“The impact of green marketing on consumers’ attitudes: A moderating role of green product awareness”

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THE IMPACT OF GREEN MARKETING ON CONSUMERS' ATTITUDES: A MODERATING ROLE OF GREEN PRODUCT AWARENESS

Abstract

This study aims to determine the impact of green marketing (green perceived value), green products (green buildings), and environmental concerns on Jordanian consumers' attitudes toward buying green buildings in Jordan. The research population includes all consumers in Amman, the capital of Jordan, who might be interested in buying such buildings. A convenience sample is used to collect data from the respondents by distributing the questionnaire among 400 consumers using Google Forms. 357 questionnaires were found valid for statistical analysis. The results of the multiple regression test showed that R equals 0.815, which indicated that green marketing and consumers' attitudes toward buying green buildings in Jordan are positively and highly correlated, with a percentage of 81.5%. R square equals 0.664, indicating that the variation in green marketing explains 66.4% of the variance in consumers' attitudes toward green buildings in Jordan. Moreover, the hierarchical multiple regression test showed that there is an increase in R and R2 values in the existence of product awareness as a moderating variable between green marketing and consumers' attitudes toward buying green buildings in Jordan.

Keywords green, sustainability, environmental concerns, perceived value, consumers' attitudes, product awareness, constructions, green buildings

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INTRODUCTION

In response to the continuous changes in the organizational environment, marketers are trying their best to make customers aware of products and services, engage with them, and support them in making different buying decisions using innovative marketing tools. Environmental factors representing market opportunities or threats can impact the origination's market share and growth in the future (Bataineh, 2021). Suppose these changes are not carried out for the organization's future, in terms of survival, performance, competitive advantage, and/or reputation. In that case, there will be a disastrous effect on the organization itself. As a result of the increasing orientation of the world toward the concept of sustainability, the concept of green marketing is the best fit here because it focuses on minimizing the environmental effects when creating and exchanging value; additionally, it can be considered an indication that the organization is acting responsibly (Taghian et al., 2016). Likewise, innovative products can wait years to be accepted or diffused among customers, so they must be aware of them before mass production (Al-Obaidi et al., 2020).

Green marketing is the umbrella that covers green environmental concepts as sub-variables, which are green perceived value, green

products (green buildings), and environmental concerns. The green perceived value represents the totality of gained benefits from a specific product, referring to consumers' environmental inclinations, desires, and expectations (Koller et al., 2011). Hence, the products that are considered are the buildings; therefore, the green product is the building itself. The concept of green buildings is spreading rapidly worldwide, implying the incorporation of environmental considerations into building construction. This aims to protect the consumers' health and use natural resources to reduce environmental damage. Also, green building features ensure a superior quality of life combined with a luxurious lifestyle (Ojo-Fafore et al., 2018). Thus, a scientific knowledge gap in reinforcing the consumers' attitudes toward buying green buildings in Jordan needs to be addressed.

1. LITERATURE REVIEW AND HYPOTHESES

In today's business landscape, achieving a superior business position entails more than concentrating on the company's financial resources (Bataineh, 2017). Green marketing is a recent inclusion in marketing terminology. It is used as a strategy relevant to consumers and organizations and linked with environmental issues, concerns, and improvements in which green marketing increases for organizations, especially considering the current environmental situation (Vaitone et al., 2022). The importance of green marketing needs to be realized for both companies and consumers. For companies, green marketing can be a major source of competitive advantage.

Additionally, sustainability is a corporate social responsibility (CSR) dimension for companies, and CSR dimensions positively impact the company's competitive advantages (Ashour et al., 2020). According to Sharma and Trivedi (2018), green marketing positively influences consumers, who can gain extra value from green products. Apart from the significant increase in the annual expenditure by consumers on water and energy used in conventional buildings, the trend nowadays is saving the environment (Bataineh et al., 2022).

Today's market is extremely active, dynamic, and aggressive because consumers are wiser, more informed, and can access a wide variety of options they use selectively (Bataineh, 2021). However, the concept of green perceived value (GPV) extensively focuses on consumers' environmental expectancies and their own green needs and wants (Lin et al., 2017). Additionally, consumers have their own assessments of green products and how these products can satisfy their green needs and wants (Alamsyah & Febriani, 2020). In terms of green buildings (GBs), the concept of these buildings requires that all activities in the building's life cycle be carried out as green activities. This starts with planning to create a GB and designing it with recycled and/or recyclable materials; built-in green systems for indoor air quality; solar panel systems as energy appliances; water conversion systems, including water reuse and redirecting systems and rainwater harvesting systems; and green thermal systems or high-quality insulations to ensure optimal indoor temperature and noise reduction. After that comes the construction and operational processes for the building (Darko & Chan, 2016). According to Banerjee et al. (2021), GB features can increase consumers' satisfaction by enhancing their comfort, health, and productivity and reducing annual water and energy costs. In addition, technology has a crucial role in improving the design and construction processes in any green building. As a result, companies must provide marketing and management strategies compatible with the concept of green buildings and help achieve the transformation toward such buildings. Adopting integrated marketing efforts that focus on building strong brands and generating demand for its products entirely with innovation (Hammad et al., 2022).

The idea behind environmental concerns as a concept is, as Nuttavuthisit and Thøgersen (2017) pointed out, that consumers' environmental concerns are one of the bases that drive and influence their favorable attitudes toward change. Moreover, Royne et al. (2016) found that increased environmental concerns, especially concerns about waste, can directly contribute to consumers' changing attitudes and behaviors. Consumers' attitudes can be considered a great indicator of their behaviors. Goh and Balaji (2016) showed that the attitude-behavior context (ABC) theory shows a clear relationship be-

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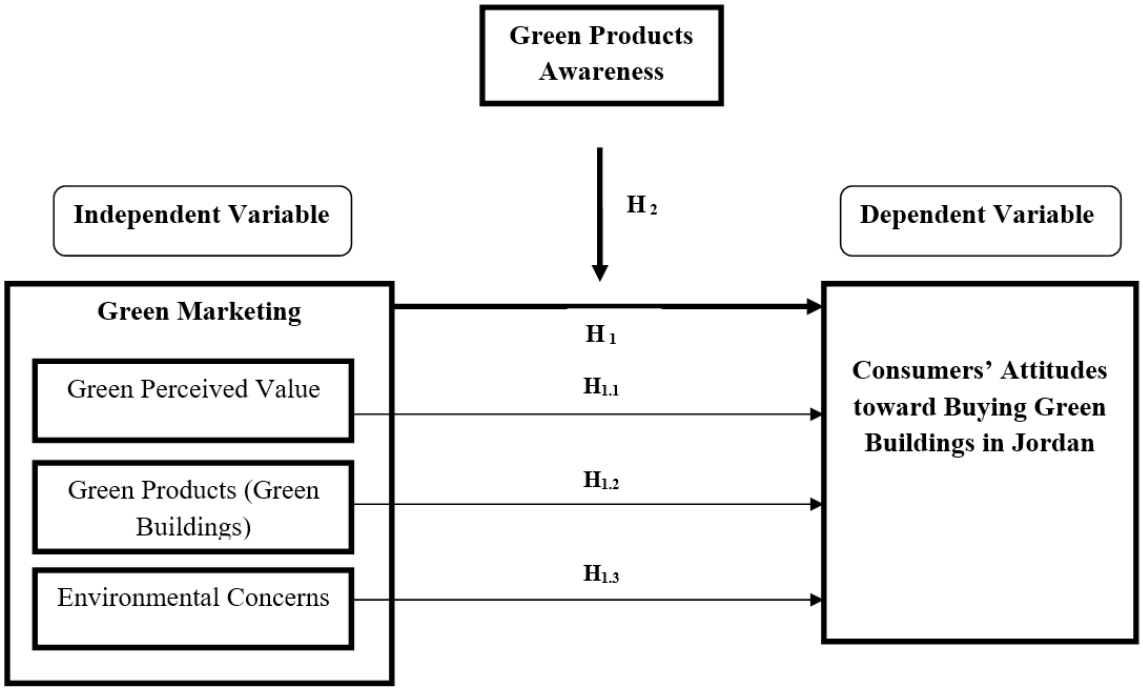

Figure 1. Conceptual model

tween attitudes and behaviors and posits that attitudes can be considered precursors and influences behind behaviors. Moreover, green product awareness is a critical factor that influences the attitudes and intentions of consumers toward green products, thereby encouraging their larger pro-environmental behaviors (Ansu-Mensah, 2021). It needs to be reiterated that the behavior of the consumers is linked closely with their attitudes. Liao et al. (2020) showed that green perceived value affects consumers' attitudes toward buying green products. Thus, green products have a strong impact on consumers' attitudes.

It is worth studying green product awareness because this helps determine the pattern the consumers follow in their behavior and decisions in buying products (Dewindaru et al., 2022). The increasing environmental awareness and the continuous change in the attitudes of consumers are clearly evident in the markets in emerging countries, as green product awareness has a positive influence on the attitudes toward buying green products. In addition, Divyapriyadharshini et al. (2019) showed a critical role in educating people about green products, the significant features of this type of product, and the uses and advantages they can have by using green products. Increasing knowledge and awareness is crucial to change consumers' attitudes, intentions, and behavior toward becoming greener. Earlier research on consumer purchasing intentions has identified intentions as crucial in predicting consumers' actual buying behavior (Al-Soluiman et al., 2020). According to Keller (1993), brand knowledge includes both brand awareness and brand image, and the reason behind choosing awareness as a moderator – not the knowledge – is that in Jordan, there is no relevant brand with which consumers can interact and share their perceptions.

Thus, the purpose of this paper is to determine the impact of green marketing (green perceived value), green products (green buildings), and environmental concerns on Jordanian consumers' attitudes toward buying green buildings in Jordan. The research model in Figure 1 describes the conceptual model.

Therefore, the research hypotheses are generated as follows:

H1: There is an impact of green marketing (green perceived value, green products (green buildings), and environmental concerns) on consumers' attitudes toward buying green buildings in Jordan.

H1.1: There is an impact of green perceived value on consumers' attitudes toward buying green buildings in Jordan.

H1.2: There is an impact of green products (green buildings) on consumers' attitudes toward buying green buildings in Jordan.

H1.3: There is an impact of environmental concerns on consumers' attitudes toward buying green buildings in Jordan.

H2: There is an impact of green product awareness as a moderator between green marketing (green perceived value, green products (green buildings), and environmental concerns) and consumers' attitudes toward buying green buildings in Jordan.

2. METHOD

The research population includes all consumers in Amman who might be interested in buying green buildings. Amman was chosen because of its high population density and diversity. According to the Department of Statistics (DOS), more than 4 million people lived in Amman in 2021 out of the total population of 11 million in Jordan. A convenience sample was used to collect data from the respondents, as this technique for gathering data can be considered low-cost and comfortable to use (Diffley et al., 2011). According to Hair et al. (2010), the sample size to achieve stability in statistical analysis was equal to 400 consumers. Moreover, Sekaran and Bougie (2010) showed that if the population exceeds 1 million, the minimum sample size must be 384 to achieve stability in statistical analysis. To achieve this objective, we acquired a roster comprising email addresses of engineering contracting firms and their respective clientele from both the Jordanian Engineers Association (JEA) and the Jordanian Contractors Association. Subsequently, we disseminated an online questionnaire to 400 individuals from this list. Regrettably, we only received 368 completed questionnaires. Among these, 357 questionnaires were deemed suitable for rigorous statistical examination (Appendix A).

3. RESULTS

Table 1 demonstrates the sample characteristics of the respondents.

Table 1. Sample characteristics

Sample characteristics	Category	Frequency	Percent %
Gender	Male	216	60.5
	Female	141	39.5
	Total	357	100.0
Age (Years)	Less than 30	189	52.9
	30 to less than 40	63	17.6
	40 to 50	64	17.9
	Above 50	41	11.5
	Total	357	100.0
Marital status	Single	200	56.0
	Married	155	43.4
	Divorced	2	0.6
	Total	357	100.0
Education	Diploma	67	18.8
	Bachelor's Degree	218	61.1
	High Diploma	22	6.2
	Master's Degree	40	11.2
	Doctorate	10	2.8
	Total	357	100.0
Experience (Years)	Less than 5	179	50.1
	5 to less than 10	54	15.1
	10 to 15	44	12.3
	Above 15	80	22.4
	Total	357	100.0
Family Income (Jordanian Dinar)	less than 1000	100	28.0
	1000 to less than 1500	127	35.6
	1500 to 2000	52	14.6
	More than 2000	78	21.8
	Total	357	100.0
Number of Family Members	2	25	7.0
	3	47	13.2
	4	132	37.0
	Other	153	42.9
	Total	357	100.0

Face validity and construct validity were used in this study; for face validity, the questionnaire was reviewed per guidelines from academic professionals from different universities and the construction field. Recommendations and opinions were considered to enhance, enrich, and improve the research tool. To evaluate construct validity, the relevant literature and previous studies were reviewed to build strong foundations for the study. Moreover, both exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were applied.

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Table 2. EFA analysis for research variables

Variables	Item	KMO	Bartlett's Test of Sphericity – Chi-Square	DF	Explained Variance	Sig.
Independent Variable	GPV1	0.838	1171.856	10	72.531	0.00
	GPV2					
	GPV3					
	GPV4					
	GPV5					
	GB6	0.852	1412.123	10	76.188	0.00
	GB7					
	GB8					
	GB9					
	GB10					
	EC11	0.783	1378.05	21	73.921	0.00
	EC12					
	EC13					
	EC14					
	EC15					
	EC16					
	EC17					
	Total	0.908	5229.79	136	71.99	0.00
Dependent Variable	CA18	0.813	1232.39	15	79.238	0.00
	CA19					
	CA20					
	CA21					
	CA22					
	CA23					
Moderating Variable	GPA24	0.892	1751.817	15	74.033	0.00
	GPA25					
	GPA26					
	GPA27					
	GPA28					
	GPA29					

Note: GPV = Green Perceived Value; GB = Green Buildings; EC = Environmental Concerns; CA = Consumers' Attitudes; GPA = Green Product Awareness.

Exploratory factor analysis (EFA) was performed to evaluate the research variables' validity. Laher (2010) states that factor loading should not be below 40%. According to Hair et al. (2010), if the value of KMO is 0.5 or above, the data used are adequate and sufficient. Bartlett's test was used to ascertain if the variables' correlation matrix is a zero (identity matrix). Therefore, if the Sig value is less than or equal to 0.05, then the data used are convenient for analysis purposes, representing different sampling sets for the research population.

From Table 2, it is clear that KMO for the independent, dependent, and moderating variables fall between 0 and 1, and above 0.5, representing acceptable, adequate, and sufficient data for analysis. Moreover, it can be noticed that there is the existence of significant probabilities between the factors used in the correlation matrix; the probabilities are significant at $p < 0.05$, which proves a significant relationship between the factors that are included in the analysis.

Confirmatory factor analysis (CFA) was performed using software that provides standardized and unstandardized loading for each questionnaire item. The result pertains to all variables included in the research: independent (green marketing), dependent (consumers' attitudes toward buying green buildings in Jordan), and moderating (green product awareness).

From Table 3, the correlations of the variables are significant at $\alpha \leq 0.05$. Moreover, the results show no linear relationship between the variables. AMOS V.23 has been used to calculate the

Table 3. Matrix of correlation between research variables

Dimensions		GPV	GP	EC	Independent	Dependent	Moderating
GPV	Pearson Correlation	1	.781**	.713**	.903**	.682**	.689**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	357	357	357	357	357	357
GP	Pearson Correlation	.781**	1	.746**	.917**	.711**	.670**
	Sig. (2-tailed)	.000		.000	.000	.000	.000
	N	357	357	357	357	357	357
EC	Pearson Correlation	.713**	.746**	1	.914**	.789**	.675**
	Sig. (2-tailed)	.000	.000		.000	.000	.000
	N	357	357	357	357	357	357
Independent	Pearson Correlation	.903**	.917**	.914**	1	.803**	.744**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
	N	357	357	357	357	357	357
Dependent	Pearson Correlation	.682**	.711**	.789**	.803**	1	.787**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	357	357	357	357	357	357
Moderating	Pearson Correlation	.689**	.670**	.675**	.744**	.787**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	357	357	357	357	357	357

Note: **. Correlation is significant at the 0.01 level (2-tailed). GPV = Green Perceived Value; GB = Green Buildings; EC = Environmental Concerns.

appropriate indicators related to the independent variable.

Table 4. Model fit indicators of research variables

Indicator	Value
RMSEA	0.077
RMR	0.049
χ2	360.034
DF	116
SIG.	0.00
GFI	0.900
AGFI	0.860
TLI	0.924
CFI	0.935
NFI	0.908

From Table 4, the χ^2 equals 360.034, Sig equals 0.00, and degrees of freedom (DF) equals 116. According to Arbuckle (2014), 5 is the maximum value the minimum variance should reach. The value of minimum variance can be found by dividing χ^2 by the degrees of freedom (DF):

$$\text{Minimum variance} = \frac{\chi^2}{DF} = \\ = \frac{360.034}{116} = 3.1037. \quad (1)$$

3.1037 is less than 5; thus, this indicates a "good" level of fitting. Also, Table 4 shows that the value of GFI (0.900) is in the range of acceptable values (between 0 and 1) and specifically in the range of "around 0.9 and higher." Moreover, the AGFI value is acceptable because it is also between 0 and 1. Furthermore, NFI equals 0.908, CFI equals 0.935, and TLI equals 0.924; thus, their values are close to 1. Moreover, RMSEA equals 0.077, which is close to 0. All these indicators provide conformity and validity of the items concerning the independent variable and its sub-variables. Furthermore, Figure 2 shows the results of regression weights for the independent variable, and Figure 3 shows the results of regression weights and coefficients of determination for the research model.

AMOS V.23 has been used to calculate the appropriate indicators related to the research model. Table 5 shows the results of the analysis.

Table 5. Model fit indicators

Indicator	Value
RMSEA	0.071
RMR	0.062
χ^2	1380.189
DF	370
SIG	0.00
GFI	0.924
AGFI	0.907
TLI	0.914
CFI	0.902
NFI	0.921

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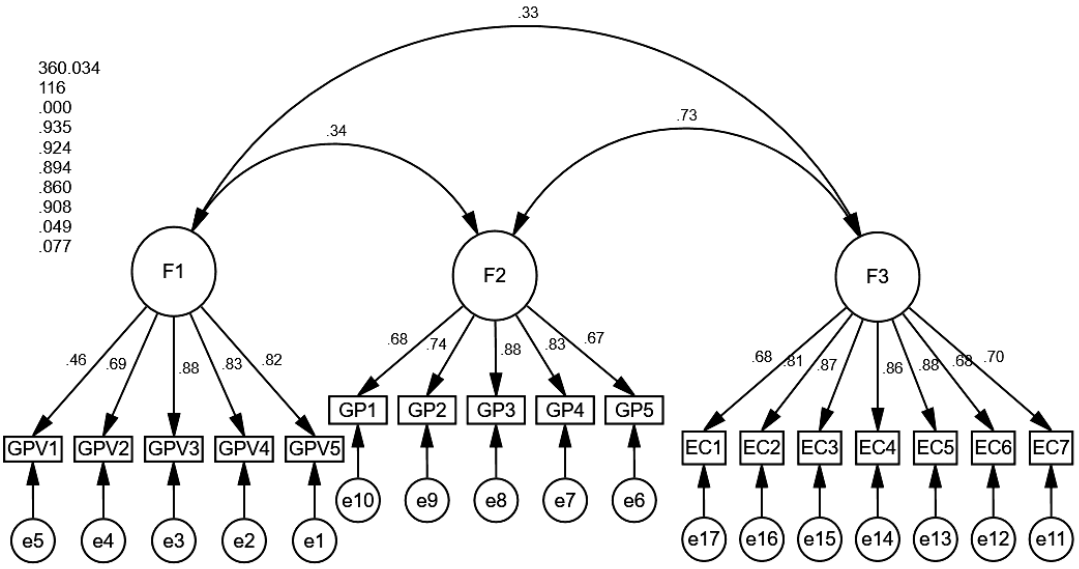
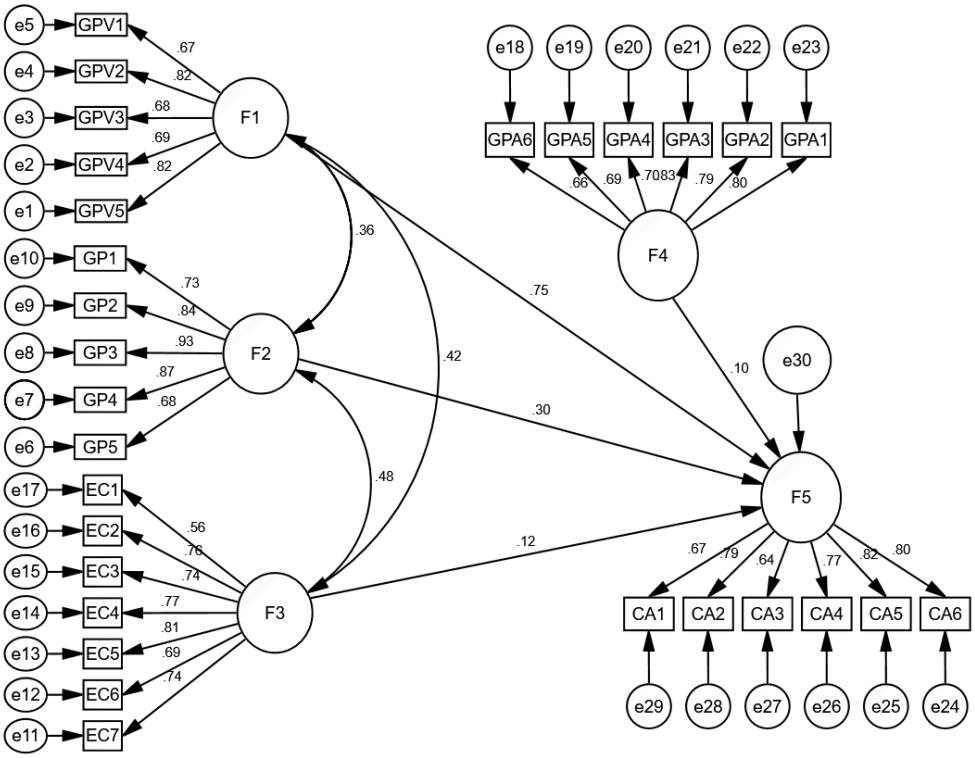


Note: GPV = Green Perceived Value; GB = Green Buildings; EC = Environmental Concerns.

Figure 2. Regression weights for independent variable

According to Arbuckle (2014), 5 is the maximum value the minimum variance should reach. The value of minimum variance can be found by dividing χ^2 by the degrees of freedom (DF):

$$\text{Minimum variance} = \frac{\chi^2}{DF} = \\ = \frac{1380.189}{370} = 3.7302. \quad (2)$$



Note: GPV = Green Perceived Value; GB = Green Buildings; EC = Environmental Concerns; CA = Consumers' Attitudes; GPA = Green Product Awareness.

Figure 3. Regression weights and coefficients of determinations for the research model

Table 6. Reliability test (Cronbach's alpha) for all variables

Variables	No. of Items	Cronbach's Alpha
Green Perceived Value	5	0.850
Green Products (Green Buildings)	5	0.902
Environmental Concerns	7	0.880
Independent (Green Marketing)	3 Sub-variables	0.897
Dependent (Consumers' Attitudes toward Buying Green Buildings in Jordan)	6	0.885
Moderating (Green Products Awareness)	6	0.884

3.7302 is less than 5; thus, this indicates a "good" level of fitting. All the indicators provide conformity and validity of the items for the research model.

Next, the value of Cronbach's Alpha coefficient was calculated. If the value is more than 0.70, then this can be considered an indication of verification of internal consistency, as this value (cut-off-point) is suitable and appropriate for administrative science (Hair et al., 2010). When the value of the coefficient reaches 1 (100%), this indicates that the items in the tool used for the research have the highest degree of internal consistency (Sekaran & Bougie, 2010).

Table 6 demonstrates a relatively high reliability because the minimum value obtained from the test is more than 0.7, considering that the highest value for the coefficient is 1.

3.1. Hypotheses testing

To define the boundaries of "Low", "Moderate", and "High" intervals, the Fruned (1982) equation was used to determine the respective class intervals.

$$\text{Class interval} = \frac{Maximum\ class - Minimum\ class}{Number\ of\ levels} = \quad (3)$$

$$= \frac{5-1}{3} = 1.33.$$

Thus, the lowest level equals 1; therefore, the lowest range is from 1 to 2.33, the moderate range is from 2.34 to 3.67, and the highest range is from 3.68 to 5.

The mean for each sub-variable of the independent variable (green marketing) is represented in Table 7. Here, the highest value is shown by green products (green buildings), equals 3.71, while the lowest – environmental concerns with 3.45.

According to Hair et al. (2010), if VIF is less than 10 and the tolerance is greater than 10%, there is no multi-collinearity problem. From Table 8, it is clear that all values of VIF are less than 10. Moreover, all the tolerance values are more than 10%, representing good results and no multi-collinearity problem.

All skewness values range from –1.005 for the green marketing variable to –0.04 for the consumers' attitudes toward buying green buildings in Jordan. Thus, all the results are almost within the range of –1 to 1, which indicates that the data are close to the normal distribution.

In order to test the first main hypothesis, multiple regression analysis was used.

From Table 10, R equals 0.815, which indicates that green marketing and consumers' attitudes toward buying green buildings in Jordan are positively and highly correlated, with a percent-

Table 7. Means for research variables

No.	Variables	Mean	Level
Independent Variable: Green Marketing		3.61	Moderate
Sub-Variables	Green Perceived Value	3.68	High
	Green Products (Green Buildings)	3.71	High
	Environmental Concerns	3.45	Moderate
Dependent Variable: Consumers' Attitudes toward Buying Green Buildings in Jordan		3.25	Moderate
Moderating Variable: Green Product Awareness		3.43	Moderate

Note: Means description: 1 – 2.33: low, 2.34 – 3.67: moderate, 3.68 – 5: high.

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Table 8. Suitability of research data to test hypotheses using VIF

Variables			VIF	Tolerance	Skewness
Dependent Variable (Consumers' Attitudes toward Buying Green Buildings in Jordan)	Green Marketing	Green Perceived Value	5.400	0.185	–0.856
		Green Products (Green Buildings)	6.250	0.160	–0.931
		Environmental Concerns	6.077	0.165	–0.616
	Green marketing		6.50	0.154	–1.005
	Moderating Variable (Green Product Awareness)		2.238	0.447	–0.673

Table 9. Normal distribution of research variables

Variables	Kolmogorov–Smirnov			Skewness	Kurtosis
	Statistic	DF	Sig		
GPV	0.217	357	0.260	–0.856	–0.78
GP	0.358	357	0.061	–0.931	–0.91
EC	0.312	357	0.122	–0.616	–0.98
GM	0.214	357	0.300	–1.005	–0.80
CA	0.288	357	0.223	–0.04	–0.82
GPA	0.225	357	0.310	–0.673	–0.76

Note: GPV = Green Perceived Value; GB = Green Buildings; EC = Environmental Concerns; CA = Consumers' Attitudes; GPA = Green Product Awareness.

Table 10. Multiple linear regressions analysis for H1

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.815[a]	.664	.661	.47729

a. Predictors: (Constant), EC, GPV, GP

ANOVA [a]

Model		Sum of Squares	DF	Mean Square	F	Sig.
1	Regression	158.896	3	52.965	232.505	.000[b]
	Residual	80.414	353	.228		
	Total	239.310	356			

a. Dependent Variable: CA

b. Predictors: (Constant), EC, GPV, GP

Coefficients [a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.242	.117		2.063	.040
	GPV	.130	.046	.146	2.804	.005
	GP	.173	.049	.193	3.515	.000
	EC	.548	.049	.542	11.101	.000

a. Dependent Variable: CA

age of 81.5%. R square equals 0.664, indicating that the variation in green marketing explains 66.4% of the variance in consumers' attitudes toward green buildings in Jordan. In contrast, the analysis of variance showed that F equals 232.505 at Sig. less than 0.05. Consequently, the hypothesis is confirmed.

In order to test the second main hypothesis, hierarchical multiple regression analysis was performed.

There are three models in the hierarchical multiple regression analysis performed. The first model shows that the correlation coefficient R equals 0.803, which revealed a critical impact of green marketing on consumers' attitudes toward buying green buildings in Jordan, in which Delta F equals 645.745, with Sig equals 0.000. Furthermore, the value of R square, the coefficient of determination, is 0.645, indicating that the green marketing variable variation explains 64.5% of the variance in consumers' attitudes toward green build-

Table 11. Hierarchical multiple regression analysis for H2

Dependent Variable	Independent Variables	First Model			Second Model			Third Model		
		B	T	Sig	B	T	Sig	B	T	Sig
Consumers' attitudes toward Buying Green Buildings in Jordan	Green Marketing	0.803	25.412	0.000						
	Green Product Awareness				0.425	10.210	0.000			
	Green marketing with the presence of green product awareness							0.487	11.707	0.000
	R	0.803			0.852			0.881		
	R^2	0.645			0.726			0.776		
	Delta R^2	0.645			0.081			0.05		
	Delta F	645.745			104.236			578.872		
	Delta sig	0.000			0.000			0.000		

ings in Jordan. In addition, the value of B is 0.803, which means that an increase in the value of the green marketing variable will lead to an increase of 80.3% in consumers' attitudes toward buying green buildings in Jordan. In the second model, R became 0.852 and R square 0.726, while Delta F equals 104.236 at $\alpha \leq 0.05$.

Furthermore, B equals 0.425 at Sig 0.04; these results confirmed that there is a role for the moderating variable in the relationship between the independent variable and the dependent variable with an increase equal to 0.081, changed from 0.645 to 0.726. In the third model, the green marketing variable and the sub-variables were included, in addition to the green product awareness variable (moderating variable), in which the value of R is 0.881. At the same time, R square equals 0.776, and Delta F equals 578.872 at $\alpha \leq 0.05$. Furthermore, B equals 0.487 and Sig equals 0.0 as the variance percentage of explanation has increased to reach 0.776. Therefore, the hypothesis is accepted. Therefore, all the hypotheses proposed in this study are accepted.

4. DISCUSSION

According to the statistical analysis, the relative importance of the green marketing sub-variables is high in general. This result is consistent with Shukla (2021), in which green marketing affects consumers' attitudes toward buying green products. In terms of green buildings, consumers first may prefer to interact directly with this type of product, then decide and judge on the product by the value they have received. Therefore, this result agrees with Maniatis (2016), who stated that green products can attract consumers for many reasons, such as consumers' own consciousness and concerns about the environment, the economic benefits they will gain, and the products' green reliability and appearance. Moreover, the result aligns with Liao et al. (2020): green perceived value affects consumers' attitudes toward green products. This result also agrees with Sharma and Trivedi (2018), so consumers will take advantage of both green marketing and products and receive higher value because of differentiated products.

The environmental concerns variable has the lowest mean. This can be due to a lack of knowledge among the consumers regarding the green issues and green products in Jordan and the scarcity of educational campaigns regarding these issues, especially in construction. In the same way, the concept of green buildings in Jordan is still immature; thus, the level of support for the consumers' environmental concerns is still low, and consumers may prefer their own benefits over benefits for the environment. Furthermore, the result agrees with Royne et al. (2016): filling the gap between consumers' environmental concerns and their behavior can be done clearly by enhancing the communication strategies in green marketing, which reflects the importance of green marketing and shows its impact on consumers' attitudes to become greener.

The values of means for the consumers' attitudes are in the moderate range of values. It can be inferred that consumers yet do not have a clear and complete concept of green buildings; especially in Jordan, this concept is still immature. The result is in line with Abuamer and Boolaky (2015), who showed that consumers have to be more educated about green buildings to enhance their knowledge and awareness, and this may then

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be reflected in their behavior in favor of buying this type of buildings. Moreover, the result agrees with Liao et al. (2020); that is, if consumers themselves have experience with this type of product and if this experience is positive, then this will significantly influence consumers' attitudes toward buying green products. The values of means for green product awareness are in the moderate range of values. This result agrees with Abuamer and Boolaky (2015), as consumers should be more educated about green issues to enhance their knowledge and awareness about green buildings and their features; thus, this can play a moderating role in order for them to change their behavior and become inclined toward buying green buildings. Furthermore, the result agrees with Mohiuddin et al. (2018), who found that green product awareness positively influences consumers' attitudes toward buying green products.

CONCLUSION

In conclusion, this research delved into the impact of green marketing, including factors like green perceived value, the presence of green products specifically (green buildings), and environmental concerns, on the attitudes of Jordanian consumers towards purchasing green buildings. Additionally, the study sought to uncover the moderating influence of green product awareness on the relationship between green marketing strategies and consumers' inclinations to buy green buildings in Jordan. Notably, the sub-variables within green marketing emerged as highly significant. Among these sub-variables, green products, particularly green buildings, stood out as the most influential, followed by green perceived value, and then environmental concerns. This underscores the pivotal role of the product itself, in this case, green buildings, in shaping consumers' purchasing decisions.

Furthermore, this research demonstrated that green product awareness plays a positive yet moderately influential role as a moderating variable in the relationship between green marketing and consumers' attitudes towards buying green buildings in Jordan. This moderation effect, while present, may be somewhat limited in strength due to consumers' potential lack of knowledge and awareness regarding the concept of green buildings and their associated benefits. Therefore, an increased emphasis on educating consumers about green initiatives and products is essential to enhance their awareness and positively impact their attitudes towards purchasing such environmentally friendly products. This is a critical area for improvement and should be elevated to a higher level of emphasis. It is worth noting that various human activities, such as improper land use, deforestation, and environmentally harmful construction practices, have direct connections to climate change. Additionally, the green construction sector shows promise within the field of civil engineering, particularly given the escalating environmental challenges.

Moreover, construction contracting companies exhibit a positive outlook towards green buildings for two compelling reasons. First, Jordan faces significant water scarcity and high pollution levels, making green buildings a viable solution to reduce waste, water consumption, and energy usage. Therefore, the adoption of green buildings aligns with the pressing environmental concerns of the region and holds potential for a sustainable and environmentally conscious future.

AUTHOR CONTRIBUTIONS

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APPENDIX A

Questionnaire

Sample Characteristics:
Please put (☐) in the appropriate box

Gender:

- ☐ Male
- ☐ Female

Age (years):

- ☐ Less than 30
- ☐ 30 to less than 40
- ☐ 40 to 50
- ☐ Above 50

Marital Status:

- ☐ Single
- ☐ Married
- ☐ Divorced
- ☐ Widowed

Level of Education:

- ☐ Diploma
- ☐ Bachelor's Degree
- ☐ High Diploma
- ☐ Master's Degree
- ☐ Doctorate

Experience (Years):

- ☐ Less than 5
- ☐ 5 to less than 10
- ☐ 10 to 15
- ☐ Above 15

Family Income (Jordanian Dinar):

- ☐ less than 1000
- ☐ 1000 to less than 1500
- ☐ 1500 to 2000
- ☐ more than 2000

Number of Family Members:

- ☐ 2
- ☐ 3
- ☐ 4
- ☐ other

Table A1. Research questionnaire

No.	Item	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (4)	Strongly Disagree (1)
	Green Perceived Value: the total environmental value the consumer will receive from green buildings. This variable can be measured through the value provided to the consumers and more environmental benefits than other products (Lin et al., 2017; Chen, 2013)					
1	Green buildings have higher in-door quality of living than conventional buildings					
2	Green buildings have higher construction standards than conventional buildings					
3	Buying green buildings will be an economical choice with long-term benefits					
4	Green buildings provide higher value than conventional buildings					
5	Green buildings provide more environmental benefits than conventional buildings					
	(Green Products) Green Building: environmentally friendly buildings that help the environment by reducing the waste produced, consuming less resources, using recycled materials or those that can be recycled in the future, and providing clean, healthy, and comfortable lifestyle for the consumer. This variable can be measured by meeting consumers' green needs and wants, higher perceived health, and green features (Wen et al., 2020; Zampese et al., 2016).					
6	Green buildings help to meet consumers' green needs more than conventional buildings					
7	Green buildings enhance occupants to perform their activities better					
8	Green buildings enhance occupants' physical health					
9	Green buildings enhance occupants' psychological health					
10	Green buildings ensure the presence of green features within the structure					
	Environmental Concerns: consumers' beliefs and thoughts that will direct them toward buying green products and the real reasons behind buying green buildings. This variable can be measured by solving environmental problems and considering the environment in the consumers' activities (Suki, 2013; Danish & Naved, 2016).					
11	If people continue to perform their activities at the current pace, the environment will be severely damaged					
12	If I have the option to buy a building, I will buy a green building					
13	I will buy a green building instead of a conventional building just because it benefits the environment					
14	My activities are considered environmentally friendly activities					
15	I think how to improve our environment					
16	People have the right to adjust nature in order to meet their own needs					
17	I believe that the environment has an intrinsic ability to counteract the impact of human activities					

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Table A1 (cont.). Research questionnaire

No.	Item	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (4)	Strongly Disagree (1)
Dependent Variable: (Consumers' attitudes toward buying green buildings in Jordan): one of the critical factors that significantly influences the consumers' decision about green buildings. This variable can be measured through consumers' thoughts about the green products, and their own experience if they have tried them before (Tandon et al., 2020; Danish & Naved, 2016).						
18	I think that there will be a real dependence on green buildings in the near future					
19	I have planned to buy green building					
20	I think that buying green building will be a great idea					
21	I will put extra effort in order to buy green building					
22	I have an experience with green buildings					
23	If I have a positive idea about green buildings, I will encourage my acquaintances to buy such buildings					
Moderating Variable: (Green Product Awareness): consumers' knowledge about the importance of green buildings and the benefits behind buying and living in this type of buildings. This variable can be measured through consumers' knowledge about green products and their benefits, consumers' perception of environmental issues, and consumers' responsible activities toward the environment (Saha & Kuruppuge, 2016; Ansu-Mensah, 2021; Mohiuddin et al., 2018).						
24	I have heard about green buildings					
25	I know about green buildings					
26	I know the differences between green buildings and conventional buildings					
27	I know the importance of green buildings for the occupants					
28	I know the importance of green buildings for the environment					
29	I prefer to live in a green building instead of a conventional building					