

# “The role of green marketing practices towards product success as mediated by green corporate image and green innovation”

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# THE ROLE OF GREEN MARKETING PRACTICES TOWARDS PRODUCT SUCCESS AS MEDIATED BY GREEN CORPORATE IMAGE AND GREEN INNOVATION

## Abstract

This study aims to investigate how green marketing practices influence product success through the mediating effects of green corporate image and green innovation. This study utilizes survey data collected from employees in large and medium-sized manufacturing companies in Saudi Arabia, focusing on industries such as petrochemicals, construction materials, and food processing. The sample includes employees in managerial, operational, and technical roles, ensuring relevance to green practices and their impact on product success (totaling 297 individuals). Structural Equation Modeling (SEM) is used for analysis. The results indicated that green marketing practices have a significant positive influence on green corporate image ( $\beta = 0.908$ ,  $p = 0.000$ ) and green innovation ( $\beta = 0.858$ ,  $p = 0.000$ ). However, their impact on product success was not statistically significant ( $\beta = 0.224$ ,  $p = 0.216$ ). Green innovation significantly influenced product success ( $\beta = 0.389$ ,  $p = 0.001$ ), whereas the direct influence of green corporate image on product success ( $\beta = 0.357$ ,  $p = 0.050$ ) and the indirect effects of green marketing practices on product success via green corporate image ( $\beta = 0.324$ ,  $p = 0.059$ ) were not supported. Conversely, the indirect effects of green marketing practices on product success via green innovation were significant ( $\beta = 0.334$ ,  $p = 0.001$ ). Moreover, the study underscores the importance of holistic sustainability approaches, emphasizing the integration of green practices across marketing strategies, corporate branding, innovation endeavors, and product development initiatives.

## Keywords

marketing, innovation, corporate image, product, organizations

## JEL Classification

M31, O32, Q56

## INTRODUCTION

The growing global emphasis on environmental sustainability has compelled businesses to integrate eco-friendly practices into their corporate strategies. As environmental concerns escalate and consumer preferences shift toward sustainable products, companies are increasingly adopting green marketing strategies to remain competitive (Wang et al., 2023). Green marketing involves promoting products as recyclable, biodegradable, or environmentally friendly, enabling businesses to position themselves as environmentally responsible and appeal to eco-conscious consumers. This approach not only helps companies command premium prices for green products (Wei et al., 2018) but also fosters long-term customer loyalty, as consumers increasingly prefer brands that align with their environmental values. However, for green marketing to be effective, businesses must clearly communicate the environmental benefits of their products and demonstrate how consumer choices contribute to ecological well-being (Schill & Godefroit-Winkel, 2019).



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### Conflict of interest statement:

Author(s) reported no conflict of interest

In Saudi Arabia, the push for sustainability is gaining momentum, driven by the kingdom's Vision 2030 initiative, which emphasizes economic diversification and sustainable development (Alkandi et al., 2023). The manufacturing sector, a cornerstone of the Saudi economy, is under increasing pressure to adopt environmentally friendly practices in response to regulatory changes, rising consumer awareness, and corporate social responsibility commitments (Mohammed et al., 2020). Despite this growing focus on sustainability, there is limited research on how green marketing strategies, green corporate image, and green innovation collectively influence product success in the Saudi context. This gap is particularly significant given the unique cultural, economic, and regulatory environment of the kingdom, which may shape the effectiveness of green initiatives differently compared to other regions.

## 1. LITERATURE REVIEW AND HYPOTHESES

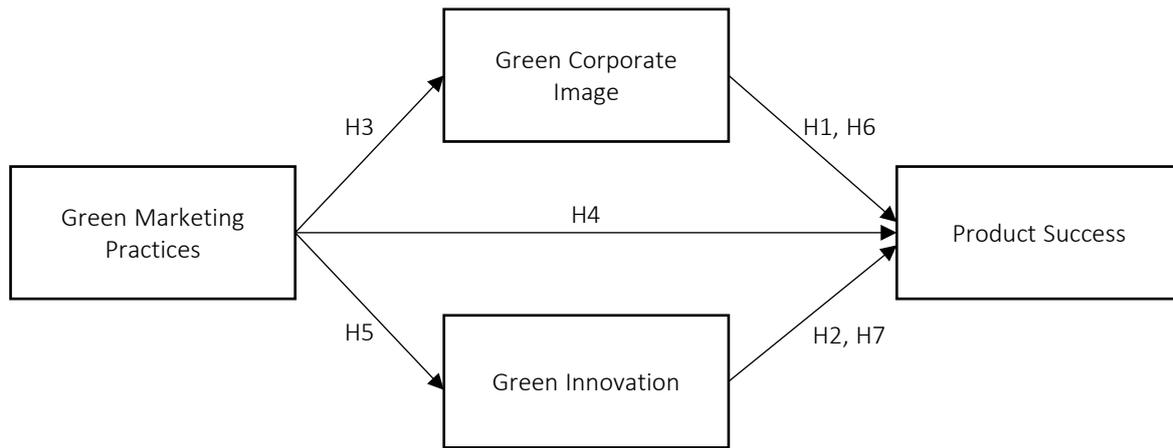
Green marketing practices have become a cornerstone of modern business strategies, driven by increasing consumer demand for environmentally friendly products and the global push for sustainability. These practices encompass a wide range of initiatives, including eco-friendly product development, sustainable packaging, eco-labeling, and green advertising, all aimed at promoting products with environmental benefits (Szabo & Webster, 2021; Schill & Godefroit-Winkel, 2019). Research indicates that green marketing not only enhances brand reputation but also fosters consumer loyalty by appealing to environmentally conscious buyers (Wang et al., 2023). Companies that effectively communicate the environmental attributes of their products through certifications like Energy Star or Fair Trade often gain a competitive edge in the market (Mohammed et al., 2020). However, the success of these practices hinges on their authenticity and transparency, as consumers are increasingly wary of “greenwashing” — where companies exaggerate or falsify their environmental efforts (Amores-Salvadó et al., 2014). This underscores the importance of aligning green marketing strategies with genuine environmental actions to build trust and credibility.

In the context of Saudi Arabia, green marketing is gaining momentum due to the kingdom's Vision 2030 initiative, which emphasizes economic diversification and sustainable development (Alkandi et al., 2023). The manufacturing sector, in particular, is under pressure to adopt environmentally friendly practices in response to regulatory changes and rising consumer awareness (Mohammed et al., 2020). Despite this growing focus, there is limited research on how green marketing practices influence product success in the Saudi context,

especially through the mediating roles of green corporate image and green innovation. This gap highlights the need for region-specific studies to understand the unique dynamics of green marketing in Saudi Arabia's manufacturing sector.

A company's green corporate image is a critical factor in mediating the relationship between green marketing practices and product success. A positive green corporate image reflects the company's commitment to environmental stewardship and enhances consumer trust (Suki, 2017; Chang & Fong, 2010). This trust translates into competitive advantages, as consumers are more likely to support companies perceived as environmentally responsible (Viardot, 2017; Torelli et al., 2020). For example, companies with a strong green image often experience increased customer loyalty and market share, as consumers increasingly prioritize sustainability in their purchasing decisions (Kapitan et al., 2019). However, building and sustaining this image requires consistent and genuine environmental efforts. Companies that fail to align their green marketing practices with authentic actions risk damaging their reputation and losing consumer trust (Amores-Salvadó et al., 2014). In industries with significant environmental impacts, such as manufacturing, a strong green corporate image is particularly crucial for maintaining consumer goodwill and differentiating from competitors (Torelli et al., 2020). This highlights the importance of integrating green marketing practices with credible environmental initiatives to foster a positive green corporate image.

Green innovation, defined as the development of new products, processes, or technologies that minimize environmental impact, is another key mediator in the relationship between green marketing and product success (Song & Yu, 2018; Sun et al., 2023).



**Figure 1.** Research model

Companies that invest in green innovation often achieve resource efficiency, waste reduction, and eco-friendly product design, which not only reduce environmental harm but also enhance market competitiveness (Chen et al., 2006; Chiou et al., 2011). Most importantly, innovations in renewable energy, sustainable materials, and circular economy practices have enabled companies to meet regulatory requirements, reduce costs, and appeal to eco-conscious consumers (Porter & van der Linde, 1995; Chen, 2008). The research suggests that green innovation is driven by company’s commitment to sustainability and its ability to integrate environmental considerations into its core operations (Bu et al., 2020). In the manufacturing sector, green innovation is particularly relevant, as it enables companies to address environmental challenges while creating value for customers and stakeholders (Sun et al., 2023). However, the extent to which green innovation mediates the impact of green marketing on product success remains underexplored, especially in the Saudi context. This gap underscores the need for further research to understand how green innovation can enhance the effectiveness of green marketing strategies in driving product success.

Product success in the context of green marketing is multifaceted, encompassing market performance, customer satisfaction, and profitability (Ledwithj & O’Dwyer, 2008; Borah et al., 2023). Companies that effectively leverage green marketing strategies often achieve success by aligning their products with the values of environmentally conscious consumers (Bu et al., 2020). However, this success is not solely dependent on marketing efforts; it is also influenced by

the company’s green corporate image and its ability to innovate sustainably (Suki, 2017; Song & Yu, 2018). The interplay between these factors highlights the need for a holistic approach to green marketing, one that integrates authentic environmental practices, innovation, and effective communication to drive product success.

This study aims to investigate how green marketing practices influence product success through the mediating effects of green corporate image and green innovation. Figure 1 presents the study research model. Hence, it was hypothesized that:

- H1: Green corporate image influences on product success.*
- H2: Green innovation influences on product success.*
- H3: Green marketing practices influences on green corporate image.*
- H4: Green marketing practices influences on product success.*
- H5: Green marketing practices influences on green innovation.*
- H6: Green corporate image mediates between green marketing practices and product success.*
- H7: Green innovation mediates between green marketing practices and product success.*

## 2. METHODOLOGY

In January 2024, surveys were administered to employees in large and medium-sized manufacturing companies in Saudi Arabia, focusing on industries such as petrochemicals, construction materials, and food processing. The respondents included a diverse group of professionals in managerial, operational, and technical roles, such as production managers, engineers, marketing specialists, and quality assurance personnel, who were directly involved in or influenced by green practices within their organizations. This sample was chosen to ensure a comprehensive understanding of how green marketing, innovation, and corporate image are perceived and implemented across different levels of the organizational hierarchy.

The study utilized a structured questionnaire comprising 26 items organized into four constructs, with responses captured on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). The questionnaire, translated into Arabic for clarity, began with an introduction explaining the research objectives and instructions, followed by demographic questions to capture details such as job role, industry sector, years of experience, and level of involvement in sustainability initiatives. The subsequent sections assessed key constructs in detail: green marketing practices were measured as a higher-order construct with 14 items across four dimensions — strategy, internal marketing, product, and marketing communication (adapted from Vilkaite-Vaitone et al., 2022). Green corporate image was evaluated using four items (adapted from Suki, 2017), green innovation with three items (adapted from Utterback & Abernathy, 1975), and product success with five items (adapted from Ledwith & O’Dwyer, 2008; Hultink et al., 2000; Borah et al., 2023).

The collected data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) in SmartPLS 4 to examine the complex relationships between constructs. This approach was particularly suitable for capturing the perspectives of employees across various roles and industries, providing robust insights into the interplay between green practices and product success in the Saudi manufacturing sector.

Table 1 presents the demographic information for the study’s participants, totaling 297 individuals. Gender distribution shows a predominance of males, constituting 72% of the sample, while females represent 28%. Regarding age, participants are distributed across various brackets: 31-40 years old being the largest at 30%, followed by 26-30 years (27%), below 25 years (18%), and above 40 years (25%). Education levels vary, with the majority holding Bachelor’s degree (71%), followed by high school diploma (21%), Master’s degree (8%), and PhD (1%). In terms of professional experience, the highest proportion has less than 3 years (38%), followed by over 10 years (31%), 3-5 years (19%), and 6-10 years (13%). Most participants are categorized as “Other management employees” (75%), with smaller proportions being project managers (14%) and program officers (11%). Geographically, the majority work in the Central region (86%), followed by the Eastern (4%), Northern (4%), Southern (4%), and Western (2%) regions.

**Table 1.** Participant demographic (*n* = 297)

Construct	Frequency	Percent
<b>Gender</b>		
Male	215	72%
Female	82	28%
<b>Age</b>		
Below 25 years	54	18%
26-30 years	80	27%
31-40 years	88	30%
Above 40 years	75	25%
<b>Education</b>		
High school diploma	61	21%
Bachelor’s degree	210	71%
Master’s degree	23	8%
PhD	3	1%
<b>Experience</b>		
Less than 3 years	112	38%
3-5 years	55	19%
6-10 years	39	13%
Above 10 years	91	31%
<b>Job title</b>		
Program officer	33	11%
Project manager	42	14%
Management level employee (senior managers, program lead, head of projects, etc.)	222	75%
<b>Workplace region</b>		
Southern	11	4%
Northern	12	4%
Western	7	2%
Central	255	86%
Eastern	12	4%

### 3. RESULTS

The loadings of all the items for each construct above the 0.7 threshold. Table 2 provides a comprehensive assessment of the measurement model used in the study, focusing on the reliability and validity of the constructs under consideration. The data reveal strong internal consistency across all constructs, as indicated by high Cronbach's alpha values ranging from 0.731 to 0.811. Similarly, the composite reliability scores, ranging from 0.719 to 0.831, affirm the robustness of the constructs. In terms of convergent validity, the Average Variance Extracted (AVE) values portray a favorable picture, with green marketing practices, green corporate image, green innovation, and product success

constructs exhibiting values above 0.5, indicative of satisfactory convergent validity. Table 3 presents the results of the Fornell-Larcker criterion, which is used to evaluate discriminant validity. This criterion confirms the distinctiveness among the constructs, which is essential for accurately interpreting their relationships. Table 4 presents the Heterotrait-Monotrait (HTMT) ratio, indicating discriminant validity between constructs in the study. The values represent the ratio of the correlations between different constructs relative to the correlations within the same construct.

Table 5 presents the path coefficients, standard deviations, t-statistics, p-values, and corresponding results for hypotheses tested in the study. Firstly,

**Table 2.** Measurement model

Items with constructs	Loadings	Cronbach's alpha	Composite reliability	Average Variance Extracted (AVE)
<b>Green corporate image</b>		<b>0.731</b>	<b>0.831</b>	<b>0.611</b>
GCI1	0.792			
GCI2	0.755			
GCI3	0.812			
GCI4	0.781			
<b>Green innovation</b>		<b>0.811</b>	<b>0.783</b>	<b>0.595</b>
GI1	0.822			
GI2	0.762			
GI3	0.773			
<b>Green marketing practices</b>		<b>0.756</b>	<b>0.719</b>	<b>0.624</b>
<b>Dimension: strategy</b>				
GMP01	0.703			
GMP02	0.735			
GMP03	0.771			
GMP04	0.834			
GMP05	0.795			
<b>Dimension: internal marketing</b>				
GMP06	0.785			
GMP07	0.804			
GMP08	0.767			
<b>Dimension: product</b>				
GMP09	0.738			
GMP10	0.769			
GMP11	0.794			
<b>Dimension: marketing communication</b>				
GMP12	0.809			
GMP13	0.822			
GMP14	0.790			
<b>Product success</b>		<b>0.791</b>	<b>0.786</b>	<b>0.546</b>
PS1	0.744			
PS2	0.718			
PS3	0.825			
PS4	0.787			
PS5	0.761			

**Table 3.** Discriminant validity (Fornell-Larcker criterion)

Construct	Green corporate image	Green innovation	Green marketing practices	Product success
Green corporate image	0.782			
Green innovation	0.654	0.771		
Green marketing practices	0.592	0.447	0.790	
Product success	0.584	0.594	0.646	0.739

**Table 4.** HTMT ratio

Construct	Green corporate image	Green innovation	Green marketing practices
Green innovation	0.641		
Green marketing practices	0.591	0.452	
Product success	0.594	0.584	0.651

it is found that green corporate image moderately affects product success ( $\beta = 0.357$ ,  $t = 1.958$ ,  $p = 0.050$ ), not supporting *H1*, green innovation significantly influences product success ( $\beta = 0.389$ ,  $t = 3.324$ ,  $p < 0.001$ ), accepting *H2*. Although green marketing practices significantly influence green corporate image ( $\beta = 0.908$ ,  $T = 30.445$ ,  $p < 0.001$ ), supporting *H3*. However, the impact of green marketing practices on product success is not statistically significant ( $\beta = 0.224$ ,  $t = 1.236$ ,  $p = 0.216$ ), refuting *H4*. Additionally, there is a significant positive relationship between green marketing practices and green innovation ( $\beta = 0.858$ ,  $t = 24.568$ ,  $p < 0.001$ ), confirming *H5*. The indirect effects of green marketing practices on product success via green corporate image ( $\beta = 0.324$ ,  $t = 1.890$ ,  $p = 0.059$ ) and green innovation ( $\beta = 0.334$ ,  $t = 3.369$ ,  $p < 0.001$ ) yield results for *H6* is not supported and *H7* is supported.

The R-squared values presented in the Figure 2 offer insights into the extent to which the independent variables account for the variances observed in the dependent variables within the model. With a value of 0.824, approximately 82.4% of the variability

in green corporate image can be attributed to factors such as green marketing practices. Similarly, the R-squared value of 0.736 for green innovation indicates that about 73.6% of the variability in innovation related to environmental sustainability is explained by the variables included in the model. Moreover, the R-squared value of 0.869 for product success suggests that roughly 86.9% of the variability in product success can be elucidated by factors like green marketing practices, green corporate image, and green innovation. The PLS predict  $Q^2$  values for green corporate image, green innovation, and product success are 0.654, 0.536, and 0.651, respectively, indicating moderate to high predictive relevance for all constructs (Figure 2).

## 4. DISCUSSION

The findings from the study offer significant insights into the relationships between green marketing practices, corporate image, innovation, and product success within the context of environmental sustainability. Furthermore, the structural model analysis reveals several noteworthy findings. The significant positive relationship between green

**Table 5.** Path coefficients

Paths	$\beta$	Standard deviation	t-statistics	p-values	Results
Green corporate image → product success	0.357	0.182	1.958	0.050	<i>H1</i> is not accepted
Green innovation → product success	0.389	0.117	3.324	0.001	<i>H2</i> is accepted
Green marketing practices → green corporate image	0.908	0.030	30.445	0.000	<i>H3</i> is accepted
Green marketing practices → product success	0.224	0.181	1.236	0.216	<i>H4</i> is not accepted
Green marketing practices → green innovation	0.858	0.035	24.568	0.000	<i>H5</i> is accepted
Green marketing practices → green corporate image → product success	0.324	0.172	1.890	0.059	<i>H6</i> is not accepted
Green marketing practices → green innovation → product success	0.334	0.099	3.369	0.001	<i>H7</i> is accepted

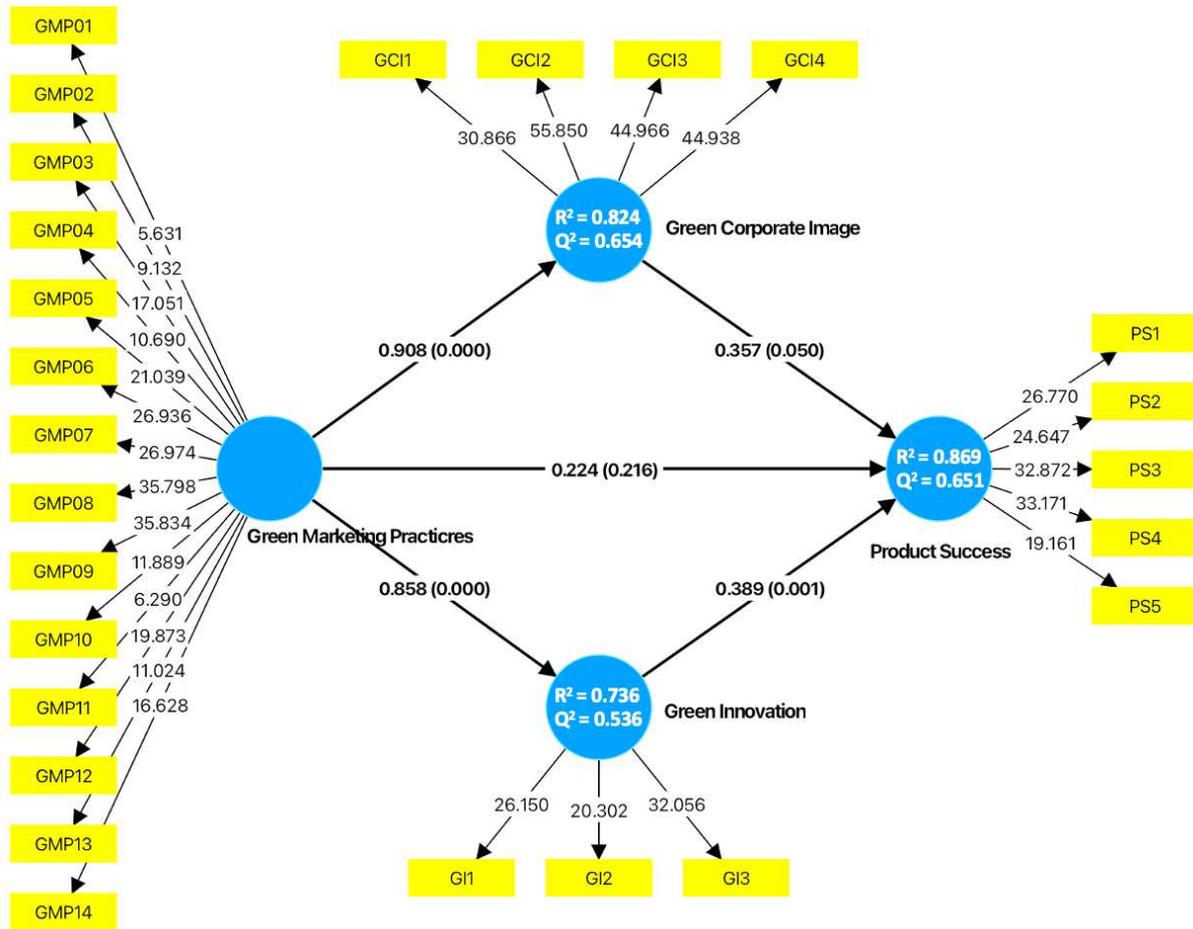


Figure 2. Structural model assessment

marketing practices and green corporate image suggests that companies adopting environmentally friendly marketing strategies tend to enhance their corporate image positively. This aligns with previous research emphasizing the importance of corporate social responsibility and sustainability efforts in shaping consumer perceptions (Amores-Salvadó et al., 2014; Song & Yu, 2018). The study highlights the positive impact of green marketing practices on green innovation but non-significant impact on product success. This indicates that companies implementing environmentally friendly marketing strategies are more likely to achieve success in their products and foster innovation in green technologies or practices. These findings underscore the potential of green marketing initiatives not only to drive consumer behavior but also to stimulate innovation and competitiveness within industries (Chen et al., 2006; Sun et al., 2023). Green corporate image has non-significant relation with product success. Additionally, green innovation impact on product success.

It reinforces the importance of environmental sustainability efforts in influencing consumer preferences and market outcomes (Chang, 2011). The significant mediated effects of green marketing practices on product success through green innovation but not through green corporate image as highlight the complex interplay between these constructs and emphasize the multi-dimensional nature of sustainability initiatives in driving organizational success (Gelderman et al., 2021; Szabo & Webster, 2021). Companies that actively engage in green marketing initiatives are not only enhancing their brand’s reputation as environmentally conscious but also fostering innovation in sustainable product offerings (Alnasser et al., 2024). The findings suggest that companies with strong environmental ethics are not only motivated to invest in green innovation but also to leverage green marketing practices to communicate their sustainability efforts to consumers. By understanding and leveraging these relationships, companies can effectively position themselves as leaders in

environmental sustainability, drive innovation in green products and processes, and ultimately achieve greater success in the marketplace while contributing positively to environmental conservation efforts.

The study's findings hold significant implications for various stakeholders involved in sustainability efforts and green marketing practices. Businesses can capitalize on the positive relationship between green marketing strategies and corporate image to enhance brand reputation and attract environmentally conscious consumers. By investing in environmentally friendly initiatives and communicating their commitment to sustainability, companies can differentiate themselves in the marketplace and gain a competitive edge. Moreover, understanding the relationship between green

marketing practices, innovation, and product success enables businesses to develop strategic initiatives that drive product innovation while aligning with sustainability objectives. This can lead to increased profitability, market share, and long-term sustainability. The results of this study can be valuable for policymakers as they develop policies and regulations to encourage sustainability and encourage businesses to embrace environmentally friendly practices. Collaborative efforts between governments, businesses, and civil society organizations can foster a supportive ecosystem for sustainable development, driving innovation, economic growth, and environmental conservation. Overall, the study's implications underscore the transformative potential of green marketing practices in driving business success, fostering innovation, and promoting environmental sustainability.

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## CONCLUSION

This study aims to investigate how green marketing practices influence product success through the mediating effects of green corporate image and green innovation. The findings underscore substantial positive relationships between green marketing practices and critical outcomes such as green corporate image and green innovation. However, green marketing practices indirectly influence on product success via green innovation. These findings imply that businesses can strategically harness green initiatives to bolster brand perception, drive innovation endeavors, and ultimately enhance market performance. Beyond theoretical implications, these findings hold pragmatic value for businesses, policymakers, and other stakeholders. Businesses can leverage these insights to develop nuanced strategies aligning with sustainability goals, thereby fostering competitive advantages and stakeholder value. Policymakers can use these findings to craft the policies that incentivize sustainable business practices, fostering a conducive environment for green innovation and market competitiveness. The study's reliance on self-reported data from a specific region may limit generalizability, while the cross-sectional design restricts causal inference. Future studies could employ longitudinal designs, explore moderating factors, and conduct comparative analyses to enhance understanding and applicability across industries and regions.

## AUTHOR CONTRIBUTIONS

Conceptualization: Asem Alnasser.  
Data curation: Asem Alnasser.  
Formal analysis: Asem Alnasser.  
Investigation: Asem Alnasser.  
Methodology: Asem Alnasser.  
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Supervision: Asem Alnasser.  
Validation: Asem Alnasser.  
Visualization: Asem Alnasser.  
Writing – original draft: Asem Alnasser.  
Writing – review & editing: Asem Alnasser.

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# APPENDIX A

**Table A1.** Questionnaire

Items with constructs	Sources	
<b>Green corporate image</b>		
GCI1: "The green products of my company are credible and stable"	Suki (2017)	
GCI2: "My company has sufficient abilities to meet the green needs of customers"		
GCI3: "My company has a fine environmental reputation"		
GCI4: "My company has excellent performance with respect to environmental management and green innovation"		
<b>Green innovation</b>		
G11: "Our company chooses the materials of the product that produce the least amount of pollution for conducting the product development or design"	Utterback and Abernathy (1975)	
G12: "Our company uses the fewest amount of materials to comprise the product for conducting the product development or design"		
G13: "Our company would circumspectly deliberate whether the product is easy to recycle, reuse, and decompose for conducting the product development or design"		
<b>Green marketing practices</b>		
<b>Dimension: strategy</b>		
GMP01: "We engage in dialogue with our stakeholders about environmental aspects of our organization"	Vilkaite-Vaitone et al. (2022)	
GMP02: "Our company has a clear policy statement that calls for environmental awareness in all areas of operations"		
GMP03: "Our company culture makes green marketing easier for us"		
GMP04: "We try to promote environmental preservation as a major goal across all departments"		
GMP05: "Our employees believe in the environmental values of our organization"		
<b>Dimension: internal marketing</b>		
GMP06: "Environmental activities by candidates are a bonus in our recruitment process"		
GMP07: "Exemplary environmental behavior is acknowledged and rewarded"		
GMP08: "We organize presentations for our employees to inform them about the green marketing strategy"		
<b>Dimension: product</b>		
GMP09: "The company seeks to bring innovative green products and services to the market"		
GMP10: "We use recycled or reusable materials in our products"		
GMP11: "Raw materials are safe for the environment and health"		
<b>Dimension: marketing communication</b>		
GMP12: "We implement market research to detect green needs in the marketplace"		
GMP13: "The company uses eco-labels on packaging"		
GMP14: "The company shows eco-labels on the corporate website"		
<b>Product success</b>		
PS1: "Our products are able to meet green customer needs"	Ledwith and O'Dwyer (2008), Hultink et al. (2000), Borah et al. (2023)	
PS2: "Our products usually have high reception from green customers"		
PS3: "Our products are usually appealing to green customers"		
PS4: "Our products gain market popularity quickly"		
PS5: "Our products are profitable"		