and

locally sourced meals. The aim is to deliver comfort and sustainability while minimizing environmental impact (Nguyen & Bui, 2023).

2 .Green Price

Green pricing takes into account the environmental costs linked to a product or service and often includes a premium to fund eco-friendly initiatives. In hospitality, this could mean higher rates for rooms with green certifications or packages that support conservation efforts. It also emphasizes transparency, such as informing guests about savings from reduced energy or water use (Ali, & Khalid, 2024).

3 .Green Place

This concept involves the eco-conscious distribution and service delivery of a hotel. It includes choosing locations that cause minimal ecological damage, sourcing locally to cut emissions from transport, and promoting direct online reservations to lower carbon footprints from intermediaries. It also refers to delivering services to guests in environmentally responsible ways (Chen & Al-Ghamdi, 2023).

4 .Green Promotion

Green promotion refers to marketing strategies that communicate a hotel's sustainability practices. This includes using digital platforms to showcase green efforts, displaying eco-certifications like LEED or ISO 14001, and promoting corporate social responsibility (CSR) activities. Its purpose is to raise awareness, gain customer trust, and appeal to eco-minded travelers (Wang & Hassan, 2024).

5 .Green People

This relates to everyone involved in the hotel service experience—employees and guests alike. Staff should be educated in eco-friendly procedures (such as energy conservation or recycling), while guests are motivated to adopt sustainable habits (like reusing towels or reducing food waste). This nurtures a shared culture of environmental care throughout the hotel (Elshaer & Marzouk, 2023).

6 .Green Process

Green process focuses on running operations in an environmentally efficient manner. For hotels, this includes improving systems like waste disposal, water usage, digital check-in, and energy management. These streamlined, sustainable operations help minimize environmental impact and maintain a green service standard for guests (Dutta & Singh, 2025).

7 .Green Physical Evidence

This refers to the visible signs that reflect a hotel's dedication to sustainability. Examples include eco-friendly building designs (like green rooftops or natural materials), clearly displayed environmental certifications, and signage encouraging green behaviors. Such elements reinforce the hotel's sustainable image and assure guests of its environmental commitment (Zhang & Alqarni, 2024).

Purchase Intention

In the hospitality industry, purchase intention indicates how likely a guest is to book a hotel or resort, particularly when influenced by green marketing efforts, service quality, brand reputation, or price(Elshaer & Marzouk, 2023). Strong purchase intention typically reflects a positive perception of the brand and can be increased through targeted strategies like personalized offers, eco-certifications, or CSR engagement (Wang & Hassan, 2024).

Methodology

Research Approach

This research employs a descriptive-analytical approach to examine the subject matter comprehensively and accurately. It analyzes collected data to assess the impact of the hotel green marketing mix on purchase intention, with a specific application to Red Sea hotels. The study focuses on analyzing the perspectives of a sample of hotel guests to identify key factors and requirements within this domain, particularly in relation to how the green marketing mix influences their purchase intention.

The methodology is grounded in addressing a set of research questions aligned with the study's objective. A quantitative approach is used to measure the impact of the green marketing mix on purchase intention.

Research Questions

1. To what extent is the Green Marketing Mix being implemented in Red Sea hotels?

2. What is the impact of the Green Marketing Mix on guests' purchase intentions in Red Sea hotels?

Questionnaire Design

The questionnaire consists of nine sections:

Section A: Demographic and Functional Information

The questions included four items which are gender, age, level of education and level of annual income.

Section B: Green Product

This section assesses the importance of the "Green Product" for guests. It consists of 6 items which were developed based on the works of Chan (2001), Peattie (2001), and Dangelico & Pontrandolfo (2010).

Section C: Green Price

This section evaluates the importance of "Green Price" for guests. It consists of 6 items which were developed based on the studies of Bonn *et al.* (2016) and Yang *et al.* (٢٠٢١) .

Section D: Green Place

This section examines the significance of the "Green Place" for guests. It consists of 6 items which were developed based on the research of Kotler & Keller (2016) and Liu & Li (2019).

Section E: Green Promotion

This section assesses the importance of "Green Promotion" for guests. It consists of 6 items which were developed based on the works of Wang & Chen (2013) and Schlegelmilch (2016).

Section F: Green People

This section evaluates the importance of "Green People" for guests. It consists of 6 items which were developed based on the studies of Jackson & Seo (2010) and Jalil & Sajjad (2020).

Section G: Green Process

This section assesses the importance of the "Green Process" for guests. It consists of 6 items which were developed based on the research of Mercade & Bocken *et al*. (2014) and Goh & Ang (2018).

Section H: Green Physical Evidence

This section evaluates the significance of "Green Physical Evidence" for guests. It consists of 6 items which were developed based on the studies of Liu & Parsa (2015) and Kim & Kim (2019).

Section I: Purchasing Intention

This section examines the impact of the green marketing mix on Purchasing Intention. It consists of 8 items which were developed based on the works of Huang & Liu (2014) and Han & Yoon (2015).

Sample size and Data Collection

The sample size was determined to ensure that the population was adequately represented and that the results could be generalized to the broader population. Additionally, the researcher conducted a pilot study to validate the research instrument. This pilot study involved 35 hotel guests who completed the questionnaire. The data collected from the pilot study were tabulated and analyzed using the SPSS version 23 statistical package as follows:

Table 1: analysis of pilot research data

σ^2	Z	e	Levene's Statistic	Levene's Sig.
0.11	1.96	0.05	1.98	0.24

Table (1) shows that Levene's coefficient is not significant Sig=0.24, Levene's test is used to assess the homogeneity for a variable calculated for research samples. If the resulting p-value of Levene's test is more than 0.05 significance level the obtained equal variances in samples are likely to have occurred based on random sampling from a population with equal variances (Nodstokke and Zumbo, 2010). The researchers used Cochran's formula of sample size to calculate the research sample size as follows (Shkeeb, 2014):

$$n = \frac{Z^2 \sigma^2}{e^2}$$

Where:

σ^2 : Variance of community Z : Standard degree e : Maximum allowed error

From the previous formula and table (1) the researchers calculated a convenient sample size for this research, where the maximum allowed error (e) was 0.05, this value is suitable for discrete data (Shkeeb, 2014), standard degree (Z) was 0.05 and the variance of the sample (σ^2) was 0.11. Applying these values to the Cochran's formula reveals that the appropriate sample size for this research is 376 participants. A total of 420 questionnaire forms were distributed hotel guests, only 398 questionnaires were valid and complete. The gathered data was checked, coded, entered into SPSS V. 23 for analysis.

The researcher employed a stratified random sampling method, where the data was classified into multiple subgroups (strata) based on common characteristics, and each stratum was randomly sampled. The questionnaire was distributed both electronically and in hard copy to guests at four -

and five-star hotels in the Red Sea region from December 2024 to February 2025. A five-point Likert scale was used to measure the level of agreement, where:

1 = Strongly Disagree 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree.

Reliability

Table (2): Reliability Analysis of the questionnaire

The Axes	No. of statements	Alpha Coefficient
Green Product	6	.703
Green Price	6	.662
Green place	6	.782
Green Promotion	6	.807
Green People	6	.774
Green Process	6	.699
Purchasing Intention	8	.821
The Overall	43	.871

Reliability is the used measuring instrument stability and its consistency. Cronbach's α reliability coefficient was used to test the reliability of the questionnaire. The Cronbach's alpha for the variables of questionnaire rang from (0.662) to (.821). This Cronbach's alpha is good and above the advocated threshold of (0.6) (Gliem & Gliem, 2003). Thus, it can be concluded that the variables have sufficient reliability.

Validity

Factor analysis shown in the following table attempted to identify key variables or factors that explain the pattern of correlations within a set of observed variables. Statistical loading should not be less than 0.6(Fabrigar *et al.,* 1999).

Table (3): Factor Analysis of questionnaire

The Axes	No. of statements	Extraction
Green Product	6	.846
Green Price	6	.722
Green Place	6	.807
Green Promotion	6	.780
Green People	6	.721
Green Process	6	.891
Purchasing Intention	8	.766
The Overall	**43**	**.974**

Factor analysis for the variables of questionnaire rang from (0.721) to (.891), as the factor analysis shown in previous table states that all variable of the study achieved a percentage bigger than (60%) Hence, it is statistically valid.

Results and Discussion

Demographic Data

Table (4): The demographic data

Variable	Response	Freq.	%	Rank
Gender	Male	168	42.21	2
	Female	230	57.79	1
	Total	**398**	**100**	
Age	Less than 30 years	116	29.15	3
	30 to 45 years	164	41.21	1
	More than 45 years	118	29.65	2
	Total	**398**	**100**	
Nationality	Egyptian	18	4.52	2
	Arab	12	3.02	3
	Foreign	368	92.46	1
	Total	**398**	**100**	
How often do you travel to coastal destinations?	Rarely	18	4.52	3
	Occasionally	10	2.51	4
	Frequently	192	48.24	1
	Very Frequently	178	44.72	2
	Total	**398**	**100**	

The demographic profile of the respondents offers essential context for interpreting their travel behaviors and preferences, particularly concerning coastal destinations. The data reveal a slightly higher representation of females (57.79%) compared to males (42.21%).

The age distribution suggests a predominance of respondents aged 30 to 45 years (41.21%), followed by those over 45 years (29.65%), and under 30 (29.15%). The nationality data show a pronounced majority of foreign participants (92.46%), compared to Egyptians (4.52%) and Arabs (3.02%).

In terms of travel frequency, a substantial portion of respondents reported traveling to coastal destinations either frequently (48.24%) or very frequently (44.72%), comprising over 92% of the total sample. This high frequency indicates a strong existing interest or habit of coastal travel among participants, supporting the assumption that the population surveyed has meaningful engagement with such destinations. Only a minimal share indicated rare (4.52%) or occasional travel (2.51%).

Descriptive Analysis of the Study Variables

Green Product

This section displays mean and standard deviation of "Green Product".

Table (5): Descriptive analysis of "Green Product"

Green Product	Mean	SD	Rank
The hotel uses organic and biodegradable products.	4.24	.92	3
The amenities (e.g., shampoo, soap) are eco-friendly.	4.57	.66	1
Bedding and linen are made from sustainable materials.	4.10	1.06	5

The hotel uses energy-efficient appliances and lighting.	4.19	.89	4
The hotel's food and beverage services use organic or locally sourced ingredients.	4.46	.75	2
The hotel offers options for eco-conscious guests (e.g., towel reuse programs).	4.03	1.01	6
Overall	4.21	.56	

The descriptive analysis of guest perceptions regarding green product initiatives in hotels reflects a generally positive attitude, with all mean values exceeding 4.0 on a 5-point Likert scale. The overall mean score of 4.21 (SD = 0.56) indicates strong agreement among respondents that environmentally friendly practices are being implemented and are perceived favorably.

The highest-rated item was "The amenities (e.g., shampoo, soap) are eco-friendly" with a mean of 4.57 (SD = 0.66), suggesting that tangible, visible efforts—such as environmentally friendly toiletries—are particularly appreciated by guests. This supports prior research indicating that visible eco-initiatives strongly influence guest satisfaction and perceived environmental commitment (Lee *et al.,* 2021; Han *et al.,* 2022).

Conversely, the lowest mean score was associated with "The hotel offers options for eco-conscious guests (e.g., towel reuse programs)", which received a still-positive but relatively lower mean of 4.03 (SD = 1.01). While this may indicate that such programs are implemented, it could also reflect either insufficient communication or lower guest participation. Interestingly, towel and linen reuse programs have long been considered a baseline sustainability effort, so the lower score might suggest guest expectations have shifted toward more innovative or impactful initiatives (Gössling & Peeters, 2022).

Green Price

This section shows the mean and standard deviation of "Green price".

Table (6): Descriptive analysis of "Green Price"

Green Price	Mean*	SD	Rank
I am willing to pay a higher price for hotels that follow sustainable practices.	4.31	.82	1
The pricing of the hotel reflects the cost of its eco-friendly services.	3.93	1.00	5
I consider the price fair given the environmental efforts the hotel makes.	4.05	.96	3
I perceive the value of green hotels to be higher than that of traditional hotels.	4.27	.87	2
I believe green hotels are more cost-efficient in the long term.	4.03	.97	5
Discounts or promotions for eco-friendly behaviors (e.g., not requesting room cleaning daily) would increase my willingness to book.	4.04	.81	4
Overall	4.12	.56	

The findings from the descriptive analysis of the "Green Price" dimension reflect a generally supportive consumer attitude toward paying more for sustainability in hospitality. The overall mean score of 4.12 (SD = 0.56) suggests that participants largely accept the price implications of eco-friendly hotel operations.

The highest-rated statement, "I am willing to pay a higher price for hotels that follow sustainable practices" (mean = 4.31, SD = 0.82), indicates a strong consumer inclination toward ethical consumption, even when it involves added cost. This supports the notion that modern travelers—especially those in environmentally aware segments—are not only motivated by service quality but also by the environmental integrity of service providers (Chen & Peng, 2021; Han *et al.,* 2022).

 In contrast, the lowest-scoring item was "The pricing of the hotel reflects the cost of its eco-friendly services" (mean = 3.93, SD = 1.00), suggesting a possible communication gap. While guests are willing to pay more, they may not fully understand how pricing is structured or justified in relation to sustainable practices. However, such practices have been widely recognized in literature as effective nudges for guest participation in sustainability programs (Gössling & Peeters, 2022).

Green Place

Table (7): Descriptive analysis of "Green Place"

Green Place	Mean*	SD	Rank
The hotel is built in harmony with the natural environment.	4.08	.79	4
The hotel supports environmental preservation in the local area.	4.04	1.08	5
The hotel minimizes its impact on the surrounding ecosystem.	3.97	.95	6
Transportation options to and from the hotel are environmentally friendly.	4.25	1.70	2
The location of the hotel promotes eco-tourism and conservation.	4.32	.78	1
The hotel collaborates with the local community for sustainability.	4.18	.89	3
Overall	4.08	.73	

The analysis of the "Green Place" dimension reveals a generally positive perception of environmentally responsible location and development strategies in hospitality settings. The overall mean score of 4.08 (SD = 0.73) suggests consistent agreement among respondents that hotels are adopting place-based sustainability practices.

The highest-rated item, "The location of the hotel promotes eco-tourism and conservation" (mean = 4.32, SD = 0.78), indicates that travelers recognize and value hotels situated in areas that support sustainable tourism goals. This finding aligns with literature emphasizing the growing preference for destinations that not only minimize environmental damage but also actively contribute to conservation and eco-tourism (Rahman *et al.,* 2021; Becken & Simmons, 2022).

Other positively rated factors include "The hotel collaborates with the local community for sustainability" (mean = 4.18). These results reflect the value guests place on both environmental and socio-cultural integration. Hotels that engage local communities and respect natural landscapes are more likely to be viewed as authentic and responsible operators (Jones *et al.,* 2023).

Lower-rated items include "The hotel minimizes its impact on the surrounding ecosystem" (mean = 3.97) and "The hotel supports environmental preservation in the local area" (mean = 4.04). While still favorable, these scores suggest opportunities for hotels to improve transparency or visibility in these areas. Some guests may find it difficult to observe or evaluate ecosystem-related initiatives unless they are clearly communicated or demonstrated during their stay (Chan, 2022).

Green Promotion

This section presents the mean and standard deviation of "Green Promotion".

Table (8): Descriptive analysis of " Green Promotion"

Green Promotion	Mean*	SD	Rank
The hotel clearly communicates its green initiatives in advertisements.	4.08	.88	6
I see the hotel's sustainability efforts on social media or websites.	4.07	.98	5
Promotional materials (e.g., brochures) emphasize eco-friendliness.	4.19	.80	2
I trust the hotel's marketing about its green practices.	4.24	1.11	1
The hotel uses certifications or eco-labels in its promotional content.	2.12	1.05	4
The hotel educates guests on how they can reduce their environmental impact during their stay.	4.14	.78	3
Overall	4.11	.72	

The analysis of the "Green Promotion" construct reveals an overall positive perception among respondents, with an overall mean of 4.11 (SD = 0.72), suggesting that hotel guests generally recognize and value the communication of sustainability practices.

The most favorably rated item was "I trust the hotel's marketing about its green practices" (mean = 4.24, SD = 1.11). This highlights trust as a cornerstone of successful green branding, affirming that consumer confidence in environmental claims significantly affects engagement and loyalty. According to Choe *et al.* (2022), perceived authenticity in green marketing is a decisive factor in influencing tourists' behavioral intentions, particularly among environmentally aware travelers.

A surprising result was the very low score for "The hotel uses certifications or eco-labels in its promotional content" (mean = 2.12, SD = 1.05), which ranked last. This suggests that either eco-labels are missing from hotel promotions, or guests are not recognizing or understanding them. Prior research indicates that third-party certifications are one of the most effective ways to communicate environmental credibility (Xu *et al.,* 2021; Ali *et al.,* 2022).

Green People

This section presents the mean and standard deviation of "Green People".

Table (9): Descriptive analysis of "Green People"

Green People	Mean*	SD	Rank
The hotel staff are trained in sustainable hospitality.	4.07	.85	2
Employees demonstrate a genuine commitment to green practices	3.84	.87	6
The hotel staff explain the hotel's sustainability initiatives to guests.	4.02	.92	4
Staff encourage environmentally friendly behavior (e.g., reusing towels).	3.98	1.11	5
I feel more comfortable staying at hotels where staff practice green values.	4.09	.94	1
Staff are empowered to act in environmentally responsible ways.	4.04	.69	3
Overall	4.08	.76	

The "Green People" dimension reflects the critical human element of sustainable hospitality. The results show an overall mean of 4.08 (SD = 0.76), indicating that guests generally perceive hotel employees as positively engaged with environmentally responsible behaviors.

The highest-rated statement, "I feel more comfortable staying at hotels where staff practice green values" (mean = 4.09, SD = 0.94), highlights the growing importance of alignment between employee behavior and organizational sustainability. This suggests that guests not only notice staff behaviors

but feel emotionally reassured when those behaviors align with green values—a finding supported by Chen *et al.* (2023), who emphasized that green service culture enhances guest satisfaction and loyalty.

The lowest-rated item was "Employees demonstrate a genuine commitment to green practices" (mean = 3.84, SD = 0.87). Although still positive, this comparatively lower rating suggests that some guests may perceive a gap between policy and practice—perhaps indicating that green actions by staff sometimes appear procedural rather than heartfelt. This concern has been echoed in recent studies, which stress the need for hospitality workers to internalize green values rather than merely comply with them (Wang & Wang, 2021; Karki *et al.* 2022; Luu, 2022).

Green Process

This part shows the mean and standard deviation of "Green Process".

Table (10): Descriptive analysis of "Green Process"

Green Process	Mean*	SD	Rank
The hotel has efficient recycling systems.	3.42	1.07	4
The hotel minimizes waste generation through digital processes.	3.37	.96	5
The booking system reduces the use of paper.	4.09	.98	1
Housekeeping services are designed to conserve water and energy.	3.22	.87	6
The hotel manages resources efficiently (e.g., reducing electricity consumption).	3.96	.69	2
Environmental sustainability is embedded in the hotel's operations.	3.84	1.05	3
Overall	3.92	.98	

The "Green Process" dimension received an overall mean of 3.92 (SD = 0.98), reflecting moderate guest perceptions of the extent to which sustainability is integrated into hotel operational practices. These results highlight areas of both strength and potential improvement in process-oriented environmental management.

The highest-rated item was "The booking system reduces the use of paper" (mean = 4.09, SD = 0.98), indicating that guests readily observe and appreciate digitization efforts in hotel services. This supports findings by Kaur and Kanchan (2023), who emphasized the growing importance of digital transformation in reducing a hotel's environmental footprint and enhancing guest satisfaction.

The lowest-rated item was "Housekeeping services are designed to conserve water and energy" (mean = 3.22, SD = 0.87). This finding is consistent with concerns raised in literature about the lag in sustainable housekeeping practices, such as the overuse of water and daily linen changes, which are still common despite being at odds with green initiatives (Chang & Yeh, 2021; Phuong & Cho, 2023).

Green Physical Evidence

This part shows the mean and standard deviation of "Green Physical Evidence".

Table (11): Descriptive analysis of "Green Physical Evidence"

Green Physical Evidence	Mean*	SD	Rank
The hotel's design and decor reflect an eco-conscious theme.	4.34	1.07	2
The hotel uses recycled or sustainable building materials.	4.11	1.02	5
Signs and instructions encourage eco-friendly behavior (e.g., turning off lights).	4.07	.78	6
Certifications (e.g., LEED, Green Globe) are clearly displayed.	4.12	.89	4
The atmosphere of the hotel reflects a commitment to sustainability.	4.30	1.11	3

The presence of green areas (e.g., gardens, rooftop plants) enhances the eco-image.	4.48	.97	1
Overall	4.34	1.19	

The "Green Physical Evidence" dimension received the highest overall mean among the green marketing mix elements, with a score of 4.34 (SD = 1.19). This result indicates strong guest recognition and appreciation of the tangible, visible elements that communicate a hotel's environmental commitment.

The top-rated item was "The presence of green areas (e.g., gardens, rooftop plants) enhances the eco-image" (mean = 4.48, SD = 0.97), which suggests that guests highly value visible greenery as a key marker of sustainability. Green spaces not only improve aesthetic appeal but also serve as symbolic cues reinforcing the hotel's environmental image. Research by Wang *et al*. (2022) shows that natural design elements significantly boost tourists' perceptions of eco-friendliness and comfort, leading to higher satisfaction.

The lowest-rated item, though still positive, was "Signs and instructions encourage eco-friendly behavior" (mean = 4.07, SD = 0.78). This suggests that while signage is recognized, it may be less impactful or memorable than other physical elements. Effective signage is not just about presence but also clarity, placement, and design—factors that influence guest behavior and environmental compliance (Pérez-Calderón *et al.,* 2021; Rahman *et al.,* 2021).

Purchase Intention

This part shows the mean and standard deviation of "Purchase Intention".

Table (12): Descriptive analysis of "Purchase Intention"

Purchase Intention	Mean*	SD	Rank
I am likely to book a hotel that implements green practices.	4.24	1.10	6
I prefer green hotels over traditional ones.	4.33	1.16	3
I intend to stay in a green hotel when visiting the Red Sea.	4.29	1.26	5
I am willing to seek out environmentally responsible hotels.	4.21	.67	8
I will recommend green hotels to friends or family.	4.22	1.04	7
I believe supporting green hotels helps protect the environment.	4.32	1.17	4
I am more loyal to hotels that align with my environmental values.	4.39	.97	2
I consider green hotel practices when making a booking decision.	4.46	.92	1
Overall	4.32	0.81	

The results in Table (12) reveal a strong purchase intention toward green hotels, with an overall mean of 4.32 (SD = 0.81). This indicates a generally positive attitude among participants regarding environmentally responsible hotel choices, aligning with a growing body of research highlighting eco-conscious consumer trends in tourism.

The highest-rated item was "I consider green hotel practices when making a booking decision" (mean = 4.46, SD = 0.92). This underscores the increasing weight sustainability holds in decision-making, especially as environmental awareness becomes central to the travel experience. Recent studies, such as that by Tarkiainen *et al*. (2023), confirm that tourists now evaluate hotel options through a green lens, especially in nature-based destinations like coastal regions.

"I am more loyal to hotels that align with my environmental values" (mean = 4.39) and "I prefer green hotels over traditional ones" (mean = 4.33) were also among the highest-rated responses. These findings indicate that environmental congruence—when a hotel's values match a guest's—can foster

brand loyalty. Research by Gupta and Roy (2022) supports this, showing that personal environmental concern can drive long-term consumer relationships with sustainable brands.

Statements reflecting future-oriented actions also scored highly. For example, "I intend to stay in a green hotel when visiting the Red Sea" (mean = 4.29) and "I believe supporting green hotels helps protect the environment" (mean = 4.32) show that guests not only recognize green efforts but are also willing to act on them. Such behavioral intention is a key indicator of potential market success for environmentally focused hospitality offerings (de Grosbois *et al.*, 2021).

The lowest—but still strongly positive—items included "I am willing to seek out environmentally responsible hotels" (mean = 4.21) and "I will recommend green hotels to friends or family" (mean = 4.22). This may reflect the practical limitations some tourists experience when searching for green options or a need for greater differentiation in marketing to encourage word-of-mouth advocacy. As noted by Pratiwi *et al.* (2023), consumer intention often exceeds actual behavior unless supported by convenient access to green alternatives and social reinforcement.

Correlation between the Green Marketing Mix and Purchase Intention

The following test measures the extent of the correlation between the elements of the green marketing mix and purchase intention. The results demonstrate a strong positive correlation between them.

Table (13): Correlation Between Green Marketing Mix Elements and Purchase Intention

Variables	1	2	3	4	5	6	7	8
1. Green Product	—							
2. Green Price	.718*	—						
3. Green Place	.677*	-.163*	—					
4. Green Promotion	.440*	-.119*	.824*	—				
5. Green People	.500*	.684*	-.008	.015	—			
6. Green Process	.606*	.521*	.101*	.477*	.636*	—		
7. Green Physical Evidence	.240*	.549*	-.025	.081	.383*	.362*	—	
8. Purchase Intention	.702*	.631*	.764*	.545*	.720*	.546*	.485*	—
Correlation is significant at the 0.05 level.								

This correlation analysis investigates the strength and significance of the relationship between each element of the green marketing mix and purchase intention within the hotel industry of Egypt's Red Sea region. The data indicate that all seven green marketing elements are positively correlated with purchase intention, and each relationship is statistically significant at the 0.05 level.

1. Green Place (r = .764*) – Strongest Predictor

The highest correlation exists between green place and purchase intention, suggesting that the environmental sustainability of service delivery locations and eco-friendly distribution strategies have a major influence on guest decision-making.

2. Green People (r = .720*) and Green Product (r = .702*)

These elements also show strong and significant correlations: Green People reflects the importance of well-trained, environmentally conscious staff who communicate the hotel's green initiatives effectively. Green Product signifies the value guests place on eco-certified amenities, organic materials, and sustainable service offerings.

 3. Green Price (r = .631*)

This correlation confirms that consumers are more inclined to purchase when prices reflect environmental value and fairness—not necessarily the cheapest option, but one that aligns with green values.

4. Green Promotion (r = .545*) and Green Process (r = .546*)

These elements are moderately correlated with purchase intention: Green Promotion (e.g., green-themed advertisements and transparency campaigns) boosts credibility and trust. Green Process refers to how services are sustainably delivered, such as through energy efficiency or recycling, which moderately enhances purchase intent.

5. Green Physical Evidence (r = .485*) – Still Significant

Although the weakest of the correlations, this still shows significance. Tangible cues (e.g., signage, certifications, eco-friendly designs) play a supporting role in shaping consumer perception and confirming a hotel's green claims. The data show that every element of the green marketing mix significantly influences purchase intention, with green place, people, and product being the most influential. These findings underscore the strategic importance of integrating environmental considerations across all service dimensions.

Figure 1: Correlation between the Green Marketing Mix and Purchase Intention

The Impact of the Green Marketing Mix on Purchase Intention

To achieve the second objective and answer the second research question of the study, the researcher has adopted the multiple regression coefficients, as shown in table (14)

Table (14): The impact of the green marketing mix of red sea hotels on purchase intention

Dependent Variable		Independent Variables
		Green marketing mix
Purchase Intention	R	.86
	R^2	.81
	Sig.	.00
	Constant	-0.42

		Sig. = 0.02
	B. Green Product	B.= .38
		Sig. =.00
	Green Price	B.= - .33
		Sig. =.00
	Green Place	B.= .087
		Sig. =.00
	Green Promotion	B.= - .27
		Sig. = 0..00
	Green People	B.= .51
		Sig. = 0..00
	Green Process	B.= .42
		Sig. = 0..00
	Green Physical Evidence	B.= .13
		Sig. = 0.00

The regression analysis in the previous table demonstrates a strong and statistically significant relationship between the green marketing mix components and purchase intention in the context of Red Sea hotels. The overall model exhibits a very high correlation coefficient (R = 0.86), indicating a strong linear relationship between the independent variables and the dependent variable. Furthermore, the coefficient of determination ($R^2 = 0.81$) reveals that 81% of the variance in purchase intention can be explained by the combined effects of the green marketing mix dimensions highlighting the model's substantial explanatory power.

Regression Equation:

Purchase Intention=−0.42+0.38(Green Product) −0.33(Green Price) +0.087(Green Place) −0.27(Green Promotion) +0.51(Green People) +0.42(Green Process) +0.13(Green Physical Evidence).

Conclusion

Findings suggest that guests are highly receptive to and aware of green products in hotel operations, especially when such initiatives are directly observable and contribute to comfort and quality. The "Green Place" results reinforce the importance of integrating environmental and community sustainability into hotel location, construction, and operations. Guests value green infrastructure and eco-conscious site selection, particularly when paired with visible engagement in local environmental and social efforts.

While hotels are gaining traction in green promotional practices, particularly in guest education and general sustainability messaging, there is a clear need to improve visibility and integration of eco-labels and sustainability credentials in marketing materials. Doing so may further build trust and reinforce green brand positioning. The findings suggest that "Green People" play a central role in shaping guests' perceptions of sustainability. Empowered and authentically engaged employees can bridge the gap between green policy and meaningful guest experience.

While digitalization and energy efficiency appear to be strong points, visible waste reduction and housekeeping sustainability lag behind. To strengthen green process perceptions, hotels should not only implement sustainable operations but also enhance visibility and guest awareness of these practices throughout their stay. Guests strongly associate green physical evidence with authenticity

and commitment. When design, landscape, signage, and certifications are aligned with sustainable principles, they collectively create an immersive green identity that guests both perceive and appreciate.

The data suggest that tourists not only recognize the value of green hotels but are inclined to actively support them through booking, advocacy, and repeat visits. This positions green branding and operational transparency as strategic imperatives in competitive coastal tourism markets.

The study's findings align with previous research showing that green marketing mix elements—especially green place, people, product, and price—positively influence purchase intention. These results support prior studies (e.g., Chen & Chang, 2013; Han *et al.,* 2019; Yusof et al., 2020) that highlight the importance of sustainable service delivery, trained staff, and eco-friendly product offerings. Additionally, the moderate effects of promotion and physical evidence echo the role of communication and visual cues in enhancing consumer trust, as noted by Kumar and Ghodeswar (2015). Overall, the results confirm the broad influence of the green marketing mix in driving eco-conscious hotel purchasing behavior.

Recommendations for Red Sea Hotels

1. Invest in eco-friendly amenities such as biodegradable toiletries, organic linens, and locally sourced food.
2. Clearly label and communicate the environmental benefits of green products and services to guests.
3. Incorporate sustainability principles into the hotel's physical location and design, such as using energy-efficient architecture and environmentally responsible construction materials.
4. Engage in visible community and environmental initiatives and promote these efforts to guests to strengthen the hotel's image as a socially responsible entity.
5. Train and empower staff to authentically represent the hotel's green values, ensuring employees communicate sustainability initiatives clearly and consistently to guests.
6. Address lagging areas such as waste reduction and sustainable housekeeping by implementing visible initiatives like recycling stations, towel reuse programs, and low-impact cleaning processes.
7. Improve guest awareness of behind-the-scenes sustainable practices through digital displays, room TVs, or eco-tours that explain green processes.
8. Align all physical evidence—such as hotel design, signage, landscaping, and decor—with green themes to create a cohesive and immersive eco-friendly experience.
9. Use consistent, clear, and compelling green messages across all promotional channels to improve the hotel's environmental positioning and attract eco-conscious travelers.
10. Highlight success stories and measurable sustainability achievements in newsletters, blogs, and guest communications to reinforce commitment.
11. Use green pricing strategies that justify value without undercutting quality.
12. Leverage guest advocacy by encouraging satisfied eco-conscious visitors to leave reviews, share on social media, and participate in loyalty programs.

Future Research

Future research could explore the long-term impact of green marketing mix elements on customer loyalty and brand advocacy in the hospitality sector, particularly within coastal or eco-sensitive regions like the Red Sea. Additionally, comparative studies across different hotel categories (e.g., luxury vs. budget) or geographic areas could reveal variations in guest responsiveness to green initiatives.

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