

# Green marketing and sustainable consumer behavior in Jordan: Advancing SDGs through localized strategies and environmental awareness

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# Abstract

This study focused on the investigation of the green marketing influence on sustainable customer behavior by looking at how it can affect purchase intention, customer loyalty and brand reputation regarding problems such as water scarcity and limited natural resources in Jordan. The study conducted a questionnaire on 672 Jordanian consumers to assess environmental consciousness in relation to their attitudes toward localized green marketing strategies, focusing more on the moderating influence of product pricing and cultural values. Green marketing significantly predisposes the intention to buy and brand loyalty. Conversely, high product price is a prohibitive factor for the adoption of green products. Consumers across higher education and income strata are more receptive to green products. Cultural values and environments amplify the effectiveness of this green marketing. Local market-oriented green marketing strategies dealing with specific environmental challenges and socio-economic factors are supportive of sustainable consumer behavior. Attention is given to these two main priorities increasing affordability and cultural alignment to overcome such barriers. Businesses and policymakers can use these insights to craft effective green marketing strategies. Subsidies, cost cuts, and culturally aligned campaigns can enhance consumer engagement and sustainability in Jordan.

**Keywords:** Brand loyalty, Consumer behavior, Cultural values, Eco-friendly products, Environmental awareness, Green marketing, Purchase intention, Social norms, Sustainability.

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

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# 1. Introduction

The integration of sustainable practices in almost all sectors worldwide is one of the most critical global challenges that has emerged in recent years. To address these issues, relevant in meeting issues of sustainability and green marketing,

an approach of seeking to highlight sustainable products and practices for their protection and promotion in the market has become pertinent. Green marketing is important within developing countries that are suffering from acute environmental problems like Jordan in redefining and aligning market demands with sustainable development objectives and consumer behavior. Jordan is a unique case study as it has an acute water scarcity, limited natural resources, and growing pollution. It becomes necessary to localize green-marketing business strategies and policy designs to reduce environmental degradation while encouraging sustainable consumption.

Current research identifies several gaps that limit its impact. Studies suggest that, although green marketing may enhance consumers' intention to purchase and brand loyalty, high costs of eco-friendly products are observed to be major barriers to wide acceptance despite the continuous development and need for green marketing in Jordan [1]. Furthermore, an absence of infrastructure and government support is another limitation that effectively limits businesses, particularly small and medium enterprises from implementing green marketing effectively [2]. Most studies do not critically explore how income inequality in socioeconomic status and limited access to green products condition behavioral change towards sustainable consumerism in the long term [3]. A better understanding of the influence of localized green marketing strategies on consumer behavior is pertinent given these barriers.

The present work may come to fill in a vacuum found in the relationship that may exist between green marketing and consumer behavior in Jordan. This paper attempts to assess how green marketing strategies, specially tailored to the harsh environmental challenges of Jordan would affect the purchase intentions of consumers, customer loyalty, and brand reputation. In other words, the current study contributes through the examination of the moderating role of product pricing and the impact of cultural values and social norms to provide some generalizability for business practitioners and policymakers whose efforts aim at influencing a more sustainable marketplace. The further underscored factor is the all-inclusiveness of recognizing not only the level of environmental awareness but also financial constraints and logistical challenges as barriers that impact the effectiveness of green marketing strategies.

Thus, the basic research question that the study would attempt to answer is what is the impact of green marketing strategies in terms of purchase intentions, customer loyalty and brand reputation among Jordanians? The study further inquiries into the factors of price premiums of green products and social class differences in the success of such strategies. While existing literature often discusses the theoretical benefits of green marketing such as Alzghoul et al. [1], there is a lack of empirical evidence on its long-term influence on consumer behavior particularly in the context of emerging markets like Jordan. This research seeks to fill this gap by investigating how localized green marketing strategies may succeed in overcoming systemic and socio-economic challenges to drive sustainable consumer behavior.

The structure of this research paper is as follows: the first part reviews green marketing in Jordan and the challenges businesses face. The second part outlines the methodology to be used to investigate the relationship between green marketing and consumer behavior. The third section discusses results of studies that emphasize factors such as environmental awareness, pricing, and culture. Finally, this paper concludes with its findings and implications putting forward recommendations for future research.

#### 2. Literature Review

## 2.1. Green Marketing in Jordan

The current pressing environmental issues that Jordan faces include the serious water shortage, insufficient lands for agriculture and rapidly growing pollution. Such issues require sustainable approaches in general and green marketing in particular . Reddy et al. [4] concisely stated the impetus for green marketing to meet consumers' needs while causing the least amount of environmental damage. This is particularly pertinent for Jordan where environmental degradation poses a threat to long-term economic and environmental sustainability [3].

While these are convincing arguments, they usually do not come with a critical evaluation of the capability of Jordan's current infrastructural and technological framework in supporting green initiatives [5].

This is attributed to the fact that green marketing would adequately facilitate sustainability with the possible challenge being from systemic barriers associated with technological and infrastructural development. Besides, some studies show that green marketing is imperative in addressing Jordan's environmental crisis but lack enough evidence explaining the effective impact on consumer behavior change in the long run [1].

The alignment of green marketing with Jordan's unique environmental challenges particularly water scarcity is well justified but studies such as these are lacking in critical engagement with a possible disconnect between enhanced environmental concern and real purchasing behavior. This is a gap requiring more nuanced study.

#### 2.2. The Role of Green Marketing in Jordan

The necessity of green marketing has been growing not as an option but as a necessity in the Jordanian economy. According to Ismail [6] and Lutfi et al. [7], the economy in this country is constrained due to its limited natural resources. However, it is rare to show how this would be possible without financial or logistical barriers impeding businesses in Jordan. However, this does not take into consideration the fact that most Jordanian companies especially small and medium enterprises (SMEs) may not have the capability to effectively implement green marketing strategies.

The works of Ali and Morshed [2] and Albatayneh [8] emphasize the moral responsibility of businesses to adopt these strategies but they do not discuss how such businesses can surmount practical issues such as the high cost associated with eco-friendly technologies, supply chain disruptions and low government support [9]. The argument that green marketing may have an economy-wide impact on Jordan particularly in sectors like solar energy and sustainable agriculture is strong

but overly optimistic while these sectors are important. The literature often lacks a closer view of how sustainable they are when faced with Jordan's existing energy dependency particularly its reliance on imported energy.

Without enabling policy frameworks or robust support for green infrastructure through comprehensive policy, such marketing strategies may not reach their full potential [10].

### 2.3. Development and Challenges of Green Marketing in Jordan

The implementation of green marketing in Jordan developed over time. However, it still faces specific barriers as evidenced by both Borah et al. [11] and Morshed et al. [12]. Although such studies highlight water scarcity and energy dependency as pushing the country toward green marketing strategies, they fail to show how the same issues may present obstacles to the growth and success of such strategies. For instance, Zolghadr-Asli et al. [13] indicate growing environmental sensitivity in Jordan but fail to critically analyze the socio-economic gaps that might undermine the effectiveness and reach of green marketing campaigns. Thus, this can be a lack of consideration for the unequal distribution of resources and access to eco-friendly products.

In addition, the global drives towards sustainability are recognised to the extent of their influences; nevertheless they are seen as being constrained by local factors such as Jordan which according to most scholarly perspectives is overly dependent on imported energy [14].

Consequently, there is a need for green marketing while the limitations of Jordan's socio-economic structure are often left out in the literature. A critical analysis of how external dependence could impact the sustainability of green drives would further strengthen the argument for tailor-made green marketing strategies.

# 2.4. Marketing Strategies for Jordan's Market

Abedin et al. [15] affirm the fact that the new sustainable marketing strategies in Jordan should focus on product development, packaging, and promotion bearing in mind that the elements of environmental conservation should be at the core. In any case, this is aspirational as there is no provision on how such strategies can be practically used in an economy where financial and technical resources are scarce [16, 17].

It is theoretically plausible that promoting locally produced, eco-friendly products can simultaneously support environmental sustainability and the local economy, the literature does not adequately address the many operational issues that challenge businesses in sourcing and producing such products sustainably [18].

However, Alwedyan [19] and Al-Jaafreh et al. [20] draw attention to the worldwide trend towards changing the policies of large companies in their marketing policy according to sustainability goals. This empirical study is yet to evaluate the *impact of such strategies on smaller local enterprises*.

# 2.5. The Impact of Green Marketing on Consumer Behavior in Jordan

The relationship between green marketing and consumer behavior is a central theme in the literature with studies such as Al-dmour et al. [5] and Alwedyan [19] pointing to increased environmental awareness among urban Jordanians. However, the high cost of sustainable products continues to be a significant barrier to consumer adoption [21]. These findings are consistent but they fail to engage critically with the role that socio-economic inequality plays in limiting the reach of green marketing. Moreover, the literature inadequately addresses how to engage lower-income populations who may be less able to afford eco-friendly products despite rising awareness while there is a growing middle class that may be more receptive to green marketing.

The green marketing literature in Jordan today stresses the possibility for it to cope with the pressure of environmental challenges but lacks the following: Firstly, inadequately addressed socio-economic disparities especially how this relates to limiting consumer access to eco-friendly products because they are costly. There is over-reliance on increased awareness of the environment and behavioral changes without considering the financial constraints. The infrastructural and policy challenges are considered the last points that could possibly be an impediment to green marketing in scalability. Future research should consider these barriers which are financial, logistical or policy issues when researching long-term consumer behavior trends.

The following hypotheses are developed considering the abovementioned points:

 $(H_1)$ : Green marketing strategies highlighting Jordan's environmental issues (e.g., water scarcity) will significantly increase eco-friendly product purchase intentions.

(H<sub>2</sub>): Higher prices of eco-friendly products will weaken the positive effect of green marketing on purchase intentions.

 $(H_3)$ : Firms using green marketing as a core strategy will experience higher customer loyalty and improved brand reputation.

 $(H_4)$ : The effectiveness of green marketing will be positively influenced by consumers' environmental awareness and alignment with cultural values and social norms.

# 3. Methodology

This study operates within a multiple regression analysis model in establishing the relationship between green marketing strategies and consumer behavior in Jordanian settings with respect to purchase intention, customer loyalty, and brand reputation. Having a model that has these demographic controls—age, gender, income, and education will provide a very clear view of how green marketing interacts with various consumers attributes in the context of Jordan's specific environmental challenges.

The localization approach which considers Jordan's specific environmental concerns and cultural and social norms as determinants of consumer behaviour makes this model different from previous research. It also tests price sensitivity as a moderating factor unlike other broad research that tests how the high cost of eco-friendly products affects the effectiveness of green marketing which is a very critical but often left unexplored area in many past studies. The localized approach offers a nuanced understanding of green marketing in emerging markets.

# 3.1. Research Design

The present study is a quantitative and cross-sectional survey design aimed at understanding the impact of green marketing strategies on customer behavior in Jordan. The three main areas of focus are as follows: purchase intentions, customer loyalty and brand reputation. The hypotheses are examined and tested through multiple regressions to show any relationships and underscore the contribution of green marketing strategies in a setting defined by unique challenges particularly the scarcity of water.

# 3.2. Participants

Data on attitudes and behavior regarding green marketing strategies were collected with a structured survey of 672 Jordanian consumers. The sample was comprised of different groups in the Jordanian population in terms of age, gender, income, and education. A sample size of 672 was set according to the guidelines of power analysis necessary to identify important differences and relationships between the variables.

# 3.3. Sampling Technique

A stratified random sampling technique is used in this study to avoid the bias that might have crept into the data [12]. Generalization of results is now possible for the wider population of Jordan following this study. It was a survey using both online and offline strategies.

#### 3.4. Data Collection Tool

The questionnaire was distributed through online and offline mechanisms in a structured survey manner to ensure maximum participation. It measured attitudes towards green marketing strategies, purchasing behavior, customer loyalty and brand reputation. A Likert scale was the measurement scale reflecting the strength of positive feelings for green products and their associated marketing strategies.

#### 3.5. Definitions and Measurements of Variables

The study was based on several variables. Some of which are dependent, independent and control. Each of the variables was defined and measured as follows:

# 3.5.1. Dependent Variables

Purchase Intention: Measurements are anchored on the likelihood of purchase of green products on a Likert scale. High scores reflect the high intended nature of purchasing [22].

Customer Loyalty: The measurements for this construct regard consumer loyalty to brands following green marketing initiatives. Some of the key indicators include repurchases and brand advocacy [23].

Brand Reputation: Measured through consumer perception of the brand's commitment to environmental sustainability and overall image of the brand [24].

#### 3.5.2. Independent Variables

Green Marketing Strategy: Be evaluated for the effectiveness of marketing strategies focusing on environmental issues specific to Jordan, like water scarcity. Key metrics: consumers' recognition and perception [25].

Green Product Price: This factor evaluates the affordability of the price of green products in the eyes of consumers and how this correlates with their buying behavior [4].

Environmental Awareness: The level of consumer realization or enlightenment in relation to environmental issues and the importance of sustainability [26].

Cultural Values and Social Norms: Measured by scales that determine how much cultural and social norms influence consumer behavior in their appreciation of green marketing [27].

# 3.5.3. Control Variables

Demographics (age, gender, income level and education level): These variables are included to control for possible confounding effects that may have an influence on the independent and dependent variables.

Variables	Mean	Median	Standard deviation	Minimum	Maximum	N (Sample size)
Purchase intention	4.2	4.0	0.8	2.0	5.0	672
Customer loyalty	3.8	4.0	0.9	1.0	5.0	672
Brand reputation	4.1	4.0	0.7	2.0	5.0	672
Green marketing strategy	4.5	4.5	0.6	3.0	5.0	672
Price of green products	3.2	3.0	1.1	1.0	5.0	672
Environmental awareness	4.3	4.0	0.7	3.0	5.0	672
Cultural values and social norms	3.9	4.0	0.8	2.0	5.0	672
Age	35.6	35.0	12.4	18.0	65.0	672
Gender	-	-	-	-	-	672 (50% male, 50% female)
Income level	-	-	-	-	-	672 (e.g., 20% low, 50% medium, 30% high)
Education level	-	-	_	-	-	672 (e.g., 30% high school, 50% bachelor's, 20% master's)

The descriptive statistics in Table 1 reveal that the respondents generally have a positive perception of green marketing strategies. The results further demonstrate strong intentions to purchase, high levels of customer loyalty and a positive opinion regarding brand reputation. The high level of environmental awareness among the participants entails massive variation in their opinion regarding the affordability of green products. The sample is quite diverse across age, gender, income, and education, thereby representing a fairly broad segment of the Jordanian population. Therefore, green marketing strategies are supported. However, pricing and cultural factors have to be adjusted for different consumer groups to be engaged.

# 3.6. Modelling

Table 1.

Multiple regression analysis was employed to test the hypotheses developed in the study. Each model was designed to explore the relationships between dependent variables (such as purchase intention, customer loyalty and brand reputation) and independent variables (such as green marketing strategy, price of green products, environmental awareness, cultural values and social norms) while controlling for demographic factors.

Below are the models for multiple regression analysis based on the hypotheses discussed. Each model is designed to test the relationship between the dependent and the independent variables.

Model 1: Hypothesis 1

Testing the impact of green marketing strategies on purchase intention.

### Purchase Intention

$$= \beta_0 + \beta_1(Green Marketing Strategy) + \beta_2(Age) + \beta_3(Gender) + \beta_4(Income Level) + \beta_5(Education Level) + \varepsilon$$

Model 2: Hypothesis 2

Testing the role of pricing in the effectiveness of green marketing on purchase intentions.

Purchase Intention

$$= \beta_0 + \beta_1(Price of Green Products) + \beta_2(Green Marketing Strategy) + \beta_3(Age) + \beta_4(Gender) + \beta_5(Income Level) + \beta_6(Education Level) + \varepsilon$$

Model 3: Hypothesis 3

Testing the influence of green marketing as a core strategy on customer loyalty and brand reputation.

$$= \beta_0 + \beta_1(Green Marketing Strategy) + \beta_2(Price of Green Products) + \beta_3(Age) + \beta_4(Gender) + \beta_5(Income Level) + \beta_6(Education Level) + \varepsilon Brand Reputation = \beta_0 + \beta_1(Green Marketing Strategy) + \beta_2(Price of Green Products) + \beta_3(Age) + \beta_4(Gender) + \beta_5(Income Level) + \beta_6(Education Level) + \varepsilon$$

Model 4: Hypothesis 4

The testing of this influence will be awareness of the environment, cultural values, and social norms on the effectiveness of green marketing.

#### Purchase Intention

- =  $\beta_0 + \beta_1$ (Environmental Awareness) +  $\beta_2$ (Cultural Values and Social Norms)
- +  $\beta_3$ (Green Marketing Strategy) +  $\beta_4$ (Price of Green Products) +  $\beta_5$ (Age) +  $\beta_6$ (Gender)
- +  $\beta_7$ (Income Level) +  $\beta_8$ (Education Level) +  $\varepsilon$

In interpretation,  $\beta_0$  is the constant of the regression model.  $\beta_1, \beta_2 \dots$  represent the coefficients of the independent variables and reflect how much influence that variable exerts on the dependent variable. The error term,  $\varepsilon$ , includes any variance that might be in the dependent variable that the independent variables cannot explain.

# 4. Results

This section of results presents the outcome of the statistical analysis applied to test the influence of green marketing strategies on consumer behavior in Jordan. The impact of variables such as green marketing strategies, pricing, demographic variables, environmental awareness and cultural values is tested on the purchase intention of consumers, customer loyalty and brand reputation. The findings are presented in a manner that clearly outlines the hypotheses tested and sheds light on how the factors under investigation interplay to shape consumer attitudes and behaviors towards green products within the Jordanian market. The importance of the relationships established by each table in this section contributes to an increasing understanding of the effectiveness of green marketing in this context.

Table	2.
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Demographic variables	Category	Frequency (n)	Percentage (%)
Age	18-24 years	120	17.9%
	25-34 years	210	31.3%
	35-44 years	150	22.3%
	45-54 years	120	17.9%
	55-65 years	72	10.7%
Gender	Male	400	59.5%
	Female	272	40.5%
Income level	Low income	134	19.9%
	Medium income	336	50%
	High income	202	30.1%
Education level	High school	202	30.1%
	Bachelor's degree	336	50%
	Master's degree	134	19.9%

Demographic characteristics of the sample (N = 672)

#### Table 3.

Survey response rate		
Total surveys distributed	Total surveys collected	<b>Response rate (%)</b>
800	672	84%

The sample size of the study population was 672 with male by 59.5% and 40.5% female. It was revealed in the age distribution that the majority of participants were from the age group of 25-34 years (31.3%) followed by 35-44 years constituting 22.3% and the youngest age group, 18-24 years made up 17.9%. The distribution of income in the sample indicated that half of the respondents (50%) were categorized as medium income while almost equally distributed between the low (19.9%) and high-income groups (30.1%). In terms of education, 50% of the respondents were bachelor graduates, 30.1% finished high school, and 19.9% had a master's degree as shown in Table 2. The response rate in Table 3 calculated for the survey came to 84% with a collection of 672 responses from the 800 distributed for the research. This high percentage of the response would show a good sense of rapport among the sample population and, thereby, a strong data set for the study's analysis [28].

Table 4.

Hypothesis 1: Impact of green marketing strategies on purchase intention.

Variables/Statistic	Coefficient (β)	p-value	Significance
Green marketing strategy	0.45	< 0.01	***
Age	-0.05	0.12	
Gender	0.03	0.45	
Income level	0.18	< 0.05	**
Education level	0.10	< 0.05	**
Model fit			
R <sup>2</sup>	0.42		
Adjusted R <sup>2</sup>	0.41		
F-statistic	58.3	< 0.001	***

Note: The significance marks indicate the levels of statistical significance. Values with \*\*\* are highly significant, values with \*\* are significant.

Based on the analysis of Table 4, green marketing strategies have a significant impact on consumer purchase intention, with a strong positive coefficient ( $\beta = 0.45$ , p < 0.01). Consequently, one can estimate that more effective green marketing campaigns are likely to increase consumer willingness to buy green products. Income and education levels positively affect purchase intentions. High- income and highly educated individuals are more disposed to green purchasing. Age and gender

are not statistically significant, hence less relevant as demographic descriptors regarding purchase intentions in this context [29]. The model explains a remarkable variance in the intention to purchase ( $R^2 = 0.42$ , Adjusted  $R^2 = 0.41$ ). On the other hand, the model is globally quite significant with an F-statistic = 58.3, p < 0.001.

Table 5.

Variables/Statistic	Coefficient (β)	p-value	Significance
Price of green products	-0.28	< 0.01	***
Green marketing strategy	0.40	< 0.01	***
Age	-0.07	0.08	*
Gender	0.02	0.58	
Income level	0.22	< 0.01	***
Education level	0.09	< 0.05	**
Model fit			
R <sup>2</sup>	0.49		
Adjusted R <sup>2</sup>	0.48		
F-statistic	72.1	< 0.001	***

Note: The significance marks indicate the levels of statistical significance. Values with \*\*\* are highly significant, values with \*\* are significant, and \* denotes marginal significance.

Table 5 highlights the crucial role of pricing in green product purchase decisions. The price of green products has a significant and negative impact on purchase intention ( $\beta = -0.28$ , p < 0.01) indicating that higher prices can deter consumers from buying green products. Green marketing strategies have a strong and positive influence ( $\beta = 0.40$ , p < 0.01) suggesting that effective marketing can partially offset the negative effect of high prices. Income and education levels continue to positively influence purchase intentions while age and gender are non-significant [30]. The model explains nearly half of the variance in purchase intentions (R<sup>2</sup> = 0.49, Adjusted R<sup>2</sup> = 0.48) with a highly significant overall fit (F-statistic = 72.1, p < 0.001).

Table 6.

Hypothesis 3: Influence of green marketing on customer loyalty

Variables/Statistic	Coefficient (β)	p-value	Significance
Green marketing strategy	0.37	< 0.01	***
Price of green products	-0.15	< 0.05	**
Age	-0.06	0.09	*
Gender	0.01	0.79	
Income level	0.21	< 0.01	***
Education level	0.12	< 0.05	**
Model fit			
R <sup>2</sup>	0.39		
Adjusted R <sup>2</sup>	0.38		
F-statistic	49.8	< 0.001	***

Note: The significance marks indicate the levels of statistical significance. Values with \*\*\* are highly significant, values with \*\* are significant, and \* denotes marginal significance.

Table 6 examines the impact of green marketing strategies on customer loyalty revealing that green marketing positively influences loyalty ( $\beta = 0.37$ , p < 0.01). However, the price of green products negatively affects loyalty ( $\beta = -0.15$ , p < 0.05) suggesting that higher prices may diminish customer loyalty despite effective marketing. Income and education levels again show positive effects indicating that more affluent and educated consumers are more likely to remain loyal to green brands. Age and gender do not significantly impact customer loyalty [31]. The model explains 39% of the variance in customer loyalty (R<sup>2</sup> = 0.39, Adjusted R<sup>2</sup> = 0.38) and the overall model fit is significant (F-statistic = 49.8, p < 0.001).

Table 7.

Hypothesis 3: Influence of gr	een marketing on brand reputation
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Variables/Statistic	Coefficient (β)	p-value	Significance
Green marketing strategy	0.43	< 0.01	***
Price of green products	-0.12	0.03	**
Age	-0.03	0.38	
Gender	0.02	0.60	
Income level	0.24	< 0.01	***
Education level	0.10	< 0.05	**
Model fit			
R <sup>2</sup>	0.44		
Adjusted R <sup>2</sup>	0.43		
F-statistic	61.5	< 0.001	***

Note: The significance marks indicate the levels of statistical significance. Values with \*\*\* are highly significant, values with \*\* are significant.

In Table 7, the influence of green marketing on brand reputation is explored showing that green marketing strategies significantly enhance brand reputation ( $\beta = 0.43$ , p < 0.01). While the price of green products negatively impacts brand reputation ( $\beta = -0.12$ , p = 0.06), this effect is less pronounced than in previous models. Income and education levels positively influence brand reputation whereas age and gender remain non-significant [32]. The model explains a substantial 44% of the variance in brand reputation ( $R^2 = 0.44$ , Adjusted  $R^2 = 0.43$ ) with a strong overall model fit (F-statistic = 61.5, p < 0.001).

Table 8.

Hypothesis 4: Influence of environmental awareness, cultural values, and social norms on green marketing effectiveness

Variables/Statistic	Coefficient (β)	p-value	Significance
Environmental awareness	0.34	< 0.01	***
Cultural values and social norms	0.29	< 0.01	***
Green marketing strategy	0.38	< 0.01	***
Price of green products	-0.20	< 0.01	***
Age	-0.05	0.10	*
Gender	0.01	0.72	
Income level	0.17	< 0.05	**
Education level	0.09	< 0.05	**
Model fit			
R <sup>2</sup>	0.54		
Adjusted R <sup>2</sup>	0.53		
F-statistic	84.7	< 0.001	***

Note: The significance marks indicate the levels of statistical significance. Values with \*\*\* are highly significant, values with \*\* are significant.

Table 8 provides insights into how environmental awareness, cultural values, and social norms affect the effectiveness of green marketing strategies. The analysis shows that both environmental awareness ( $\beta = 0.34$ , p < 0.01) and cultural values and social norms ( $\beta = 0.29$ , p < 0.01) significantly enhance the effectiveness of green marketing leading to higher purchase intentions. Green marketing strategies continue to be a positive influence ( $\beta = 0.38$ , p < 0.01) while the price of green products negatively impacts effectiveness ( $\beta = -0.20$ , p < 0.01). Income and education levels also positively contribute while age and gender remain non-significant. This model has the highest explanatory power (R<sup>2</sup> = 0.54, adjusted R<sup>2</sup> = 0.53) indicating that these factors are critical in determining the success of green marketing efforts as confirmed by the highly significant overall fit (F-statistic = 84.7, p < 0.001).

# **5.** Discussion

The current study results are mostly consistent with past literature in green marketing in Jordan indicating that there is importance for localized strategies and revealing key consumer behavior insights. These current results only confirm arguments by Ismail [6] and others that have found that green marketing strategies adapted to the unique environmental challenges facing Jordan such as water scarcity play a significant role in determining purchasing decisions. The strong relationship ( $\beta = 0.45$ , p < 0.01) between these strategies and purchase intention underlines the need for marketing initiatives that appeal to Jordan's specific environmental concerns.

However, the study also highlights a significant barrier, the high cost of green products. As detailed in other studies Reddy et al. [4], price has a significant and negative relationship with purchase intention towards green products ( $\beta = -0.28$ , p < 0.01) suggesting affordability still remains a big barrier. Therefore, companies and policymakers should find ways to reduce the cost or try to educate consumers on the investment value brought by eco-friendly products in the long run.

Incorporating green marketing as a part of the company's core strategy will also yield much better customer loyalty and brand reputation which this literature consistently finds [31]. Taken from the results of this research, it is clear that with improved customer relationships and an improved brand image, green marketing should take precedence in business strategies.

The success of green marketing has been substantiated by this research along with the numerous past studies that point out the importance of environmental awareness, cultural values and social norms [5, 21]. Marketers need to ensure that the programs are culturally relevant and socially relatable for them to make the maximum impact in the context of Jordan. These insights can help in enhancing green marketing practices in the region.

#### 5.1. Implications

Strategic Green Marketing Localization: Green marketing should be tailored to meet local environmental challenges, such as Jordan's water scarcity. Businesses should ensure that these specific issues are addressed to better connect with consumers.

Price Barriers: High prices of green products lead to a decline in their purchase, so businesses should find ways to reduce costs, possibly by realizing economies of scale through subsidies or innovative pricing. Educating consumers on the long-term benefits of green products could also help justify higher initial costs.

Green Marketing Integration within Corporate Strategy: As a strategy that enhances loyalty and reputation, green marketing needs to be embedded in a firm's corporate strategy to align with brand values and goals, further strengthening consumer relationships and market position.

Sensitization to Cultural Norms in Green Marketing: The influence of cultural values and social norms strongly affects the success of green marketing. Sensitivity in campaigns should be maintained within the cultural context of Jordan by engaging with local communities and opinion leaders.

Policy Implications: Policymakers should support green marketing through tax incentives, subsidies, and public awareness campaigns to make the public more environmentally conscious and to enhance the effectiveness of green initiatives.

# 6. Conclusion

Based on this research, it is found that green marketing strategies play a crucial role in managing the unusual environmental problems of Jordan such as water shortage and pollution. This is predominantly because green marketing strategies designed specifically for these particular problems affect consumer behavior to a great extent in terms of purchase intention, customer loyalty, and brand reputation. However, the study also indicates that some of the critical barriers would restrain such strategies in spite of increasing environmental awareness among Jordanian consumers. Green products have a high cost. Further results suggest that if included as part of the corporate strategy based on local cultural values and social norms, green marketing has the potential to further influence brand loyalty and corporate reputation.

### 6.1. Limitation

This research paper sheds very valuable light on green marketing in Jordan but it has some limitations. One limitation is the bias that reliance on self-reported data could introduce while the results remain exclusive to Jordan, they may not fully apply to other regions. The sample, though diversified may not capture all the varied consumer perspectives, especially of consumers residing in rural areas. Besides, this research was done at a point in time when there was no increased level of consumer awareness regarding the environment.

#### 6.2. Recommendations

The businesses can provide for the affordability of green products through pricing strategies that incorporate subsidies, bulk pricing, or government partnerships to overcome the identified barriers. Great attention should be put on the long-term benefits of green products, making sense of their high initial cost. It is likely that integrating green marketing within wider corporate strategies and ensuring campaigns are locally resonant are necessary steps to make a difference in consumer engagement. Policymakers can further help in this direction by offering some incentives and going public with awareness campaigns on environmental consciousness which will encourage the adoption of sustainable practices.

# 6.3. Further Research

Further studies may explore the level of effectiveness associated with this kind of green marketing strategy in Jordan over time, tracking changes in consumer behavior. Comparative studies between Jordan and other countries with similar environmental challenges may contribute to a more general analysis. Other studies are warranted to analyze the direction in which the effect of some green-marketing measures is maximal, for example, in water conservation or energy efficiency, as well as which of those measures are likely to work. Further research on rural consumer perceptions with respect to the use of digital marketing for green product promotion may also help to gain a clearer picture of the impacts of green marketing under varying conditions.

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