sustainability

MDPI

Article

Green Buying Behaviour: An Integrated Model

Edison Jair Duque Oliva [1,2], Javier A. Sánchez-Torres [3,*], Francisco-Javier Arroyo-Cañada [4], Ana Argila-Irurita [4], Jaime Gil-La Fuente [4], Sandra-Milena Palacio-López [3] and Juan-Pablo Arrubla-Zapata [3]

1 School of Administration and Accounting, Universidad Nacional de Colombia, Bogotá 111321, Colombia; ejduqueo@unal.edu.co or jairduque@uees.edu.ec
2 ESAI Business School, Universidad Espíritu Santo, Samborondon 104135, Ecuador
3 Department of Marketing, University of Medellín, Medellín 050026, Colombia; spalacio@udemedellin.edu.co (S.-M.P.-L.); jarrubla@udemedellin.edu.co (J.-P.A.-Z.)
4 School of Business, University of Barcelona, 08001 Barcelona, Spain; fjarroyo@ub.edu (F.-J.A.-C.); aargila@ub.edu (A.A.-I.); j.gil@ub.edu (J.G.-L.F.)
* Correspondence: jasanchez@udemedellin.edu.co

Abstract: The pursuit of a sustainable world has today compelled both companies and individuals to scrutinize the environmental impact of goods and services. As a result, the field of green marketing, encompassing topics like sustainability, ecologism, and social impact, has gained significance. This study aims to explore the attributes influencing consumers' decisions to purchase green products. The research builds upon an extensive literature review conducted using databases such as Scopus and Web of Science. The resulting model integrates the variables linked to green buying behaviour. Empirical analysis utilizing partial least squares (PLS) methodology validates multiple hypotheses, including those concerning personality traits, altruistic attitude, environmental commitment, and the influence of social factors. This study also highlights the intricate relationship between environmental awareness, positive attitudes towards green products, and perceptions of greenwashing. In conclusion, this research contributes to a comprehensive understanding of the factors guiding consumers towards sustainable purchasing choices, shedding light on the intricate interplay of attitudes, influences, and perceptions in the realm of green consumption.

Keywords: green buying behaviour; sustainability perceptions; consumer attitudes; environmental awareness; greenwashing impact; marketing

Citation: Duque Oliva, E.J.; Sánchez-Torres, J.A.; Arroyo-Cañada, F.-J.; Argila-Irurita, A.; Fuente, J.G.-L.; Palacio-López, S.-M.; Arrubla-Zapata, J.-P. Green Buying Behaviour: An Integrated Model. *Sustainability* **2024**, *16*, 4441. https://doi.org/10.3390/su16114441

Academic Editor: Klement Podnar

Received: 22 March 2024
Revised: 29 April 2024
Accepted: 7 May 2024
Published: 23 May 2024

1. Introduction

The buying process is one of the main focuses of research in marketing, as it is of great interest to businesses, governments, and scientists. It is a dynamic, complex, and specific process that depends on multiple factors. One of the current social trends is the pursuit of a sustainable world [1]. This is something that has a direct impact on human consumption, and instigates questions for both companies and individuals about the direct and indirect effects of the production generated by the demand for goods and services [2].

As a consequence, research into green marketing has gained relevance in the past decade [3]. It encompasses various topics including ecologism, sustainability, pollution, and social impact. One interesting issue is the study of the purchasing process for products that are called "green", meaning that they meet green criteria, whether through their raw materials, their manufacturing process, or their distribution process [4]. Consequently, marketing research has analysed the process of green marketing to understand precisely which factors lead a person to prefer or demand a green product.

Green consumption is related to ecological attitude, which is guided by a care for the environment and a wish to make the necessary effort to repair the environmental damage that has occurred [5]. According to various studies, ecological attitude is influenced by emotions such as fear, anger, and restlessness stimulated by an awareness of environmental

issues, as well as other core values, the willingness to take action to address environmental problems, and ideas about the boundaries of personal responsibility for the benefit of the environment [6].

A positive ecological attitude leads to the individual being interested in seeking and acquiring knowledge and information about ecological products and events, and certainly in participating in activities that provide protection to the environment. Such an individual can take preventive and protective actions to protect nature and address environmental problems, and integrate this behaviour into their everyday life [7].

The new consumer trends show that consumers are becoming increasingly demanding of brands in relation to their impact on the environment and global sustainability. Companies that focus on offering green products have high possibilities of growth in the market, but green products present problems such as simple eco-labelling, falsehood in information, and poor manufacturing and marketing practices [8]. Even though brands are becoming more involved with the Sustainable Development Goals (SDGs), recent studies indicate that just over 60% of them link some of their involvement to a false belief in sustainability, known as "greenwashing" [8]. This leads to consumers feeling confused about the actual responsibility of brands towards the SDGs [9].

Numerous studies have scrutinized green products, analysing various elements such as health concerns, green lifestyle, environmental protection, social norms, and beliefs, and proposing that these play a significant role in the purchase of green products [10]. However, there are few studies that integrate the majority of the variables that have so far been tested.

This research seeks specific answers to the following question: What are the factors that influence the purchase of green products? To find these answers, the following general objectives are proposed:

1. To determine, based on previous empirical studies, the essential variables that the affect purchasing behaviour for green products.
2. To examine the cause-and-effect relationships between the variables that drive the purchasing behaviour for green products.

This study is explanatory in nature, as its objective is to specify the important characteristics of a particular phenomenon, and, in turn, to associate the variables with a predictable pattern for a population in order to explain why this phenomenon occurs [11]. Therefore, first, hypotheses will be proposed based on previous empirical studies found from a structured literature review. Subsequently, an empirical model of the cause–effect hypothesis relationships will be formed, and then a measurement scale will be adapted using a quantitative approach that allows the results to be generalized, gives control over the phenomena, and provides an analysis based on counts and magnitudes through psychographic scales that allow for complex phenomena to be measured [12]. For the data analysis, the method of structural equations will be used; this is recommended for analysing causal relationships between variables and thus verifying the relationships in a model. An analysis of the reliability and effectiveness of the measurement model and of the cause–effect relationships between the independent variables and the dependent ones will be carried out to validate the hypotheses [13], with the purpose of generating results and conclusions.

2. Framework and Hypotheses

A thorough literature review was conducted with the aim of constructing a comprehensive model for the variables explaining green buying behaviour. For this purpose, a search equation was formulated in the primary scientific databases, Scopus and Web of Science, containing the keywords "green", "consumption", and "attitude". Subsequently, four filters were applied to the results, as detailed in Table 1.

Table 1. Database search filters.

Filter	Total Documents
Publication date: 1982–2022	626
Publication date: 2013–2022	523
Areas of knowledge: psychology, economics, and sociology	189
Buying behaviour topic	32

The hypotheses and the empirical model to be analysed are presented below, and the results of the data collection and statistical analysis are then reported.

The literature review enables us to conclude that, in the first place, the classical theories of behaviour have been the starting point for the analysis of ecological purchasing behaviour, with several studies having utilized the theory of reasoned action [14] or the theory of planned behaviour [15,16]. The latter best predicts human behaviour by demonstrating that an individual acts based on the result of rational choice triggered by intention, under the influence of attitude or an evaluation of previous behaviour, the subjective norms that generate social influence from the environment, and perceived behavioural control, which refers to the individual's ability to perform the behaviour. Other theories, such as the theory of consumer values and the theory of innovation adoption, have been integrated to explain the purchase of green products in a more complex manner [17].

The theory of planned behaviour is the most popular theory for the central model of analysis [2,18–25]. Studies applying this theory show that the purchase of green products is driven by the individual's ecological attitude [2,20], which is similar to perceived behavioural control, and they add other important factors such as environmental ethical awareness and subjective norms related to the new environmental social consciousness. This is reinforced by the analysis of other behavioural theories such as the theory of organismic integration and the value–belief–norm theory [26], which demonstrates that the influence of peers, the perception of environmental responsibility, and matters related to the environment, translated into self-identity or green attitude, influence the purchase of green products [22,27].

Personality traits such as altruism and collectivism influence an individual in the purchase or consumption of green products and services [28]. Decision-making is also linked, in other studies, to the theory of reasoned behaviour, which can also explain the purchase of green products [29,30]. Religion even comes to influence care for the environment through its values and, consequently, influences the intention to purchase green products [31].

H1. *A personality profile oriented towards a collectivist personality is associated with a negative attitude towards non-green product consumption.*

H2a. *An altruistic personality profile is associated with a negative attitude towards non-green product consumption.*

H2b. *An altruistic personality profile influences environmental awareness.*

The post-pandemic (COVID-19) context has also been assessed, with analyses of social concerns regarding future pandemics and their impact on consumption [27,32]. As regards the purchase of green products, the results have shown that, besides individual variables such as ecological attitude, new concerns about health also increase the intention to buy green products [21,32,33].

H3a. *Environmental commitment is associated with a negative attitude towards non-green product consumption.*

H3b. *Environmental commitment is associated with a positive attitude towards consuming green products.*

There has been perceived social pressure, and a newly found perceived autonomy in the context of a new life, due to COVID-19 [32]. Some studies have shown that an awareness of care for the environment among communities is significantly influencing the choice of green brands [22,23]. This includes the entire purchase decision process, information searches, and purchase intention [21,23,26].

H4a. *The subjective norm for consuming green products influences the green product search time.*

H4b. *The subjective norm for consuming green products influences the intention to purchase green products.*

Environmental ethics and beliefs significantly affect the intention to use environmentally friendly products [32,33]. In this line of research, it has also been found that information about products that are not green versus those that are green generates a preference in the consumer for green ones [34].

H5a. *A negative attitude towards polluting products is associated with a positive attitude towards consuming green products.*

H5b. *A negative attitude towards polluting products influences the intention to purchase green products.*

Previous studies have shown that prior attitudes towards green consumption lead to the purchase of green products [2,26,32,33,35].

H6. *The attitude towards consuming a green product influences the perceived behaviour control in relation to the purchase of green products.*

On the other hand, consumers prefer to search for products with high quality standards, including products that do not pollute and that are environmentally friendly, even if this means paying a higher price [23]. The consumer of a green product will tend to seek detailed information about the product's characteristics, place of origin, ingredients, environmental quality seals, and social or other green accreditations, will compare products, and will extensively research the green impact of these products [36].

H7a. *Green product search time is associated with a positive attitude towards consuming green products.*

H7b. *Green product search time influences the intention to purchase green products.*

Various studies that develop the theory of planned behaviour have validated the effect of perceived behaviour control on the intention to purchase and the actual purchase of green products [2,18–25]:

H8a. *Perceived behaviour control influences the intention to purchase green products.*

H8b. *Perceived behaviour control influences the purchase of green products.*

Some studies have found that perceived greenwashing in relation to products negatively affects the intention to purchase green products [9]:

H9a. *The perception of greenwashing negatively influences the intention to purchase green products.*

H9b. *The perception of greenwashing negatively influences the purchase of green products.*

To complete the model by taking a classic relationship from the behavioural purchase models, the hypothesis that purchase intention for green products is a predictor of their purchase will be tested [37]:

H10. *Intention to purchase green products influences the purchase of green products.*

All the hypotheses are summarised in Figure 1.

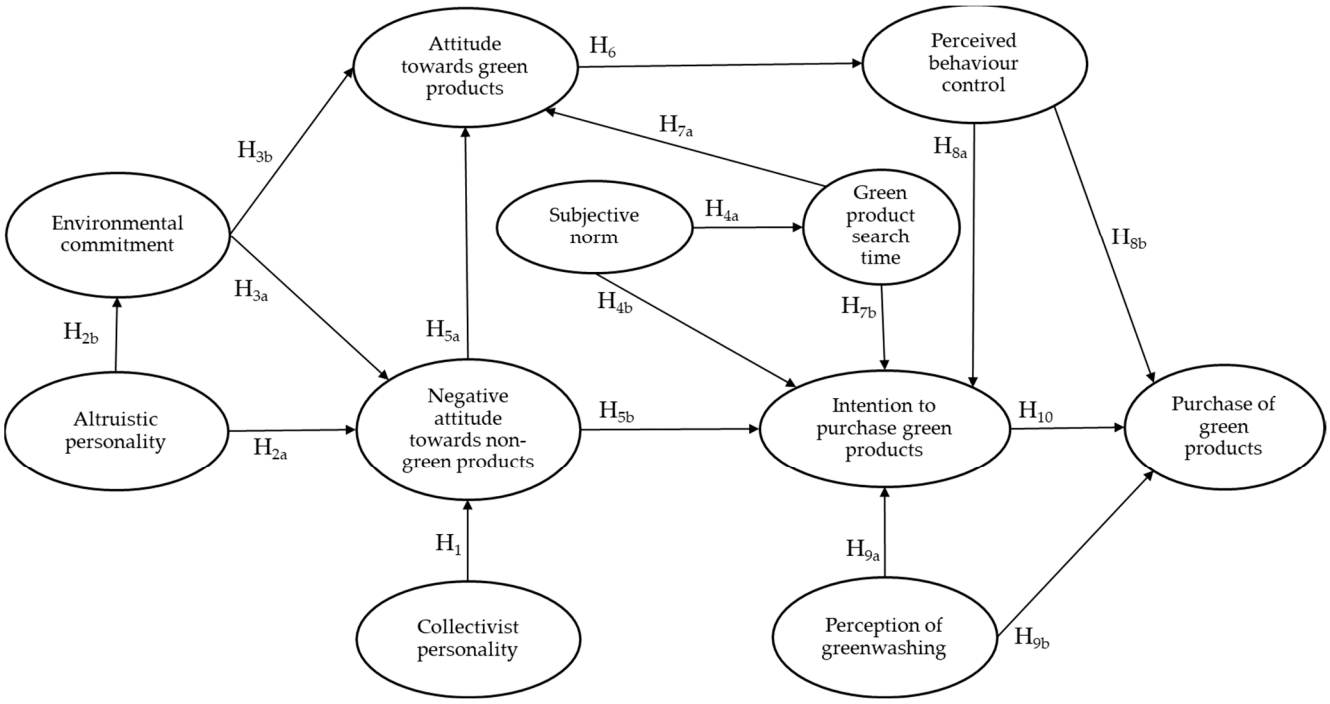

Figure 1. Proposed model.

Finally, some studies have examined whether there are differences between cultures regarding green purchasing and have uncovered discrepancies and variations but have been unable to make a conclusive determination of the impact of a country's culture [38]. However, some findings indicate cultural differences [39]. On the other hand, socio-economic status has an effect on green consumption, with the middle and upper classes showing a greater intention to purchase than the lower classes [40].

With regard to age, it has been found that there are differences among age groups in terms of various factors relating to green consumption, with younger individuals being the most inclined to purchase these products [23,41]. Regarding differences between men and women in the consumption of green products, it has been found that women are more inclined to choose or to be influenced by green products and brands [42].

Since the moderating effect of demographic groups has not yet been thoroughly explored, no hypotheses are raised about the effect of these on the purchase of green products, but control analyses are applied which are presented in the Section 4.

3. Materials and Methods

3.1. Sample and Data Collection

In the fieldwork, the non-probabilistic quota sampling method was chosen to establish the sample, as the partial least squares methodology allows for a small sample [43]. However, the acceptable number of individuals to be reached was set at a minimum of one thousand people to ensure robustness in the results. The target population was university

students in Spain and Colombia, and the questionnaire was disseminated digitally. The data collection was confidential, no personal information about the respondents was gathered, and participation was voluntary, all in accordance with established ethical standards. A total of 1219 surveys were collected from university students in Spain and Colombia, of whom 60.6% were females and 38.6% were males; this difference is possibly due to the questionnaire not asking about a particular green product or service. Similarly, 76% were young people aged 18 to 34, while the remaining 24% were older, and no differences were found within these age groups. It was found that 72% of the participants were single (Table 2). Once the multigroup and moderation tests had been carried out, no differences or effects moderated by any of the demographic variables of the sample were found.

Table 2. Sample.

Gender		Age	
Female	60.6%	18–34 years	76%
Male	38.6%	35 years and above	24%
Other	0.9%		
Country		Marital status	
Spain	46%	Single	72%
Colombia	54%	Married–Free union	25%
		Divorced	1%
		Widowed	1%
		Religious	1%

3.2. Measures

The model was tested using partial least squares (PLS), a specific form of structural equation modelling (SEM). PLS relies on the variance in the dependent variables and aims to forecast unobserved variables through input data from observations. Its primary focus is on maximising the explained variance of the components, which are the latent variables used in this methodology [13,44].

The choice of PLS was made for various reasons. First, the study's objective was to predict and elucidate the model's dependent variables, rather than confirming the overall validity of the model using global model fit indices and global model verification. In this context, the study concentrated on explaining the dependent variables and enhancing their explained variance through the coefficient of determination, as well as the direction, magnitude, and significance of the path coefficients. It also aimed to establish precise predictions for the dependent variables [45].

Second, despite the sample's substantial size, the model encompassed a significant number of latent and manifest variables. This, in turn, led to complexity in the model as it featured numerous direct and indirect pathways. In this regard, it has been demonstrated that PLS-SEM significantly mitigates the impact of measurement errors, thus enhancing the reliability of the construct scores, especially in complex models where multiple mediators are involved [46–48].

The questionnaire included 33 items that evaluated the following: altruistic personality and collectivist personality [4]; purchase of green products; negative attitude towards non-green products [22]; perception of greenwashing [33]; product search time; environmental commitment [20]; attitude towards green products [22]; intention to purchase green products; perceived behaviour control; and subjective norms [17] (Appendix A). To ensure accuracy in the translations, all measurement items were first rendered in Spanish and then back-translated into English. A 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree), was used to assess all items. The scales employed in this research were adapted from the prior literature and had demonstrated reliability and validity.

4. Results

4.1. Reliability and Validity of the Measurement Tool

The measurement model underwent an evaluation that involved the analysis of latent variable consistency, average variance extracted, and discriminant validity (Table 3). To assess the internal consistency of the constructs, the individual and composite reliability of these constructs were scrutinised. The results from the measurement model assessment are presented in Table 3. Following this, the model's convergent validity was evaluated using the average variance extracted (AVE) metric. It is important to note that an AVE value above 0.5 is required to confirm the presence of this form of validity [13]. As depicted in Table 3, the latent variables exhibit both individual and composite reliability, as well as convergent validity. Discriminant validity among the constructs was established through two widely recognised methods: the well-established Fornell and Larcker criterion (Table 4) and the more recent and precise heterotrait–monotrait (HTMT) ratios criterion (Table 5) [47,48]. For conceptually similar constructs, HTMT values exceeding 0.9 indicate the presence of discriminant validity, whereas HTMT values below 0.85 are indicative of discriminant validity for conceptually dissimilar constructs [47,48]. The Fornell–Larcker criterion is satisfied when the square root of the AVE value for each construct exceeds the estimated correlation between each pair of constructs.

Table 3. Test reliability and validity of the measurement tool.

Item	Loads *	t-Statistic	*p* Values	VIF Values	Construct	Cronbach's Alpha	Composite Reliability	Composite Reliability	Average Variance Extracted
AV1	0.817	21.424	0.000	1.372	Altruistic personality	0.733	0.811	0.837	0.635
AV2	0.844	23.095	0.000	1.676					
AV3	0.823	7.773	0.000	1.458					
BH1	0.866	46.324	0.000	2.347	Purchase of green products	0.876	0.879	0.924	0.802
BH2	0.843	57.627	0.000	2.883					
BH3	0.866	50.528	0.000	2.211					
CV1	0.885	34.919	0.000	2.048	Collectivist personality	0.828	0.836	0.897	0.744
CV2	0.828	26.352	0.000	1.757					
CV3	0.872	32.921	0.000	1.922					
EIA1	0.860	34.355	0.000	2.121	Negative attitude towards non-green products	0.846	0.847	0.907	0.765
EIA2	0.910	44.204	0.000	2.633					
EIA3	0.853	32.660	0.000	1.831					
GW1	0.850	8.639	0.000	1.575	Perception of greenwashing	0.814	0.826	0.889	0.727
GW2	0.854	8.372	0.000	2.058					
GW3	0.854	9.041	0.000	1.972					
IA1	0.822	38.726	0.000	1.260	Product search time	0.825	0.839	0.841	0.726
IA2	0.881	43.218	0.000	1.260					
IA3	0.838	33.702	0.000	2.567					
INT1	0.867	47.748	0.000	2.090	Intention to purchase green products	0.869	0.873	0.920	0.793
INT2	0.901	52.466	0.000	2.404					
INT3	0.903	57.175	0.000	2.462					
OK1	0.905	58.042	0.000	1.642	Environmental commitment	0.780	0.784	0.872	0.694
OK2	0.871	31.440	0.000	1.568					
OK3	0.912	29.956	0.000	1.642					
PB1	0.854	34.317	0.000	2.054	Attitude towards green products	0.823	0.827	0.894	0.738
PB2	0.843	37.908	0.000	1.608					
PB3	0.881	38.843	0.000	2.213					
PBC1	0.850	43.739	0.000	1.662	Perceived behaviour control	0.820	0.823	0.893	0.735
PBC2	0.867	37.608	0.000	2.014					
PBC3	0.854	40.948	0.000	1.933					
SI1	0.867	40.278	0.000	2.061	Subjective norm	0.852	0.862	0.910	0.771
SI2	0.879	36.630	0.000	2.254					
SI3	0.887	36.858	0.000	2.006					

Note: * Significant difference: *p*-value < 0.05.

Table 4. Fornell–Larcker criteria.

Altruistic personality	0.797										
Purchase of green products	0.296	0.895									
Collectivist personality	0.571	0.289	0.862								
Negative attitude towards non-green products	0.363	0.259	0.514	0.874							
Perception of greenwashing	0.117	0.136	0.029	0.102	0.853						
Product search time	0.314	0.604	0.369	0.299	0.153	0.852					
Intention to purchase green products	0.344	0.602	0.427	0.402	0.048	0.539	0.890				
Environmental commitment	0.410	0.250	0.614	0.556	0.078	0.316	0.399	0.833			
Attitude towards green products	0.327	0.514	0.341	0.337	0.144	0.492	0.512	0.372	0.859		
Perceived behaviour control	0.415	0.532	0.538	0.506	0.101	0.567	0.525	0.515	0.539	0.857	
Subjective norm	0.364	0.493	0.335	0.354	0.105	0.462	0.490	0.336	0.508	0.514	0.806

Table 5. Heterotrait–monotrait ratio (HTMT).

Altruistic personality	-									
Purchase of green products	0.365									
Collectivist personality	0.691	0.340								
Negative attitude towards non-green products	0.411	0.300	0.608							
Perception of greenwashing	0.182	0.159	0.063	0.127						
Product search time	0.443	0.726	0.499	0.395	0.219					
Intention to purchase green products	0.395	0.685	0.505	0.471	0.058	0.719				
Environmental commitment	0.490	0.305	0.759	0.680	0.105	0.443	0.486			
Attitude towards green products	0.405	0.606	0.407	0.394	0.178	0.684	0.600	0.458		
Perceived behaviour control	0.502	0.624	0.653	0.607	0.125	0.786	0.621	0.647	0.651	
Subjective norm	0.450	0.567	0.396	0.414	0.127	0.624	0.564	0.409	0.601	0.609

In addition, the collinearity among the exogenous factors related to a specific endogenous factor was assessed. It has been pointed out that interdependence issues could arise when VIF values surpass a threshold of 5, or 3.3 for a more stringent evaluation [43]. In the results of this study, all the VIF values remained below 2.883 (Table 3), clearly suggesting that collinearity is not an issue within the model.

4.2. Assessment of the Structural Model

To assess the importance of the structural parameters, a bootstrapping procedure was implemented at a significance level of 5%, utilising 10,000 subsamples [12,45]. As the hypotheses were formulated in a specific direction, a one-tailed test was conducted. Lastly, all the R^2 values exceeded the 10% threshold, even for their adjusted values (Table 6), indicating that the model possesses sufficient capability to account for the dependent variables. However, this study is exploratory and does not aim to validate the predictability of this model. Advanced tests of predictive relevance and model fit were therefore not performed. The hypotheses were statistically tested with a reliability level of 95% and a t-Student probability of 5% confidence error (Table 7) (Figure 2).

Table 6. R^2.

Construct	R^2	Adjusted R^2
Purchase of green products	0.434	0.432
Negative attitude towards non-green products	0.383	0.381
Perception of greenwashing	0.035	0.034
Product search time	0.214	0.213
Intention to purchase green products	0.424	0.422
Attitude towards green products	0.364	0.361
Perceived behaviour control	0.411	0.410
Subjective norm	0.113	0.112

Table 7. Model test.

Hypothesis	Validity	Original Sample (β)	T-Statistic *	*p* Values
H1	Supported	0.191	5.261	0.000
H2a	Not supported	0.046	1.522	0.128
H2b	Supported	0.410	15.113	0.000
H3a	Supported	0.313	9.330	0.000
H3b	Supported	0.123	4.095	0.000
H4a	Supported	0.462	16.908	0.000
H4b	Supported	0.317	10.549	0.000
H5a	Supported	0.162	5.321	0.000
H5b	supported	0.153	1.995	0.003
H6	Supported	0.343	11.261	0.000
H7a	Supported	0.296	8.851	0.000
H7b	Supported	0.398	13.819	0.000
H8a	Supported	0.154	3.705	0.000
H8b	Supported	0.290	9.406	0.000
H9a	Supported	−0.063	3.135	0.002
H9b	Supported	−0.085	3.877	0.000
H10	Supported	0.445	15.008	0.000

Note: * Significant difference: *p*-value < 0.05.

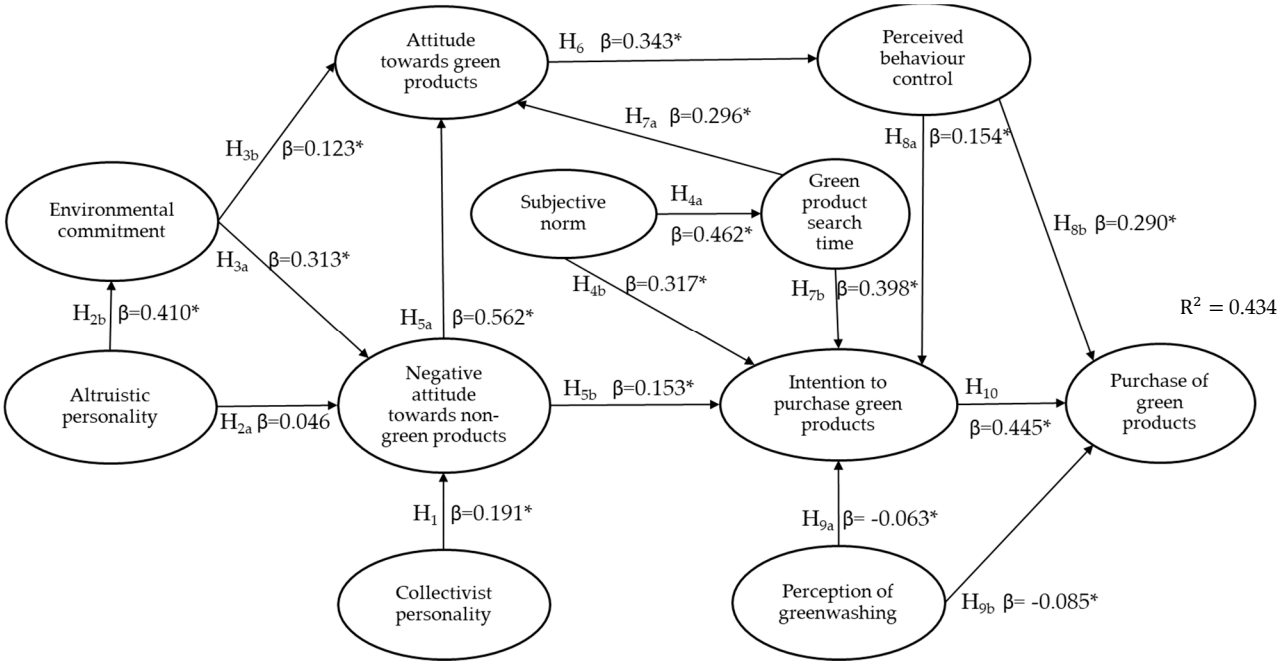

Figure 2. Empirical model. Note: * Significant difference: *p*-value < 0.05.

5. Discussion

Hypothesis H1 was supported (β = 0.335 *), which reinforces previous studies that found that a collectivist personality is associated with a negative attitude towards the consumption of non-green products [19,49]. This result reinforces the personality approach towards green product buyers. Specifically, those with collectivist profiles seek the common good and the planet's well-being, which is closely related to the new social trends of environmental awareness that are seen in individuals with this personality trait [19,49].

Hypothesis H2a (β = 0.046) was not validated: an altruistic personality profile is not associated with a negative attitude towards the consumption of non-green products. While this result is not what was expected, given that an altruistic person considers the common good and, therefore, the ecosystem, hypothesis H2b (β = 0.410 *) was validated, specifically demonstrating that the altruistic personality profile influences environmental awareness [10,19,22,49].

In accordance with previous findings [27,32], hypothesis H3a (β = 0.313 *) was validated, confirming that environmental commitment is associated with a negative attitude to non-green product consumption, and H3b (β = 0.123 *) was also validated, meaning that environmental commitment is associated with a positive attitude towards consuming green products. This demonstrates that customers with a higher environmental commitment are more likely to choose green products over environmentally harmful ones [27,32].

Hypothesis H4a was also confirmed (β = 0.462 *): the subjective norm for consuming a green product influences the green product search time. Hypothesis H4b, which posits that the subjective norm for consuming a green product influences the intention to purchase green products, was also validated (β = 0.317). These validations support previous studies [21,23,26] on how social and cultural pressure is growing regarding the search for and purchase of green products.

With regard to hypothesis H5a (β = 0.162 *), it was shown that a negative attitude towards polluting products is associated with a positive attitude towards consuming green products, and H5b (β = 0.153 *) was also validated—a negative attitude towards polluting products influences the intention to purchase green products [34]. This result is of great importance, given that consumers are comparing products, discarding those they consider harmful and polluting.

Hypothesis H6 (β = 0.343 *) was validated, indicating that the attitude towards consuming a green product influences the perceived behaviour control in relation to purchasing green products, suggesting that a more positive attitude towards green products leads to greater customer mastery of the purchasing process [2,26,32,33,35].

Hypothesis H7a (β = 0.296 *), which proposed that green product search time is associated with a positive attitude towards consuming green products, was supported. So too was hypothesis H7b (β = 0.398 *), which suggested that green product search time influences the intention to purchase green products. This result demonstrates the current trend of exhaustively evaluating product information, especially regarding its manufacturing, production, and environmental impact [8].

The two hypotheses about perceived behavioural control were both validated, confirming that, the more experience individuals have with respect to green products, the more positive their attitude will be and the more purchases they will make [2,26,32,33,35]. H8a (β = 0.154 *) proposed that perceived behaviour control influences the intention to purchase green products, and H8b (β = 0.290 *) that perceived behaviour control influences the purchase of green products, reinforcing the idea that the individual is the one who has control in decision-making and in the purchase of green products [2,18–25].

Hypothesis H9a (β = −0.063 *), which posits that the perception of greenwashing negatively influences the intention to purchase green products, and H9b (β = −0.085 *), which posits that the perception of greenwashing negatively influences the purchase of green products, were validated with respect to the negative attitude towards green products when the customer perceives its green attributes to be false [9,44].

Finally, hypothesis H10 (β = 0.445 *), according to which the intention to purchase green products influences the purchase of green products, was supported, demonstrating that attitude is a great predictor of the purchase of green products [2,26,32,33,35].

6. Conclusions

The objectives of this study were as follows: (1) to determine, based on previous empirical studies, the essential variables that affect the purchasing behaviour for green products, and (2) to examine the cause-and-effect relationships between the variables that drive the purchasing behaviour for green products.

The results of this study enabled the exploration of an empirical model that integrates different theories that—until now—have been examined separately, to understand the consumption of products referred to as "green".

The contributions of this study in the research field of green product consumption first reinforce the value–belief–norm theory regarding the way in which both consumer personality traits, such as environmental consciousness, altruistic personality, and collectivist tendencies, and a positive attitude towards green products, linked to social influence, influence the purchase of green products. With regard to the search for information about green products, our study confirms that consumers are concerned with seeking detailed information about green products in terms of ingredients, production, packaging, and the environmental impact of product use and disposal, and this information influences whether or not they are motivated to make a purchase.

The findings also confirm that the theory of planned behaviour is applicable to the process of purchasing green products, as this study shows that, in addition to the individual and environmental factors, perceived behaviour control is a driver of green product purchases.

Regarding cultural differences, gender, and other demographic characteristics, no differences were observed in this study, demonstrating that it is not possible to conclude that there are significant distinctions, and also that the purchase of green products is possibly a global trend.

Connected to the above, this study found that, if a consumer believes that a green product exhibits greenwashing, they will be discouraged from making a purchase. This finding underscores the importance for brands to properly manage their green products, always striving to meet green standards throughout the value chain.

This study has important practical and managerial implications for producers and traders. Selling a green product offers a range of significant benefits for a brand. First, this study has revealed that adopting a green approach can solidify the brand's leading position in its market. Additionally, the brand can leverage eco-conscious values and standards to attract consumers who value environmental awareness. Perceived behaviour control plays a pivotal role for green product buyers, providing companies with an opportunity to engage in information campaigns and co-creation in green product innovation.

Last but not least, the research highlights that consumers are sensitive to the authenticity of green products. If they perceive that a producer is engaging in "greenwashing", that is, promoting its products as more environmentally friendly than they truly are, this can deter them from making a purchase. This underscores the importance of brands properly managing their green products and adhering to environmental standards throughout the value chain. In summary, adopting and promoting green products can not only enhance a brand's image but also attract a diverse group of environmentally conscious consumers concerned with authenticity, potentially leading to increased sales and customer loyalty.

The key limitation of this research is that, despite the adoption of various variables from the literature review, not all the variables were included in the model. For instance, some personality variables were omitted. Second, this study considered green purchasing in general, rather than focusing on a specific green product or brand. Therefore, it is suggested that the model should be tested for a specific product to verify whether the same results are found as in this study.

Future studies should investigate the green product field, as this is expected to continue evolving rapidly. As a result, it is essential to keep studying the behavioural changes in consumers and in the products themselves that are labelled as "green". New variables, such as digital ones, should be added to these models [50,51]. Finally, the mediating effect of the variables that have the most weight within the behavioural purchase models that are adjusted to green products must be analysed in detail [52–55].

Author Contributions: Conceptualisation, E.J.D.O., J.A.S.-T., F.-J.A.-C., A.A.-I. and S.-M.P.-L.; methodology, E.J.D.O., J.A.S.-T., F.-J.A.-C., A.A.-I. and J.G.-L.F.; software, E.J.D.O. and J.G.-L.F.; validation, E.J.D.O., J.A.S.-T., F.-J.A.-C., A.A.-I. and S.-M.P.-L.; formal analysis, J.A.S.-T., F.-J.A.-C. and A.A.-I.; investigation, E.J.D.O., J.A.S.-T., F.-J.A.-C., A.A.-I., J.G.-L.F., S.-M.P.-L. and J.-P.A.-Z.; resources, E.J.D.O., J.A.S.-T., F.-J.A.-C., A.A.-I. and S.-M.P.-L.; data curation, J.A.S.-T., S.-M.P.-L. and J.-P.A.-Z.; writing—original draft preparation, J.A.S.-T., F.-J.A.-C., A.A.-I., S.-M.P.-L. and J.-P.A.-Z.; writing—review and editing, E.J.D.O., J.A.S.-T., F.-J.A.-C., A.A.-I., J.G.-L.F., S.-M.P.-L. and J.-P.A.-Z.; visualisation, J.A.S.-T., F.-J.A.-C., A.A.-I., S.-M.P.-L. and J.-P.A.-Z.; supervision, E.J.D.O., J.A.S.-T., F.-J.A.-C. and A.A.-I.; project administration, E.J.D.O., J.A.S.-T., F.-J.A.-C. and A.A.-I. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: Data is unavailable due to privacy or ethical restrictions.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A. Questionnaire

Item	Construct
AV1. I enjoy assisting strangers when they ask for help.	Altruistic personality [4]
AV2. I enjoy making charitable donations.	
AV3. I enjoy making monetary donations to strangers in need.	
BH1. In the past month, I've purchased several "green" products/services.	Purchase of green products [26]
BH2. I regularly purchase "green" products/services.	
BH3. On my last trip to the supermarket, I opted for 'green' products/services over non-green traditional brands.	
CV1. I enjoy working diligently towards achieving group objectives.	Collectivist personality [4]
CV2. I enjoy helping others regardless of the time devoted to it.	
CV3. I like to maintain very good relationships with others.	
EIA1. When I become aware of the potential environmental harm caused by a product or service, I refrain from purchasing it.	Negative attitude towards non-green products [28]
EIA2. I feel bad knowing about the animal, plant, and environmental harm caused by the manufacture of products or services.	
EIA3. I'm trying to persuade my friends and family not to purchase products or services that have a negative impact on the environment and the planet.	
GW1. I definitely think that green brands are only green on their labels.	Perception of greenwashing [33]
GW2. In general, green brands tend to exaggerate the information about their manufacturing processes and the final product.	
GW3. Most green brands in some way deceive their consumers.	

Item	Construct
IA1. I spend time researching information about products and brands before making a purchase.	Product search time [35]
IA2. I'd like to have a great deal of time to research information about products and brands before making a purchase.	
IA3. I would like to have a great deal of time to research information about products and brands before making a purchase.	
INT1. I'm considering purchasing products that are less harmful to the environment.	Intention to purchase green products
INT2. I'm considering purchasing brands that I identify as eco-friendly or green.	
INT3. In my future purchases of a product, I will try to seek the most "green" version (non-polluting, ecological, sustainable, recyclable, etc.).	
OK1. I feel a personal obligation to prevent environmental harm.	Environmental commitment [26]
OK2. I feel a moral obligation to use products that do not pollute.	
OK3. I feel a personal obligation to take care of the environment and the planet in everything I do daily.	
PB1. Green products/services have better quality than the rest.	Attitude towards green products [17]
PB2. I believe that green products/services are healthier than others.	
PB3. I think that green products/services have higher quality than the rest.	
PBC1. I try to gather good information about the products/services to have control over my choice during the purchasing process.	Perceived behaviour control [17]
PBC2. I try to maintain complete decision control throughout the purchasing process.	
PBC3. It's important to me to have my own influence over the outcome of my purchasing choice.	
SI1. People who are significant in my life, such as my family and friends, advise me to purchase 'green' products/services.	Subjective norm [17]
SI2. Other close acquaintances I know (such as colleagues or bosses) recommend that I purchase 'green' products/services.	
SI3. When my close friends recommend that I purchase "green" products/services, I do so.	

References

1. Fonseca, L.M.; Domingues, P.; Dima, A.M. Mapping the Sustainable Development Goals Relationships. *Sustainability* **2020**, *12*, 3359. [CrossRef]
2. Siddique, M.Z.R.; Saha, G.; Kasem, A.R. Estimating Green Purchase Behavior: An Empirical Study Using Integrated Behavior Model in Bangladesh. *J. Asia Bus. Stud.* **2021**, *15*, 319–344. [CrossRef]
3. Papadas, K.K.; Avlonitis, G.J.; Carrigan, M. Green Marketing Orientation: Conceptualization, Scale Development and Validation. *J. Bus Res.* **2017**, *80*, 236–246. [CrossRef]
4. Wang, L.; Wong, P.P.W.; Narayanan Alagas, E. Antecedents of Green Purchase Behaviour: An Examination of Altruism and Environmental Knowledge. *Int. J. Cult. Tour. Hosp. Res.* **2020**, *14*, 63–82. [CrossRef]
5. Gustria, A.; Fauzi, A. Analysis of High School Students' Environmental Attitude. *Proc. J. Phys. Conf. Ser.* **2019**, *1185*, 1–6. [CrossRef]
6. Sayan, B.; Kaya, H. Assessment of the Environmental Risk Perceptions and Environmental Attitudes of Nursing Students. *Contemp. Nurse* **2016**, *52*, 771–781. [CrossRef] [PubMed]
7. Muflihaini, M.A.; Ertando, A.; Suryadarma. How Is the Attitude of Students' Environmental Literacy through the Myth of Beringin (*Ficus* sp.) in Adiwiyata School? *Proc. J. Phys. Conf. Ser.* **2020**, *1440*, 012066. [CrossRef]
8. Nygaard, A.; Silkoset, R. Sustainable Development and Greenwashing: How Blockchain Technology Information Can Empower Green Consumers. *Bus. Strategy Environ.* **2023**, *32*, 3801–3813. [CrossRef]
9. Braga Junior, S.; Martínez, M.P.; Correa, C.M.; Moura-Leite, R.C.; Da Silva, D. Greenwashing Effect, Attitudes, and Beliefs in Green Consumption. *RAUSP Manag. J.* **2019**, *54*, 226–241. [CrossRef]
10. Sharma, K.; Aswal, C.; Paul, J. Factors Affecting Green Purchase Behavior: A Systematic Literature Review. *Bus. Strategy Environ.* **2023**, *32*, 2078–2092. [CrossRef]
11. Hair, J.F., Jr.; Hult, G.T.M.; Ringle, C.M.; Sarstedt, M. *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*, 3rd ed.; SAGE Publications, Inc.: Thousand Oaks, CA, USA, 2021.
12. Hair, J.F.; Risher, J.J.; Sarstedt, M.; Ringle, C.M. When to Use and How to Report the Results of PLS-SEM. *Eur. Bus. Rev.* **2019**, *31*, 2–24. [CrossRef]

13. Hair, J.F.; Howard, M.C.; Nitzl, C. Assessing Measurement Model Quality in PLS-SEM Using Confirmatory Composite Analysis. *J. Bus Res.* **2020**, *109*, 101–110. [CrossRef]
14. Fishbein, M.; Ajzen, I. *Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research*; Addison-Wesley: Reading, MA, USA, 1975; pp. 1–18.
15. Ajzen, I. The Theory of Planned Behavior. *Organ. Behav. Hum. Decis. Process.* **1991**, *50*, 179–2113. [CrossRef]
16. Ajzen, I. Nature and Operation of Attitudes. *Annu. Rev. Psychol.* **2001**, *52*, 27–58. [CrossRef]
17. Dilotsotlhe, N.; Duh, H.I. Drivers of Middle-Class Consumers' Green Appliance Attitude and Purchase Behavior: A Multi-Theory Application. *Soc. Mar. Q.* **2021**, *27*, 150–171. [CrossRef]
18. Vu, D.M.; Ha, N.T.; Ngo, T.V.N.; Pham, H.T.; Duong, C.D. Environmental Corporate Social Responsibility Initiatives and Green Purchase Intention: An Application of the Extended Theory of Planned Behavior. *Soc. Responsib. J.* **2021**, *18*, 1627–1645. [CrossRef]
19. Liao, Y.K.; Wu, W.Y.; Pham, T.T.; Sengheang, H. Influence of Environmental Concerns and Moral Obligation on Purchase Intention: Evidence from Cambodia. *Asian J. Bus. Res.* **2021**, *11*, 63–82. [CrossRef]
20. Pan, S.L.; Chou, J.; Morrison, A.M.; Huang, W.S.; Lin, M.C. Will the Future Be Greener? The Environmental Behavioral Intentions of University Tourism Students. *Sustainability* **2018**, *10*, 634. [CrossRef]
21. Yeap, J.A.L.; Ooi, S.K.; Ara, H.; Said, M.F. Have Coffee/Tea, Will Travel: Assessing the Inclination towards Sustainable Coffee and Tea Tourism among the Green Generations. *Int. J. Cult. Tour. Hosp. Res.* **2021**, *15*, 384–398. [CrossRef]
22. Shanmugam, A.; Saththsivam, G.; Chyi, Y.S.; Sin, T.S.; Musa, R. Factors Influence Green Product Consumption Intention in Malaysia: A Structural Approach. *WSEAS Trans. Bus. Econ.* **2022**, *19*, 666–675. [CrossRef]
23. Bergamaschi, O.B.N.; Ferraz, S.B.; Martins, R.M. "Young, Wild and Green?" Analyzing the Influence of Environmental affect on Young Consumers' Intention to Purchase Green Products. *Rev. Bras. Mark.* **2022**, *21*, 232–291. [CrossRef]
24. Wang, L. Determinants of Consumers Purchase Attitude and Intention Toward Green Hotel Selection. *J. China Tour. Res.* **2022**, *18*, 203–222. [CrossRef]
25. Nam, C.; Dong, H.; Lee, Y.A. Factors Influencing Consumers' Purchase Intention of Green Sportswear. *Fash. Text.* **2017**, *4*, 1–17. [CrossRef]
26. Channa, N.A.; Tariq, B.; Samo, A.H.; Ghumro, N.H.; Qureshi, N.A. Predicting Consumers' Intentions to Purchase Eco-Friendly Athletic Wear in a Moderated Model of Individual Green Values and Gender. *Int. J. Sport. Mark. Spons.* **2022**, *23*, 410–436. [CrossRef]
27. Elsantil, Y. Antecedents of Green Purchasing Behavior in the Arabic Gulf. *Soc. Mar. Q.* **2021**, *27*, 133–149. [CrossRef]
28. Lu, L.C.; Chang, H.H.; Chang, A. Consumer Personality and Green Buying Intention: The Mediate Role of Consumer Ethical Beliefs. *J. Bus. Ethics* **2015**, *127*, 205–219. [CrossRef]
29. Tan, L.L.; Abd Aziz, N.; Ngah, A.H. Examining Green Hotel Patronage Intention from the Perspective of Behavioural Reasoning Theory. *Int. J. Bus. Soc.* **2021**, *22*, 901–921. [CrossRef]
30. Ho, J.L.; Chen, K.Y.; Wang, L.H.; Yeh, S.S.; Huan, T.C. Exploring the Impact of Social Media Platform Image on Hotel Customers' Visit Intention. *Int. J. Contemp. Hosp. Manag.* **2022**, *34*, 4206–4226. [CrossRef]
31. Wang, L.; Wong, P.P.W. Marketing of Environmentally Friendly Hotels in China through Religious Segmentation: A Theory of Planned Behaviour Approach. *Tour. Rev.* **2021**, *76*, 1164–1180. [CrossRef]
32. Latip, M.S.A.; Newaz, F.T.; Mohamad, M.A.; Tumin, S.A.; Rahman, N.F.A.; Noh, I. The Moderating Effect of Food Safety Knowledge on Organic Food Purchase Intention in a New Normal. *Pertanika J. Soc. Sci. Humanit.* **2021**, *29*, 2281–2299. [CrossRef]
33. Chen, S.C.; Hung, C.W. Elucidating the Factors Influencing the Acceptance of Green Products: An Extension of Theory of Planned Behavior. *Technol. Soc. Change* **2016**, *112*, 155–163. [CrossRef]
34. Situmorang, T.P.; Indriani, F.; Simatupang, R.A.; Soesanto, H. Brand Positioning and Repurchase Intention: The Effect of Attitude Toward Green Brand. *J. Asian Financ. Econ. Bus.* **2021**, *8*, 491–499. [CrossRef]
35. Salam, M.T.; Smith, K.T.; Mehboob, F. Purchase Intention for Green Brands among Pakistani Millennials. *Soc. Responsib. J.* **2022**, *18*, 469–483. [CrossRef]
36. Joshi, Y.; Rahman, Z. Factors Affecting Green Purchase Behaviour and Future Research Directions. *Int. Strateg. Manag. Rev.* **2015**, *3*, 128–143. [CrossRef]
37. Ajzen, I. The Theory of Planned Behaviour: Reactions and Reflections. *Psychol. Health* **2011**, *26*, 1113–1127. [CrossRef] [PubMed]
38. Larson, R.B.; Kinsey, J. Culture and Sampling Issues with "Green" Attitude Research. *Soc. Mar. Q.* **2019**, *25*, 91–106. [CrossRef]
39. Ferraz, S.B.; Buhamra, C.; Laroche, M.; Veloso, A.R. Green Products: A Cross-Cultural Study of Attitude, Intention and Purchase Behavior. *Rev. Adm. Mackenzie* **2017**, *18*, 12–38. [CrossRef]
40. Božić, L. Attitudes towards Climate Change and Electric Car Purchase—The Case of European Consumers. *Mark. Trz.* **2021**, *33*, 81–94. [CrossRef]
41. Flores-Rueda, I.C.; Sánchez-Macías, A.; López-Celis, D.M.; Peñalosa-Otero, M.E. Actitudes Proambientales En Segmentos de Consumidores Mexicanos y Colombianos. *Rev. Venez. Gerenc.* **2022**, *27*, 1058–1077. [CrossRef]
42. Altinbasak-Farina, I.; Guleryuz-Turkel, G. *Profiling Green Consumers in an Emerging Country Context*; Springer: Singapore, 2019; ISBN 9789811379246.
43. Hair, J.F.; Ringle, C.M.; Sarstedt, M. Partial Least Squares Structural Equation Modeling: Rigorous Applications, Better Results and Higher Acceptance. *Long Range Plan.* **2013**, *46*, 1–12. [CrossRef]

44. Sarstedt, M.; Ringle, C.M.; Cheah, J.H.; Ting, H.; Moisescu, O.I.; Radomir, L. Structural Model Robustness Checks in PLS-SEM. *Tourism Economics.* **2020**, *26*, 531–554. [CrossRef]
45. Sarstedt, M.; Hair, J.F., Jr.; Ringle, C.M. "PLS-SEM: Indeed a Silver Bullet"—Retrospective Observations and Recent Advances. *J. Mark. Theory Pract.* **2022**, *31*, 261–275. [CrossRef]
46. Henseler, J.; Chin, W. A Comparison of Approaches for the Analysis of Interaction Effects between Latent Variables Using Partial Least Squares Path Modeling. *Struct. Equ. Model.* **2010**, *17*, 82–109. [CrossRef]
47. Henseler, J.; Ringle, C.M.; Sarstedt, M. Testing Measurement Invariance of Composites Using Partial Least Squares. *Int. Mark. Rev.* **2016**, *33*, 405–431. [CrossRef]
48. Henseler, J.; Ringle, C.M.; Sarstedt, M. A New Criterion for Assessing Discriminant Validity in Variance-Based Structural Equation Modeling. *J. Acad. Mark. Sci.* **2014**, *43*, 115–135. [CrossRef]
49. Wang, L.; Wang, Z.X.; Zhang, Q.; Jebbouri, A.; Wong, P.P.W. Consumers' Intention to Visit Green Hotels—A Goal-Framing Theory Perspective. *J. Sustain. Tour.* **2022**, *30*, 1837–1857. [CrossRef]
50. Palmieri, N.; Boccia, F.; Covino, D. Digital and Green Behaviour: An Exploratory Study on Italian Consumers. *Sustainability* **2024**, *16*, 3459. [CrossRef]
51. Mbokane, L.; Modley, L.A. Green Consumerism in Young Adults: Attitudes and Awareness in University Students in Johannesburg, South Africa. *Sustainability* **2024**, *16*, 1898. [CrossRef]
52. Islam, Q.; Ali Khan, S.M.F. Assessing Consumer Behavior in Sustainable Product Markets: A Structural Equation Modeling Approach with Partial Least Squares Analysis. *Sustainability* **2024**, *16*, 3400. [CrossRef]
53. Medici, M.; Di Noto, L.; Canavari, M. Role of Sustainability Attributes and Price in Determining Consumers' Fruit Perceived Value. *Int. J. Food Syst. Dyn.* **2021**, *12*, 314–326. [CrossRef]
54. Eid, R.; Agag, G.; Shehawy, Y.M. Understanding Guests' Intention to Visit Green Hotels. *J. Hosp. Tour. Res.* **2021**, *45*, 494–528. [CrossRef]
55. Arora, N.; Manchanda, P. Green Perceived Value and Intention to Purchase Sustainable Apparel among Gen Z: The Moderated Mediation of Attitudes. *J. Glob. Fash. Mark.* **2022**, *13*, 168–185. [CrossRef]