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*Corresponding author: Luan Trong Nguyen, Faculty of Business Administration, FPT Can Tho University, 600 Nguyen Van Cu Street, An Binh Ward, Ninh Kieu District, Can Tho City 94100, Vietnam E-mail: luannt73@fe.edu.vn

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MANAGEMENT | RESEARCH ARTICLE

Determinants of green consumer behavior: A case study from Vietnam

Luan Trong Nguyen¹*, Tri Huu Nguyen¹, Han Ngoc Nguyen¹, Loi Dai Nguyen¹, Dao Thi Thu Nguyen¹ and Linh Duy LE¹

Abstract: The rapid upward thrust of the economy has harmed the environment, which has been compounded by pollution. More and more people are becoming concerned about their surroundings and looking for strategies to mitigate their unfavorable consequences. This is seen in governments' and enterprises' determination to expand and produce environmentally friendly products, as well as raise demand for green products. The purpose of this research is to uncover characteristics influencing green consumption behavior in Vietnam and to determine the most powerful motivator that drives customers to buy green products. The quantitative technique was applied in this investigation, with 231 samples obtained via an online survey. To analyze and assess the acquired data, several methods such as Cronbach's Alpha, EFA, SEM, One-way ANOVA, and Independent Sample T-test were used using SPSS and Amos software. According to the findings, three elements, including Attitudes, Social Norms, and Environmental Concerns, have a beneficial effect on green consumption behavior in Vietnam, with environmental concerns playing a particularly important role. The latest findings offered meaningful data



Luan Trong Nguyen

ABOUT THE AUTHORS

Luan Trong Nguyen Lecturer, Faculty of Business Administration, FPT University, Vietnam. Tri Huu Nguyen is a student and a researcher, Faculty of Business Administration, FPT University, Vietnam. Han Ngoc Nguyen is a student and a researcher, Faculty of Business Administration, FPT University, Vietnam. Dao Thi Thu Nguyen is a student and a researcher, Faculty of Business Administration, FPT University, Vietnam. Loi Dai Nguyen is a student and a researcher, Faculty of Business Administration, FPT University, Vietnam. Linh Duy Le is a student and a researcher, Faculty of Business Administration, FPT University, Vietnam.

PUBLIC INTEREST STATEMENT

The environment has suffered because of the economy's rapid growth, and pollution has worsened. Therefore, solutions of the government and businesses for reducing negative impacts on the surrounding environment are increasingly interesting to people who consume eco-friendly products. The purpose of this research is to discover characteristics influencing green consumption behavior in Vietnam and to determine the most powerful motivator that drives customers to buy green products. According to data analysis, the findings showed that three elements, including attitudes, social norms, and environmental concerns, have a beneficial effect on green consumption behavior in Vietnam, with environmental concerns playing a significant role. The latest findings offered meaningful data about buyer purchasing characteristics, allowing businesses to expand green goods and devise marketing practices to get more customers to make use of them.





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about buyer purchasing characteristics, allowing businesses to expand green goods and devise marketing practices to get more customers to make use of them.

Subjects: Social Psychology; Consumer Psychology; Education - Social Sciences

Keywords: Green consumption; TPB; green products; marketing practices

JEL classification: A10; M10; F60; D20

1. Introduction

Pollution has become a widespread issue and a threat to people due to rapid industrialization and geometric growth rates, particularly in urban areas (Alina, 2018; Sulaymon et al., 2020). Most businesses and consumers around the world, in particular, face the challenge of conserving resources and protecting the environment, because consumer behavior is the root cause of many environmental issues (Naalchi Kashi, 2020). As consumers become more conscious of what they purchase and interested in how their consumption patterns affect the environment. Young consumers in India are aware of eco-friendly purchase options (Khare et al., 2020) and the adoption of green values affects their consumption habits (Babutsidze & Chai, 2018). A better understanding of the eco-friendliness of product use and disposal can help identify opportunities to reduce environmental impacts (Nittala & Moturu, 2021). Green consumption, on the other hand, is typically associated with environmentally responsible consumption, in which consumers consider the environmental impact of purchasing, using, and disposing of various products or using various green services (Moisander, 2007). In the former, the focus is on personal gain, on the other hand, green consumption benefits the environment, society and others (White et al., 2019). Prior research has centered on explaining the underlying beliefs, attitudes, and behavioral intentions toward environmentally friendly products in an effort to explain customer green purchase behavior (Vermeir & Verbeke, 2006; Wheale & Hinton, 2007). Most research adopted one of two main theoretical frameworks: the theory of reasoned action by Aizen & Fishbein(1980) or the theory of planned behavior by Ajzen (1985). The majority of research, however, were discovered to fall short in their attempts to explain green purchasing behavior using the theories of reasoned action and planned behavior, which are driven by attitude, subjective standards, and perceived behavioral control. As a result, it was discovered that there was a weaker correlation between the adoption of a pro-green attitude and the decision to make a purchase (Tan, 2011; Y. Joshi & Rahman, 2015). In order to close the "attitude-behavior gap" in the study of green consumer psychology, it is believed that the relevance of such behavioral measurements from the theory of reasoned action and theory of planned behavior is still debatable as to its unanimity of applicability in ecological behavior. The theory of reasoned action and the theory of planned behavior must be added by other cognitive factors in light of various cultural and local contexts for the study of green purchase behavior (Akehurst et al., 2012; Wei et al., 2018; Y. Joshi & Rahman, 2015). In light of the aforementioned arguments, a number of researchers have proposed incorporating additional cognitive factors, such as environmental concern, environmental knowledge, and perceived consumer effectiveness... with the measure of the environmental attitude of the aforementioned classical models in order to assess purchase behavior in the contemporary green consumer research (B. Kumar et al., 2017; Paul et al., 2016; Tan, 2011; Y. H. Kim et al., 2011).

Some prior research has primarily concentrated on the interpersonal level, evaluating demographic variables such as gender, age, education, and income (Chekima et al., 2016), as well as psychological factors and impact on green consumption (Liobikienė et al., 2016; Paul et al., 2016; Y. Joshi & Rahman, 2015). The research objectives include: 1) Identify the determinants of green consumer behavior; 2) Analyze the influence of factors on green consumption behavior; 3) Contributing a new source of knowledge to future researchers; 4) Taking advantage of the results of this study, it is possible to propose options to bring environmentally friendly products to consumers more effectively.

2. Literature review

2.1. Theoretical basis

2.1.1. Green consumption

Green consumption is used to refer to customers using environmentally friendly products but with different focuses and meanings (Furqan et al., 2010). Chan (2001) and Y. Joshi and Rahman (2015) indicate that green consumption is buying environmentally friendly products and avoiding products that are harmful to the environment. Consumers use services and products that meet their basic needs and provide a better quality of life without compromising the needs of future generations, minimizing the use of natural resources and hazardous substances as well as the generation of waste and pollutants. Green consumption shows responsibility for environmental protection by choosing environmentally friendly products, having a reasonable way of consuming and handling waste. Sisira Neti (2011) also gives a fairly comprehensive definition of green consumption with the view that this is a process through social behaviors such as buying biological foods, recycling, reusing, limiting overuse, and using a friendly transport system. In summary, green consumption is not only the purchase and use of environmentally friendly products, which do not affect human health and do not threaten the diversity of natural ecosystems, but also the decision by consumers to buy environmentally friendly products and recycled products.

2.1.2. Green products

Green products are defined as products that are environmentally friendly, use recyclable materials, decrease waste, energy usage, reduce packaging, use fewer toxic ingredients to reduce their impact on the environment and have a green life cycle. (Irawan & Darmayanti, 2012; Nimse et al., 2007; P. Kumar & Ghodeswar, 2015). Lassner and Schubert (2007), and Kamble (2007) argue that in order to protect and improve the environment, green products use production methods that are less harmful to the environment. Green products can have a more positive impact on the environment than other products that do not reduce negative impacts (Borin et al., 2011; Dangelico & Pontrandolfo, 2010). It has been proved that adopting green goods improves health, increases recycling, and diminishes harm to the environment. Moreover, according to these experts, customers eventually earn economic gains as a result of these benefits. For instance, environmental expenses and company waste disposal costs are decreased as a consequence of higher recyclability (Azevedo et al., 2011). In short, green products are products that are environmentally friendly and have the least negative impact on the environment during production and consumption.

2.1.3. Theory of reasoned action

To define the attitude-behavior relationship, the theory of reasoned action (TRA) has been used extensively in previous studies (Yii et al., 2020). According to Ajzen & Fishbein (1980), TRA can predict someone's intentions with the help of a few favorable ideas, and those beliefs in turn can influence how they feel about a conduct. A crucial element that influences behavioral intentions is individual attitude, which works in conjunction with subjective norms (Akunyili, 2010, May, 21-24; Kotchen & Reiling, 2000). In other ways, while fundamental and social elements are assumed to be relevant, rational action theory applies variables to specific actions of interest (Meng et al., 2020). When consumers are exposed to a specific behavior, they make rational decisions (Ibrahim et al., 2021). Previous studies have shown that attitude could be positively connected with "green" purchase intention (Jaiswal & Kant, 2018; Sreen et al., 2018). As a result, the attitude toward the activity and the subjective norm associated with the action under discussion are the key determinants of a person's purpose and behavior in this theory (Ajzen & Kruglanski, 2019). Besides, Davis et al. (1989) showed that the Theory of Reasoned Action clearly explained how the specifics of an individual's behavior and applied responses influence their acceptance or rejection of certain behaviors. The authors also believe that theory same as an action locator as the user's state when buying or choosing a specific product. Simply put, it explains why several consumers choose a particular product category.

2.1.4. Theory of planned behavior

Ajzen (1991) developed an extendable psychological thesis called the theory of planned behavior that was shown in the Figure 1. Many academics have emphasized the importance of including pro-social factors in the Theory of Planned Behavior model, which has been used successfully and widely in several studies to explain various aspects of the Theory of Planned Behavior. The theory applied to explain the association between several variables and the intention to purchase environmentally friendly goods is known as the theory of planned behavior. The extension of the Theory of Reasoned Action is the Theory of Planned Behavior (Schiffman & Lazar, 2010).

Sustainable education (Bauer et al., 2018), sustainable heritage tourism (Zhang et al., 2019), sustainable consumption (Yang et al., 2018), and energy efficiency (Ali et al., 2019) are examples of environmental behaviors. Likewise, Allen and Marquart-Pyatt (2018) indicate that many scientists and scholars used the Theory of Planned Behavior to identify and modify environmental behavior by identifying and modifying the factors that influence it. According to this theory, behaviors resulting from individual intentions are defined as a perceived description of a person's willingness to try or perform the behavior (Fishbein & Ajzen, 1977), which is influenced by three primary global indicators: subjective norm, attitude and perceived behavioral control.

In addition, the Theory of Planned Behavior was used in with other variables such as demographics, socioeconomic variables, the level of awareness of environmental concerns and the personal assessment of the environmental situation of Brazil that can be used as predictors of the e-waste recycling process (Echegaray & Hansstein, 2017; Yuriev et al., 2020). The theory of planned behavior is a robust model to explain consumer behavior toward green products, according to the meta-analysis results of Scalco et al. (2017).

2.1.5. Green consumer behavior theories

In recent decades, there has been a substantial shift in consumer behavior, with environmental and health awareness playing a major influence. When making decisions, consumers increasingly take conservation of the environment and future generations into account (Amberg, 2018). Using



sustainable, eco-friendly, eco-friendly products and avoiding those harmful to the environment and society is called "green consumption behavior" (Huang et al., 2014; Jaiswal & Kant, 2018).

"Green consumption" entails acting with social responsibility and social consciousness, using products that do not pollute or harm the environment, and using environmentally friendly products. It also means selecting recyclable products with high durability, high quality, and ecological labeling, avoiding excessive consumption, and decreasing resource and energy usage (He et al., 2016; Huttunen & Autio, 2010; Tripathi & Singh, 2016). The idea of environmental worry or ecological concern has been discussed in much research that has attempted to understand green behavior, such as K. Lee (2008) and Do Paço et al. (2013). In this study, "green consumption behavior" is defined as the selection and use of goods that are safe for both human health and the environment, limiting environmental pollution-causing waste, and ensuring human health.

2.2. Research hypothesis

2.2.1. Attitudes (AT)

In the current context, the more positive a consumer's attitude towards green consumption is, the more likely they are to buy and consume green products. According to Fishbein and Ajzen (1977); Hoyer and MacInnis (2003), attitude is described as when someone has an objective assessment of a particular situation, it can have a positive or negative meaning. Attitude is the tendency of individuals to support or loathe a particular idea, object, or behavior (J. Wang et al., 2021). A measure is necessary to make clearer the attitude of consumers, especially green customers. While emotions are created by our enjoyment of something, our observation of things creates awareness. But in fact, green customers' consumption attitudes were classified by other characteristics such as instrumental assessment (valuable or not) and empirical assessment (delightful or not) (Ajzen, 2008). For consumer attitudes toward green consumption, consumers do not necessarily intend to purchase and therefore perform actual purchasing behavior. According to the research of Li and Chen (2017), it was found that attitude is an internal factor affecting purchase intention for green products. A study in India also showed that attitudes toward sustainable shoppers also predict sustainable purchasing behavior (Y. Joshi & Rahman, 2017).

2.2.2. Social norms (SN)

Social norms are a way of evaluating and defining consumer behavior; these behaviors have standards and rules that are recognized by the community and society, but they are unaffected by or violate the law (Cialdini & Trost, 1998). People's green consumption is increasingly strongly influenced by typical social norms such as choosing green, clean and organic foods (Pliner & Mann, 2004), the buying habits of consumers (Homburg et al., 2010), the choice and evaluation of new products (R. Lee et al., 2009). For Chinese consumers in collectivist cultures, social norms are believed to have a powerful influence in determining consumer behavior and are one of the important concepts related to consumer behavior. social norms (Jin & Kang, 2010). Currently, the social norms about clean energy are being expanded and propagated in the community more and more by marketers and are being enthusiastically responded to by society (Schultz et al., 2007, 2018), at the same time these social norms are also an effective measure to condemn acts harmful to the environment (White et al., 2019). According to the research results of Peattie (2010), it is argued that green consumer research has been dominated by research from economics, emphasizing the role of attitudes, values and social norms.

2.2.3. Awareness (AW)

The term "green consumption behavior" refers to individuals or organizations choosing and using products that have little or no negative effects on the environment. According to Y. Kim and Choi (2005), ecologically friendly consumption practices inspire consumers to act in a way that benefits their local communities.

Several aspects influence green consumer behavior. Consumers rate green products based on satisfaction, performance, value, environmental advantages, and claims made on the packaging label (Nittala & Moturu, 2021). They can also concentrate on financial rewards, encouraging more frequent purchases and usage of green items (Gallagher & Muehlegger, 2011). In addition to these findings, supports such as working to improve literacy, spreading concerns, regulations and cultural practices will elevate consumers toward healthy post-purchase behavior. Nath et al. (2013) and Zhu et al. (2013) argue that it is not possible to change product usage habits and that the tendency to use greener products than conventional products can be certain. Reliable information on product performance will increase consumer perception of green product effectiveness and influence product use (Lin & Chang, 2012; Luchs et al., 2010). In addition, research by Lasuin and Ng (2014) indicates that environmental awareness and the self-image of environmentally friendly people are important factors for increasing green product consumption among young people in Sabah.

2.2.4. Environmental concerns (EC)

Environmental concerns are individuals who are always concerned about environmental issues and hold themselves, society, and future generations accountable for their actions in the use of natural resources. Environmental concerns tend to enhance an individual's emotional response to environmental problems (Ibnou Laaroussi et al., 2020). In this study, environmental concerns were included as an underlying factor that had a strong influence on pro-environmental behavior and provided outstanding support in understanding individuals' participation in environmentally responsible behavior (Cruz & Manata, 2020), measuring its effect on attitudes and social influence on environmental protection and resource conservation.

Environmental concern is an important and direct factor in promoting green consumption behaviors, explaining sustainable consumption behaviors (Felix et al., 2018; Hao et al., 2019; McDonald et al., 2015; Newton et al., 2015; Pagiaslis & Krontalis, 2014; Wei et al., 2018). Consumers now have a fresher view of green products or services and have behaviors that favor using them to protect the environment. Young et al. (2010) stated that the higher the level of environmental concern consumers have, the greater their ability to purchase green products and services. As a result, a new market for green products, green services have emerged and active consumers have made it even more important (Shabbir et al., 2020). The reason is that the active role of consumers is seen as a means to promote environmental protection (Cleveland & Bartikowski, 2018; Cleveland et al., 2005; Kardos et al., 2019). From these research results, consumers have a fresher view, which positively affects their intention to buy green products or services. And this is also a premise for green consumption behavior to develop.

H1: Attitudes has a significant impact on Green consumer behavior.

H2: Social Norms has a significant impact on Green consumer behavior.

H3: Awareness of green consumption behavior has a significant impact on Green consumer behavior.

H4: Environmental concerns has a significant impact on Green consumer behavior.

The research model of this study is illustrated in Figure 2. The independent variables include attitude (AT), social norms (SN), awareness (AW) and Environmental concerns (EC), which will affect the dependent variable (green consumer behavior).





3. Research methods and materials

3.1. Research design

The primary research design, in this case, will be a survey. In order to assess several variables and test numerous hypotheses, a survey uses a sample of many respondents who all reply to the same questions (Neuman & Robson, 2014). According to Babbie (2001), a survey is "the administration of questionnaires to a sample of respondents selected from a population".

The quantitative data-gathering method was employed in this research. According to Sekaran and Bougie (2016), this method gives fairly accurate evidence of respondents' opinions, so the survey was chosen as the main study design. Neuman and Robson (2014) also stated that this is a simple, cost-effective and suitable method at a given time. This method helps clarify the opinion of the surveyors about their green consumption behavior.

After creating the questionnaire, the researchers sent it to 10 sustainability experts for evaluation. With their approval, the survey questions were developed that collected accurate and reliable subject-relevant information for analysis in social research papers (Taherdoost, 2016). Google's form platform was used to create online questionnaires for quick and optimized surveying. Next, the data was coded and put it into SPSS and AMOS for analysis.

As shown in Tables 1 and 8, there are three main parts to our survey questionnaire. Part A gathers demographic data from respondents, such as gender, age, income, education, and occupation. Part B mentions factors that influence green consumer behavior (attitudes, social norms, awareness of green consumption behavior, environmental concerns), and Part C measures the dependent variable. Parts B and C require respondents to reply to questions on a 5-point Likert scale (Zainudin et al., 2016), which is intended to evaluate target respondents' opinions of variables influencing their green consumer behavior. On a scale that runs from 1 to 5, 1 is "strongly disagree" and 5 is "strongly agree". The Likert scale is a basic and quite effective psychological measurement tool of respondents in social and educational studies (A. Joshi et al., 2015).

3.2. Sample

A representative sample was chosen to represent the population because it was too large to study. To manage a large amount of data, a sampling solution should be chosen (Nation, 1997).

The data was gathered from the survey in the third quarter of 2022 in Can Tho city, Vietnam. A simple random sampling method will be implemented in this study due to its simplicity while still

providing a sufficient basis for data analysis. According to Mathers et al. (2007), a survey based on a random sampling technique generates a sample that is typical of the specific community under research, thereby boosting external and internal validity, both of which were crucial in this study.

The survey was collected from 250 random people living in Can Tho city, Vietnam of different genders, ages, incomes, educations, and occupations. After removing the invalid votes, the remaining 231 votes were reliable for analysis.

3.3. Data analysis

SPSS 25.0 software was used for quantitative analysis in this research. SPSS 25.0 software clearly showed the statistical description of variables, synthesize data on the frequency, and their effect on the green consumer behavior of respondents. Besides, the Cronbach Alpha Test technique was used in this study to test the reliability of the factors with a cut-off point of 0.60. Moreover, in order to shorten the model, the technical analysis exploratory factor (EFA) technique reduced observed variables and eliminated unsuitable variables. Aiming to test the difference in mean values between the demographic variables, the researchers additionally use One-way ANOVA and Independent Sample T-test. In addition, Structural Equation Modeling (SEM) was the optimal way to estimate and examine the linear model between the factors observed in this study and other factors. From there the theories will be identified and advanced through the SEM model.

4. Results

4.1. Profile of respondents

The demographic information of the survey respondents is clearly shown in Table 1. A total of 231 people participated in the survey, including 39.0% males and 61.0% females. It shows that both males and females are interested in green consumption and have more green consumption habits than before. Furthermore, survey respondents between the ages of 18 and 23 accounted for 93.9% of the total, with incomes under \$3 million accounting for 83.1%, university degrees accounting for 89.6%, and college students accounting for 93.5%. Through the demographic survey, the majority

Table 1. Profiles of I	Respondents		
Demographic Availa	ble	Frequency	Percent
Gender	Male	90	39.0
	Female	141	61.0
Age	Under 18	3	1.3
	18-23	217	93.9
	23-28	11	4.8
Income	Under 3 million VND	192	83.1
	3–6 million VND	27	11.7
	Above 6 million VND	12	5.2
Academic Standard	High School	15	6.5
	Colleges	5	2.2
	University	207	89.6
	Postgraduate	4	1.7
Occupation	Student	3	1.3
	College student	216	93.5
	Teacher	3	1.3
	Worker	5	2.2
	Others	4	1.7

of survey respondents are young people with a high level of education. From there, the researchers can conclude the seriousness and reliability of this survey.

4.2. Cronbach's alpha

Cronbach's Alpha was used in this study to test the reliability of the factors affecting the green consumption of customers. Cronbach's Alpha coefficient is greater than or equal to 0.60, the adjusted Total Correlation value is greater than or equal to 0.3 (George & Mallery, 2003). In Table 2, Cronbach's Alpha values of all factors are greater than 0.8. The correlation coefficients of the total variables are all larger than 0.3, showing that these variables meet the requirements. The results show that all variables are satisfied and meet the requirements. Therefore, the factors in the study are reliable and keep further testing.

4.3. Exploratory factor analysis

To test the relationship between the variables in the group and the elimination of insignificant variables, the researchers continue to use Exploratory Factor Analysis (EFA). The Eigenvalue criterion is greater than 1 and the cumulative variance of 75.104% > 50%, of which 4 factors explain 75.104% of the data variation of 18 observed variables. The KMO coefficient of the study is 0.904 > 0.5, which is enough for factor analysis to be appropriate. Bartlett's test has statistical significance with a Sig level equal to 0.000 < 0.05, showing that the observed variables are

Table 2. The result of (Cronbach's alpha scale		
Code	Cronbach's Alpha	Mean	Standard Deviation (SD)
Attitude (AT)	0.897	4.52	
AT1	0.870	4.56	0.621
AT2	0.866	4.54	0.651
AT3	0.876	4.49	0.672
AT4	0.875	4.56	0.649
AT5	0.850	4.44	0.743
Social Norms (SN)	0.889	3.84	
SN1	0.917	4.44	0.794
SN2	0.857	3.68	0.948
SN3	0.849	3.58	1.026
SN4	0.858	3.71	0.985
SN5	0.859	3.75	1.025
SN6	0.863	3.85	0.925
Awareness (AW)	0.877	3.96	
AW1	0.899	3.89	0.897
AW2	0.834	3.93	0.867
AW3	0.837	4.05	0.840
AW4	0.824	3.87	0.863
AW5	0.851	4.05	0.798
Environmental Concerns (EC)	0.885	4.38	
EC1	0.870	4.29	0.732
EC2	0.875	4.23	0.771
EC3	0.866	4.33	0.773
EC4	0.850	4.50	0.659
EC5	0.870	4.43	0.693
EC6	0.861	4.50	0.672

correlated with the factor. The Factor loadings are greater than 0.5, showing factors of practical significance. The Composite Reliability (CR) of each face in this model scale is greater than 0.8 strengthening the feasibility of the study. The Average Variance Extracted (AVE) value of the variables to measure the convergence validity of the model, the values are all higher than the standard AVE ratio of 0.5. Since 4 factors satisfied the above conditions, the discriminant values are presented in Table 3 that were considered appropriate. After performing EFA analysis, the results obtained from the relationship between the observed variables ensure both convergent and discriminant values. Observable variables with the same properties converged on the same factor and distinguished from the observed variables of other factors. In other words, they will converge on the same column during the implementation of the rotation matrix.

4.4. Structural equation modeling (SEM)

Through the use of the SEM model, the relationship between the independent and dependent variables was showed more clearly. Table 4 and Figure 3 display the Chi-square/df value of 2.197, less than 3. Next, the Goodness of Fit Index (GFI) has a value of 0.843, it can be accepted because of higher than 0.8 (Baumgartner & Homburg, 1996; Doll et al., 1994). The result of the Comparative Fit Index (CFI) value is 0.934, larger than 0.9 and the Root Mean Square Error of Approximation (RMSEA) is 0.072, which is less than 0.08. After the data run, figures show that three out of four independent variables including Attitudes (AT), Social Norms (SN) and Environmental Concerns (EC) have Sig values less than 0.05. This finding demonstrates that the dependent variable (Green Consumer Behavior) is significantly impacted by the independent variables AT, SN and EC. Awareness (AW) is an independent variable that has a P value areater than 0.05, so it has an insignificant effect on the dependent variable. The arrow that affects the AW variable on the GC variable was removed. Additionally, environmental concerns (EC) significantly and positively affect green consumer behavior by 0.663 units (GC). It illustrates that enhancing someone's environmental concerns by one unit encourages green consumption by 0.663 units, a strong influence on the promotion of green product purchasing. Based on the analysis's findings, the R-squared value of the dependent variable GC is 0.716. Hence, the independent variables determined 0.716 or 71.6% of the variation of GC. The variability of GC is affected considerably by the three independent variables EC, AT, and SN. Finally, the hypotheses H1, H2, and H4 are accepted through the analysis and the theory of H3 that was set previously was rejected.

Table 3. Explorate	ory Factor Analysis			
Constructs	Items	Factor Loadings	CR	AVE
Attitude (AT)	5	0.736-0.837	0.900	0.64
Social Norms (SN)	5	0.753-0.865	0.917	0.69
Awareness (AW)	4	0.664-0.857	0.901	0.70
Environmental Concerns (EC)	4	0.752-0.822	0.887	0.66

Notes : CR = Composite Reliability; AVE = Average Variance Extracted.

Table 4. Results of the i	integrating model	
	Explanatory variables	Significant results
H1	Attitudes have an impact on the Green Consumer Behavior	P=0.007
H2	Social Norms have an impact on the Green Consumer Behavior	P=0.003
H4	Environmental Concerns have an impact on the Green Consumer Behavior	P=0.000

Notes: ***, p-value < 0.001. Significant at the 0.05 level

Figure 3. Direct and Indirect effects on the Green consumer behavior.

Notes: CMIN/DF =2.197, GFI=0.843 CFI=0.934 and RMSEA=0.072. ***p<0.001



4.5. Independent Sample T- Test

Analysis of factors affecting green consumption behavior between male and female survey subjects. The quantitative variable is a Green Consumer Behavior (GC) variable using a 5-level Likert scale, the qualitative variable includes two values: 1 is male, and 2 is female. The hypotheses that the researchers put forward to test the mean value between the quantitative variable and the group of values of the qualitative variable are as follows:

H01: There is no difference between males and females in green consumption behavior.

The T-test is used to test this hypothesis, the data from the test is shown in Table 5. The Sig value of Levene's Test is 0.319 greater than 0.05 so the variance between males and females is not different. The Sig Equal variances assumed continued to use. The Sig T-test value of the GC variable is 0.474 greater than 0.05, the conclusion is as followed: there is no statistically significant difference in green consumption behavior between respondents of different genders. Thereby, accept hypothesis H01 above. From the above T-test results, the researchers conclude that there is no statistically significant difference in difference in the value of green consumption behavior to the users whether male or female.

4.6. One-way ANOVA

With the One-way ANOVA test, the researchers check whether there is a difference in green consumption behavior between people with different income levels, the test results are shown in Table 6.

The Sig Levene Statistic index of the GC variable shown in Table 6 has a value of 0.062 greater than 0.05, so the variance between the choices of the above qualitative variable has no difference.

Since the Sig Levene Statistic index is greater than 0.05, the results of the ANOVA table were used to continue testing. The results are shown in Table 7, the Sig index of the GC variable has a value of 0.307 greater than 0.05, concluding that: there is no statistically significant difference in green consumption behavior for each other income level together.

95% Confid 95% Confid of the C 0f the C Lower 104 107		t-test for Equality of Means	Sig. Mean Std. Error 95% Confidence Interval (2-tailed) Difference Difference	Lower Upper	.474 .060 .083104 .224	.482 .060 .085107 .227
		Means	Std. Error Difference		.083	.085
Means Std. Error Difference .083 .083		for Equality of	Mean Difference		.060	.060
Cor Equality of Means Mean Std. Error Mean Std. Error Difference Difference .060 .083 .060 .083		t-test 1	Sig. (2-tailed)		.474	.482
t-test for Equality of Means t-test for Equality of Means Sig. Mean Std. Error Oifference Difference Difference .474 .060 .083 .482 .060 .085			df		229	178.584
t-test for Equality of Means t-test for Equality of Means df Sig. Mean Std. Error df (2-tailed) Difference Difference 229 .474 .060 .083 178.584 .482 .060 .085			t		.717	.704
t-test for Equality of Means t df Sig. Mean Std. Error 717 229 .474 .060 .083 .704 178.584 .482 .060 .085		: for Equality ances	Sig.		.319	
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es Test Test for Equality of Means Levene's Test for Equality of Means of Variances F Sig. t-test for Equality of Mean F Sig. tdf Sig. Mean Std. Error 996 .319 .717 229 .474 .060 .083	pendent Sample		1		Equal variances assumed	Equal variances not assumed
Pendent Samples Test Levene's Test for Equality of Means Levene's Test for Equality of Means of Variances t df Sig. Mean Std. Error F Sig. t df Sig. Mean Std. Error F Sig. t df Sig. Mean Std. Error Equal	Table 5. Inde				GC	

Table 6. Te	st of Homogeneity	of Variances			
		Levene Statistic	df1	df2	Sig.
GC	Based on Mean	2.818	2	228	.062
	Based on Median	.919	2	228	.400
	Based on Median and with adjusted df	.919	2	149.525	.401
	Based on trimmed mean	2.262	2	228	.107

Table 7. Anova	I				
GC	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.900	2	.450	1.188	.307
Within Groups	86.419	228	.379		
Total	87.320	230			

5. Discussion

Finding out the factors affecting green consumption behavior contributes a great deal to the environment, reduces the negative impact on the environment, and helps consumers better understand green products, thereby stimulating the demand to buy products, especially sustainable products and services, for the environment. According to the results of this study, attitudes, societal norms, and environmental concerns all influence buying green products. The remaining factors are affected by awareness, even though attention has an insignificant effect on green consumer behavior. The current study's findings have far-reaching theoretical and practical implications.

5.1. Theoretical contributions

The present study finds a wide range of factors that influence consumers' decisions to make green purchases. Additionally, because it is based on the findings of numerous earlier studies, it offers a comprehensive assessment of the extant literature. The other researchers may potentially suggest alternate models based on their discoveries, using the results of the current study as a base. Numerous factors influencing consumer green purchase behavior were identified through an extensive literature review. All of these factors were discovered to either encourage or discourage the purchase of green products.

The results show that Attitude is a factor affecting green consumption behavior. Consumers who have a positive attitude toward green products are more likely to purchase green products, which supports previous findings (Ruangkanjanases et al., 2020). According to the findings of Shaikh and Ur Rahman (2011), consumers have a negative attitude toward green goods. The current study demonstrates that consumers tend to support environmentally friendly products. This finding is completely consistent with previous work by Kautish et al. (2019), as well as Yadav and Pathak (2017). So, the results of the study on attitudes toward green products suggest that today's generation takes environmental sustainability seriously and believes they must protect the environment by avoiding ecologically harmful products while making purchases.

Environmental concern is an indispensable factor in green consumer behavior, consistent with the results of this study. According to the findings, consumer interest has a significant impact on their response to green products. It is hypothesized that environmental concerns impact green

Table 8. Questionne	aire survey						
Factors	Code	Items	L*	*2	۴*	*4	*5
Attitudes	AT1	I like the idea of green products.					
	AT2	I like consuming green products and sustainable products.					
	AT3	I'm very supportive of green consumer behaviors.					
	AT4	I support businesses dealing in green products.					
	ATS	I believe that using green products/ services is contributing to environmental protection.					
Social norms	SN1	The people around me have green consumer behavior.					
	SN2	The people around me discuss green consumption.					
	SN3	The people around me share with me articles about green consumer behavior.					
	SN4	The people around me encourage me to consume green products.					
							(Continued)

	*5							
	*4							
	*3							
	*2							
	1 *							
	Items	The people around me are all in favor of green consumption.	The people around me influence my green consumption decisions.	When I buy products, I try to consider how their use will affect the environment and other consumers.	I can protect the environment by buying green products.	These consumers can positively influence the environment and society by buying green products.	I believe that using green products/ services is essential because I make contributions to the environment.	Green products will not adversely affect the health of my family and me.
			1			1		

AW2

AW1

Awareness

AW3

AW4

AW5

Code

Factors

Table 8. (Continued)

SN5

SN6

(Continued)

10.1080/23311	1975.2023.219	7673	2025), 10. 2	197075	3 , C	oyent	. •
		*5 *					

Table 8. (Continued)							
Factors	Code	Items	*1	۲*	£*	7*	*5
Environmental concerns	ECI	Strong social development is also the cause of adverse effects on the environment.					
	EC2	The human can cause many negative effects on the environment.					
	EC3	The balance of the natural environment is complex and easy to lose.					
	EC4	Environmental pollution can be improved when we act together.					
	ECS	Protecting the environment is the duty and responsibility of everyone.					
	EC6	I am always ready to protect the environment when possible.					
					-	-	(Continued)

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Table 8. (Continue	•						
Factors	Code	Items	*1	*2	*3	*4	*5
Green consumer behavior	GC1	I often buy eco- friendly products/ services.					
	GC2	I often buy recyclable products.					
	GG	I trust organic products.					
	GC4	I give preference to using environmentally friendly means.					
	6C5	I use cloth bags or paper bags instead of plastic bags.					
*1: Strongly Disagree; *	2: Disagree; *3: Neutral;	; *4: Agree; *5: Strongly agree					

consumer behavior positively. This hypothesis was supported by the current study, which is similar to previous studies (Ahmed et al., 2020). Consumers who are more concerned about the environment and have relevant knowledge are more likely to purchase green products (Choi & Johnson, 2019; Varah et al., 2021). This explains that as consumer concerns grow, so will consumer concern about environmental consequences, resulting in a greater acceptance of green products. As a result, the government and businesses should offer a lot of relevant information about environmental issues to consumers.

The current study has demonstrated that social concerns have a significant effect on consumer behavior toward green products. Numerous studies, such as those by Eze and Ndubisi (2013) and Welsch and Kühling (2009), have found a positive relationship between subjective/social norms or reference groups and green purchasing behavior. The outcomes of this research have contributed to strengthening some previous studies by K. Lee (2014), Salazar et al. (2013), and Tsarenko et al. (2013). According to studies, close social actors such as peers and parents can be trusted sources for information about sustainable products. Research by Nittala and Moturu (2021) suggests that consumers are self-motivated. The encouragement of colleagues and parents is the motivation to encourage them to use green products. Therefore, the appropriate departments should improve the social norms of energy conservation and environmental protection since consumer behavior is susceptible to peer pressure and societal norms (S. T. Wang, 2014).

Awareness of green consumption behavior has no significant impact on green consumption behavior, which is shown by research data. Consumers' awareness of environmental issues is related to their acceptance and use of green products. According to research by Geller (1981) and Schahn and Holzer (1990), who argue there is no link between consumer perception and green consumption behavior. However, it contradicts the finding of Arti and Akansha (2013) that the health of children and family members as well as their perception of the benefits of environmentally friendly products are the main factors that have the most influence on the purchase decision. Although this factor does not have a direct impact on green consumption behavior, it has a strong impact on the other three factors in the study, such as consumer awareness, which affects consumer attitudes. Consumers perceive that when they use green products, it will help them protect the environment, and they will have a positive attitude when buying, consuming and promoting green products.

This research result is significant for the relationship between Attitudes, Social Norms, Environmental concerns and green consumer behavior. Although the data shows that the Awareness of green consumption behavior factor is excluded, it still indirectly affects the remaining factors and green consumption behavior. Various empirical studies on green consumption have tried to identify the factors influencing green behavior. Chan (2001) presented research results that share certain characteristics including environmental knowledge and attitude factors. The factors affecting the decision to adopt green consumption behaviors are explored in this study.

5.2. Practical significance

This study has several real-world applications. According to the study's findings, customers' attitudes toward going green, their concern about problems, and their impact on others through green consumption are key factors influencing whether or not they make green purchases. Businesses should incorporate attitude, environmental concern and social norms with green products into their long-term strategic planning if they want to increase consumers' green purchasing.

In terms of attitudes, businesses can use promotion or other methods to draw customers' attention to green products, provide them with more possibilities for hands-on learning, create a positive perception of the usefulness of green products, and foster a greater number of green attitudes. To increase consumer trust, businesses should improve the environmental benefits of green products, the environmental image of their companies, and offer green products that live up

to consumer expectations. Additionally, businesses can cultivate knowledgeable retailers to serve as efficient and dependable informational intermediaries. Salespeople will provide customers about the environmental benefits and environmental protection features of green products to build their trust and encourage them to make green purchases. Further, the government may influence people's attitudes about being green using social media and inform the general public about the advantages of buying green products through a variety of channels. The role of government in environmental protection is undeniable. To promote sustainable consumption practices by Malaysians, the Malaysian government has announced various strategies to encourage consumption practices and sustainable development. The Malaysian government has also chosen social advertising to educate and raise people's environmental awareness and concerns (Haron et al., 2005).

Findings reveal that one of the reasons why a consumer chooses to utilize environmentally friendly products is due to environmental concerns. The promotion of this tendency by policy-makers should include environmental education. The majority of consumers continue to be dubious of manufacturers' environmental claims and find it challenging to recognize green items. As a result, environmental education should provide buyers with how to recognize green products. A study on household energy consumption behavior in Sweden found that education significantly improved the energy use behavior of households there (Gyberg & Palm, 2009). A study on the garbage classification of urban residents shows that the transmission of classification information and propaganda and education activities of the government can effectively raise people's awareness about garbage classification. And influence their final behavioral choices (Kirakozian, 2016). Therefore, education on green consumption will not only raise public awareness and direct assessment of environmental issues but also create a green consumer society, thereby orienting individual behavior to protect the environment.

Policymakers should pay more attention to the influence of subjective norms. For instance, they may plan large-scale environmental preservation initiatives in a green way or utilize social media to spread standards promoting more eco-friendly shopping practices.

As the intermediate factors that influence green consumer behavior, marketers should formulate marketing strategies to improve consumers' awareness of green value.

6. Conclusion

The objective of this study is to examine the main factors influencing green consumption behavior. The sample size of this study is quite small, so the results are somewhat misleading. However, the survey sample is primarily made up of high-achieving Vietnamese students. This brings a lot of useful and reliable information on green consumption. The results indicate that three factors as Attitude, Social Norms, and Environmental Concerns all strongly influence the green consumption behavior of Vietnamese people. Although the awareness factor does not directly affect green consumption behavior, it has a close relationship with other factors. From there, it also contributes indirectly to green consumption behavior. At the same time, this helps us better understand customers' green consumption habits. In addition, the research results will guide the strategy for businesses that will capture and tap into people's psychology, as well as green consumption habits to build marketing and advertising strategies to attract people.

7. Limitations and recommendations

The use of data collection and processing methods, then applying 5 methods to data analysis. The study eliminated unqualified variables through Cronbach's Alpha test. Next, exploratory factor analysis (EFA) is applied to eliminate variable observations and reduce the model. Moreover, using the linear structural model or SEM (Structural Equation Modeling) reinforces the original model and directly examines the existing relationships between the concerns to prioritize resources to help serve customers better. In addition, the SEM model results show that the Awareness factor (AW) does not directly affect the green consumption behavior of the research

subjects. The GFI index in the SEM model has not reached the threshold (greater than 0.9) despite using the 2-way Covariances arrow in AMOS to connect the high Modification Indices (MI) errors in the same scale. This shows that the number of observed variables and the sample size is not large enough. After implementing the above methods, the researchers continue to use the ANOVA test (the income variable) and T-test (the variable Gender) to check whether these qualitative variables are statistically significant on the dependent variable GC (Green Consumer Behavior).

Besides the new findings, the study also has certain limitations. Firstly, this is a sample data collected with a relatively small number of 231 respondents and mainly university students in Can Tho city, Vietnam, so the coverage for all consumers is very small use is quite low. As a result, population representativeness is limited and does not accurately reflect the results of the study. Secondly, the survey subjects of this study are mainly students, which have not fully covered the qualifications and age of the surveyors, leading to the fairness of the results which may be affected and can only be expressed in one direction.

From the results of the study, there is a few proposals aimed at companies and businesses that intend to use green products to bring in revenue, as follows: Green consumption demand is increasing, and muscle The money-making association will also increase, so collect some information related to the environment and market segments to offer marketing strategies suitable to the needs of consumers at that time. Environmental awareness of consumers is increasing, they will pay their attention to brands, green consumer products safe for the environment, so it is necessary to ensure the production process must be guaranteed, do not pollute the surrounding environment; For any companies and businesses on the market, they are interested in sustainable and existing in the market, so they need to be aware of the green consumption sooner, thereby building continued channels green products should be promoted and distributed widely to consumers.

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Author details

Luan Trong Nguyen¹ E-mail: luannt73@fe.edu.vn ORCID ID: http://orcid.org/0000-0002-3489-1628 Tri Huu Nguyen¹ ORCID ID: http://orcid.org/0000-0002-6654-9755 Han Ngoc Nguyen¹ ORCID ID: http://orcid.org/0000-0002-7383-1345 Loi Dai Nguyen¹ ORCID ID: http://orcid.org/0000-0001-6333-6757 Dao Thi Thu Nguyen¹ ORCID ID: http://orcid.org/0000-0003-4231-8271 Linh Duy LE¹ ORCID ID: http://orcid.org/0000-0003-4231-8271 Linh Duy LE¹ ORCID ID: http://orcid.org/0000-0002-9180-3962 ¹ Faculty of Business Administration, FPT Can Tho University, Can Tho City, Vietnam.

Disclosure statement

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Author notes

First of all, let me congratulate the author on a very interesting study. Overall, this paper is well written and structured. The model seems to me nice and the results are quite good even if there some limitations that the author is aware about.

We are delighted to receive your positive comments, we will try harder to complete the article and the upcoming research papers

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References

- Ahmed, N., Li, C., Khan, A., Qalati, S. A., Naz, S., & Rana, F. (2020). Purchase intention toward organic food among young consumers using theory of planned behavior: Role of environmental concerns and environmental awareness. Journal of Environmental Planning and Management, 64(5), 796–822. https:// doi.org/10.1080/09640568.2020.1785404
- Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. *Action Control*. https://doi.org/10. 1007/978-3-642-69746-32
- Ajzen, I. (1991). The theory of planned behavior. Organizational Behavior and Human Decision Processes, 50(2), 179–211. https://doi.org/10.1016/ 0749-5978(91)90020-T
- Ajzen, I. (2008). Consumer attitudes and behavior. In C. P. Haugtvedt, P. M. Herr, & F. R. Cardes (Eds.), Handbook of consumer psychology (pp. 525–548). Lawrence Erlbaum Associates.
- Ajzen, I., & Fishbein, M. (1980). Understanding attitudes and predicting social behavior. Englewood Cliffs, N.J: Prentice-Hall.
- Ajzen, I., & Kruglanski, A. W. (2019). Reasoned action in the service of goal pursuit. *Psychological Review*, 126(5), 774–786. https://doi.org/10.1037/ rev0000155
- Akehurst, G., Afonso, C., & Gonçalves, H. M. (2012). Reexamining green purchase behaviour and the green consumer profile: New evidences. *Management Decision*, 50(5), 972–988. https://doi.org/10.1108/ 00251741211227726
- Akunyili, M. (2010, May, 21–24). Technology acceptance model and E-learning. In *Proceedings of the 12th*

International Conference on Education. Universiti Brunei Darussalam, Brunei Darussalam. (pp. 1–10). Alina, B. (2018). Pollution facts and types of pollution. Available from: https://www.livescience.com/22728pollution-facts.html

- Ali, S., Ullah, H., Akbar, M., Akhtar, W., & Zahid, H. (2019). Determinants of consumer intentions to purchase energy-saving household products in Pakistan. Sustainability, 11(5), 1462. https://doi.org/10.3390/ su11051462
- Allen, S., & Marquart-Pyatt, S. T. (2018). Workplace energy conservation at Michigan state university. International Journal of Sustainability in Higher Education, 19(1), 114–129. https://doi.org/10.1108/ IJSHE-07-2016-0124
- Amberg, N. (2018). Sustainability backround of producing and selecting cosmetics, with special precautions for product instruments. Zeszyty Naukowe Wyższej Szkoły Ekonomiczno-Społecznej w Ostrołęce, 31(4), 411–423. https://doi.org/10.58246/sjeconomics. v31i4.79
- Arti, K., & Akansha, K. (2013). Factors affecting green purchase behaviour: An in-depth study on Indian consumers. *Journal of Management Research*, 1(2), 15–41.
- Azevedo, S. G., Carvalho, H., & Cruz Machado, V. (2011). The influence of green practices on supply chain performance: A case study approach. *Transportation Research Part E: Logistics and Transportation Review*, 47(6), 850–871. https://doi.org/10.1016/J.TRE.2011.05.017
- Babbie, E. R. (2001). The practice of social research (9th ed.). Wadsworth/Thomson Learning.
- Babutsidze, Z., & Chai, A. (2018). Look at me saving the planet! The imitation of visible green behaviour and its impact on the climate action value gap. *Ecological Economics*, 146, 290–303. https://doi.org/10.1016/j. ecolecon.2017.10.017
- Bauer, D., Arnold, J., & Kremer, K. (2018). Consumptionintention formation in education for sustainable development: An adapted model based on the theory of planned behavior. Sustainability, 10(10), 3455. https://doi.org/10.3390/su10103455
- Baumgartner, H., & Homburg, C. (1996). Applications of structural equation modeling in marketing and consumer research: A review. International Journal of Research in Marketing, 13(2), 139–161. https://doi. org/10.1016/0167-8116(95)00038-0
- Borin, N., Cerf, D. C., & Krishnan, R. (2011). Consumer effects of environmental impact in product labeling. *Journal of Consumer Marketing*, 28(1), 76–86. https:// doi.org/10.1108/07363761111101976
- Chan, R. Y. (2001). Determinants of Chinese consumers' green purchase behavior. Psychology & Marketing, 18 (4), 389–413. https://doi.org/10.1002/mar.1013
- Chekima, B., Wafa, S. A. W. S. K., Igau, O. A., Chekima, S., & Sondoh, S. L., Jr. (2016). Examining green consumerism motivational drivers: Does premium price and demographics matter to green purchasing? *Journal* of Cleaner Production, 112, 3436–3450. https://doi. org/10.1016/j.jclepro.2015.09.102
- Choi, D., & Johnson, K. K. (2019). Influences of environmental and hedonic motivations on intention to purchase green products: An extension of the theory of planned behavior. Sustainable Production and Consumption, 18, 145–155. https://doi.org/10.1016/j. spc.2019.02.001
- Cialdini, R. B., & Trost, M. R. (1998). Social influence: Social norms, conformity and compliance. In *The handbook* of social psychology (4th ed., Vol. 1-2, pp. 151–192). New York, NY, USA: McGraw-Hill.

- Cleveland, M., & Bartikowski, B. (2018). Cultural and identity antecedents of market mavenism: Comparing Chinese at home and abroad. Journal of Business Research, 82, 354–363. https://doi.org/10. 1016/j.jbusres.2017.09.012
- Cleveland, M., Kalamas, M., & Laroche, M. (2005). Shades of green: Linking environmental locus of control and pro-environmental behaviors. *Journal of Consumer Marketing*, 22(4), 198–212. https://doi.org/10.1108/ 07363760510605317
- Cruz, S. M., & Manata, B. (2020). Measurement of environmental concern: A review and analysis. *Frontiers in Psychology*, 11, 363. https://doi.org/10.3389/fpsyg. 2020.00363
- Dangelico, R. M., & Pontrandolfo, P. (2010). From green product definitions and classifications to the green option matrix. *Journal of Cleaner Production*, 18(16– 17), 1608–1628. https://doi.org/10.1016/j.jclepro. 2010.07.007
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User Acceptance of computer technology: A comparison of two theoretical models. *Management Science*, 35 (8). https://doi.org/10.1287/mnsc.35.8.982
- Doll, W. J., Xia, W., & Torkzadeh, G. (1994). A confirmatory factor analysis of the end-user computing satisfaction instrument. *MIS Quarterly*, 18(4), 357–369. https://doi.org/10.2307/249524
- Do Paço, A., Alves, H., Shiel, C., & Filho, W. L. (2013). Development of a green consumer behaviour model. International Journal of Consumer Studies, 37(4), 414-421. https://doi.org/10.1111/ijcs.12009
- Echegaray, F., & Hansstein, F. V. (2017). Assessing the intention-behavior gap in electronic waste recycling: The case of Brazil. *Journal of Cleaner Production*, 142, 180–190. https://doi.org/10.1016/j.jclepro.2016.05. 064
- Eze, U. C., & Ndubisi, N. O. (2013). Green buyer behavior: Evidence from Asia Consumers. *Journal of Asian and African Studies*, 48(4), 413–426. https://doi.org/10. 1177/0021909613493602
- Felix, R., Hinsch, C., Rauschnabel, P. A., & Schlegelmilch, B. B. (2018). Religiousness and environmental concern: A multilevel and multi-country analysis of the role of life satisfaction and indulgence. *Journal of Business Research*, 91, 304–312. https://doi.org/10.1016/j.jbusres.2018.06. 017
- Fishbein, M., & Ajzen, I. (1977). Belief, attitude, intention, and behavior: An introduction to theory and research. *Philosophy and Rhetoric*, 10(2), 130–132.
- Furqan, A., Som, A. P. M., & Hussin, R. (2010). Promoting green tourism for future sustainability. *Theoretical* and Empirical Researches in Urban Management, 5 (17), 64–74.
- Gallagher, K. S., & Muehlegger, E. (2011). Giving green to get green? Incentives and consumer adoption of hybrid vehicle technology. Journal of Environmental Economics and Management, 61(1), 1–15. https://doi. org/10.1016/j.jeem.2010.05.004
- Geller, E. S. (1981). Evaluating energy conservation programs: Is verbal report enough? The Journal of Consumer Research, 8, 331–335. https://doi.org/10. 1086/208872
- George, D., & Mallery, P. (2003). Using SPSS for windows step by step: A simple guide and reference (4th ed.). Pearson Education.
- Gyberg, P., & Palm, J. (2009). Influencing households' energy behaviour—how is this done and on what premises? *Energy Policy*, 37(7), 2807–2813. https:// doi.org/10.1016/j.enpol.2009.03.043

- Hao, Y., Liu, H., Chen, H., Sha, Y., Ji, H., & Fan, J. (2019). What affect consumers' willingness to pay for green packaging? Evidence from China. *Resources Conservation and Recycling*, 141, 21–29. https://doi. org/10.1016/j.resconrec.2018.10.001
- Haron, S. A., Paim, L., & Yahaya, N. (2005). Towards sustainable consumption: An examination of environmental knowledge among Malaysians. *International Journal of Consumer Studies*, 29(5), 426–436. https:// doi.org/10.1111/j.1470-6431.2005.00460.x
- He, A. Z., Cai, T., Deng, T. X., & Li, X. (2016). Factors affecting non-green consumer behaviour: An exploratory study among C hinese consumers. International Journal of Consumer Studies, 40(3), 345–356. https://doi.org/10.1111/ijcs.12261
- Homburg, C., Wieseke, J., & Kuehnl, C. (2010). Social influence on salespeople's adoption of sales technology: A multilevel analysis. *Journal of the Academy* of Marketing Science, 38(2), 159–168. https://doi.org/ 10.1007/s11747-009-0157-x
- Hoyer, W. D., & MacInnis, D. J. (2003). Consumer behavior. Houghton Mifflin.
- Huang, H. C., Lin, T. H., Lai, M. C., & Lin, T. L. (2014). Environmental consciousness and green customer behavior: An examination of motivation crowding effect. International Journal of Hospitality Management, 40, 139–149. https://doi.org/10.1016/j. ijhm.2014.04.006
- Huttunen, K., & Autio, M. (2010). Consumer ethoses in Finnish consumer life stories–agrarianism, economism and green consumerism. *International Journal* of Consumer Studies, 34(2), 146–152. https://doi.org/ 10.1111/j.1470-6431.2009.00835.x
- Ibnou Laaroussi, S., Rjoub, H., & Wong, W. K. (2020). Sustainability of green tourism among international tourists and its influence on the achievement of green environment: Evidence from North Cyprus. Sustainability, 12(14), 5698. https://doi.org/10.3390/ su12145698
- Ibrahim, H., Mariapan, M., Lin, E. L. A., & Bidin, S. (2021). Environmental concern, attitude and intention in understanding student's anti-littering behavior using structural equation modeling. *Sustainability*, 13(8), 4301. https://doi.org/10.3390/su13084301
- Irawan, R., & Darmayanti, D. (2012, April). The influence factors of green purchasing behavior: A study of university students in Jakarta. In *Proc. 6th Asian Business Research Conference*, School of Marketing, Bina Nusantara University–International, JI, 40, (pp. 40–52).
- Jaiswal, D., & Kant, R. (2018). Green purchasing behaviour: A conceptual framework and empirical investigation of Indian consumers. *Journal of Retailing and Consumer Services*, 41, 60–69. https://doi.org/10. 1016/j.jretconser.2017.11.008
- Jin, B., & Kang, J. H. (2010). Face or subjective norm? Chinese college students' purchase behaviors toward foreign brand jeans. Clothing and Textiles Research Journal, 28(3), 218–233. https://doi.org/10.1177/ 0887302X09353083
- Joshi, A., Kale, S., Chandel, S., & Pall, D. K. (2015). Scale like. rt. *Explored and Explained*. British Journal of Applied Science & Technology, 7(4), 396–403. https:// doi.org/10.9734/BJAST/2015/14975
- Joshi, Y., & Rahman, Z. (2015). Factors affecting green purchase behaviour and future research directions. International Strategic Management Review, 3(1–2), 128–143. https://doi.org/10.1016/j.ism.2015.04.001
- Joshi, Y., & Rahman, Z. (2017). Investigating the determinants of consumers' sustainable purchase

behaviour. Sustainable Production and Consumption, 10, 110–120. https://doi.org/10.1016/j.spc.2017.02. 002

- Kamble, V. (2007). Incandescent bulbs; a burnt out case? Dream, 2047(9), 9.
- Kardos, M., Gabor, M. R., & Cristache, N. (2019). Green marketing's roles in sustainability and ecopreneurship. Case study: Green packaging's impact on Romanian young consumers' environmental responsibility. Sustainability, 11(3), 873. https://doi.org/10. 3390/su11030873
- Kautish, P., Paul, J., & Sharma, R. (2019). The moderating influence of environmental consciousness and recycling intentions on green purchase behavior. *Journal* of Cleaner Production, 228, 1425–1436. https://doi. org/10.1016/j.jclepro.2019.04.389
- Khare, A., Sadachar, A., & Manchiraju, S. (2020). Investigating the role of knowledge, materialism, product availability, and involvement in predicting the organic clothing purchase behavior of consumers in the Indian market. *Journal of International Consumer Marketing*, 32(3), 228–242. https://doi.org/ 10.1080/08961530.2019.1695239
- Kim, Y., & Choi, S. M. (2005). Antecedents of green purchase behavior: An examination of collectivism, environmental concern, and PCE. ACR North American Advances.
- Kim, Y. H., Do Jo, G., Oh, J. H., Jung, J. H., Kim, J. H., Yu, C., & Lee, K. (2011, January). An efficient simplified behavioral model for RF power amplifiers. In 2011 IEEE Topical Conference on Power Amplifiers for Wireless and Radio Applications. Phoenix, AZ, USA: IEEE. (pp. 65–68).
- Kirakozian, A. (2016). The determinants of household recycling: Social influence, public policies and environmental preferences. *Applied Economics*, 48(16), 1481–1503. https://doi.org/10.1080/00036846.2015. 1102843
- Kotchen, M. J., & Reiling, S. D. (2000). Environmental attitudes, motivations, and contingent valuation of nonuse values: A case study involving endangered species. *Ecological Economics*, 32(1), 93–107. https:// doi.org/10.1016/S0921-8009(99)00069-5
- Kumar, P., & Ghodeswar, B. M. (2015). Factors affecting consumers' green product purchase decisions. *Marketing Intelligence & Planning*, 33(3), 330–347. https://doi.org/10.1108/MIP-03-2014-0068
- Kumar, B., Manrai, A. K., & Manrai, L. A. (2017). Purchasing behaviour for environmentally sustainable products: A conceptual framework and empirical study. *Journal* of Retailing and Consumer Services, 34, 1–9. https:// doi.org/10.1016/j.jretconser.2016.09.004
- Lassner, E., & Schubert, W. D. (2007). Tungsten is still very much an element of lighting. ITIA Newslette.
- Lasuin, C. A., & Ng, Y. C. (2014). Factors influencing green purchase intention among university students. Malaysian Journal of Business and Economics (MJBE), 1(2), 1–14.
- Lee, K. (2008). Opportunities for green marketing: Young consumers. Marketing Intelligence & Planning, 26(6), 573–586. https://doi.org/10.1108/02634500810902839
- Lee, K. (2014). Predictors of sustainable consumption among young educated consumers in Hong Kong. Journal of International Con Sumer Marketing, 26(3), 217–238. https://doi.org/10.1080/08961530.2014. 900249
- Lee, R., Murphy, J., & Neale, L. (2009). The interactions of consumption characteristics on social norms. Journal of Consumer Marketing, 26(4), 277–285. https://doi. org/10.1108/07363760910965873

* cogent - business & management

- Li, Y. Y., & Chen, K. (2017). Factors influencing consumers' green purchase intention—an exploratory study based on grounded theory. *Business Economics*, 5, 72–78.
- Lin, Y. C., & Chang, C. C. A. (2012). Double standard: The role of environmental consciousness in green product usage. *Journal of Marketing*, 76(5), 125–134. https://doi.org/10.1509/jm.11.0264
- Liobikienė, G., Mandravickaitė, J., & Bernatonienė, J. (2016). Theory of planned behavior approach to understand the green purchasing behavior in the EU: A cross-cultural study. *Ecological Economics*, 125, 38–46. https://doi.org/10.1016/j.ecolecon.2016.02. 008
- Luchs, M. G., Naylor, R. W., Irwin, J. R., & Raghunathan, R. (2010). The sustainability liability: Potential negative effects of ethicality on product preference. *Journal of Marketing*, 74(5), 18–31. https://doi.org/10.1509/ jmkq.74.5.018
- Mathers, N., Fox, N., & Hunn, A. (2007). Surveys and Questionnaires. The NIHR RDS for the East Midlands/ Yorkshire & the Humber. Available from: https://www. academia.edu/22574561/Sampling_and_Sample_ Size_Calculation_The_NIHR_Research_Design_ Service_for_Yorkshire_and_the_Humber
- McDonald, S., Oates, C. J., Thyne, M., Timmis, A. J., & Carlile, C. (2015). Flying in the face of environmental concern: Why green consumers continue to fly. *Journal of Marketing Management*, 31(13–14), 1503–1528. https://doi.org/10.1080/0267257X.2015. 1059352
- Meng, B., Chua, B., Ryu, B., & Han, H. (2020). Volunteer tourism (VT) traveler behavior: Merging norm activation model and theory of planned behavior. *Journal* of Sustainable Tourism, 28(12), 1947–1969. https:// doi.org/10.1080/09669582.2020.1778010
- Moisander, J. (2007). Motivational complexity of green consumerism. International Journal of Consumer Studies, 31(4), 404–409. https://doi.org/10.1111/j. 1470-6431.2007.00586.x
- Naalchi Kashi, A. (2020). Green purchase intention: A conceptual model of factors influencing green purchase of Iranian consumers. *Journal of Islamic Marketing*, 11(6), 1389–1403. https://doi.org/10.1108/ JIMA-06-2019-0120
- Nath, V., Kumar, R., Agrawal, R., Gautam, A., & Sharma, V. (2013). Consumer adoption of green products: Modeling the enablers. *Global Business Review*, 14(3), 453–470. https://doi.org/10.1177/ 0972150913496864
- Nation, J. R. (1997). Research methods. Prentice Hall. Neuman, W. L., & Robson, K. (2014). Basics of social research. Pearson Canada.
- Newton, J. D., Tsarenko, Y., Ferraro, C., & Sands, S. (2015). Environmental concern and environmental purchase intentions: The mediating role of learning strategy. *Journal of Business Research, 68*(9), 1974–1981. https://doi.org/10.1016/j.jbusres.2015.01.007
- Nimse, P., Vijayan, A., Kumar, A., & Varadarajan, C. (2007). A review of green product databases. *Environmental Progress*, 26(2), 131–137. https://doi.org/10.1002/ep. 10210
- Nittala, R., & Moturu, V. R. (2021). Role of pro-environmental post-purchase behaviour in green consumer behaviour. Vilakshan - XIMB Journal of Management, 20(1), 82–97. https://doi.org/10.1108/ xjm-03-2021-0074
- Pagiaslis, A., & Krontalis, A. K. (2014). Green consumption behavior antecedents: Environmental concern, knowledge, and beliefs. *Psychology & Marketing*, 31 (5), 335–348. https://doi.org/10.1002/mar.20698

- Paul, J., Modi, A., & Patel, J. (2016). Predicting green product consumption using theory of planned behavior and reasoned action. Journal of Retailing and Consumer Services, 29, 123–134. https://doi.org/10. 1016/j.jretconser.2015.11.006
- Peattie, K. (2010). Green consumption: Behavior and norms. Annual Review of Environment and Resources, 35(1), 195–228. https://doi.org/10.1146/annurevenviron-032609-094328
- Pliner, P., & Mann, N. (2004). Influence of social norms and palatability on amount consumed and food choice. Appetite, 42(2), 227–237. https://doi.org/10. 1016/j.appet.2003.12.001
- Ruangkanjanases, A., You, J. J., Chien, S. W., Ma, Y., Chen, S. C., & Chao, L. C. (2020). Elucidating the effect of antecedents on consumers' green purchase intention: An extension of the theory of planned behavior. Frontiers in Psychology, 11, 1433. https:// doi.org/10.3389/fpsyg.2020.01433
- Salazar, H. A., Oerlemans, L., & van Stroe Biezen, S. (2013).
 Social influence on sustainable consumption: Evidence from a behavioural experiment. International Journal of Consumer Studies, 37(2), 172–180. https://doi.org/10.1111/j.1470-6431.2012. 01110.x
- Scalco, A., Noventa, S., Sartori, R., & Ceschi, A. (2017). Predicting organic food consumption: A meta-analytic structural equation model based on the theory of planned behavior. Appetite, 112, 235–248. https://doi.org/10.1016/j.appet.2017.02.007
- Schahn, J., & Holzer, E. (1990). Studies of individual environmental concern: The role of knowledge, gender and background variables. *Environment and Behavior*, 22(6), 767–786. https://doi.org/10.1177/ 0013916590226003
- Schiffman, L. G., & Lazar, K. L. (2010). Consumer behavior (10th ed.). Consumer Innovativeness.
- Schultz, P. W., Nolan, J. M., Cialdini, R. B., Goldstein, N. J., & Griskevicius, V. (2007). The constructive, destructive, and reconstructive power of social norms. *Psychological Science*, 18(5), 429–434. https://doi.org/ 10.1111/j.1467-9280.2007.01917.x
- Schultz, P. W., Nolan, J. M., Cialdini, R. B., Goldstein, N. J., & Griskevicius, V. (2018). The constructive, destructive, and reconstructive power of social norms: Reprise. *Perspectives on Psychological Science*, 13(2), 249–254. https://doi.org/10.1177/1745691617693325
- Sekaran, U., & Bougie, R. (2016). Research methods for business: A skill building approach. john wiley & sons.
- Shabbir, M. S., Bait Ali Sulaiman, M. A., Hasan Al-Kumaim, N., Mahmood, A., & Abbas, M. (2020). Green marketing approaches and their impact on consumer behavior towards the environment—a study from the UAE. Sustainability, 12(21), 8977. https://doi.org/ 10.3390/su12218977
- Shaikh, A. S., & Ur Rahman, M. (2011). Consumer perceptions of green products: A survey of Karachi. JISR Management and Social Sciences & Economics, 9(2), 15–29. https://doi.org/10.31384/jisrmsse/2011.09.2.2
- Sisira Neti, S. (2011). Social media and its role in marketing. [Ebook] International Journal of Enterprise Computing and Business Systems, 1(2), 1–15.
- Sreen, N., Purbey, S., & Sadarangani, P. (2018). Impact of culture, behavior and gender on green purchase intention. *Journal of Retailing and Consumer Services*, 41, 177–189. https://doi.org/10.1016/j.jretconser. 2017.12.002
- Sulaymon, I. D., Mei, X., Yang, S., Chen, S., Zhang, Y., Hopke, P. K., Schauer, J. J., & Zhang, Y. (2020). PM2.5 in Abuja, Nigeria: Chemical characterization, source apportionment, temporal variations, transport

pathways and the health risks assessment. Atmospheric Research, 237. https://doi.org/10.1016/j. atmosres.2019.104833

- Taherdoost, H. (2016). Validity and reliability of the research instrument; how to test the validation of a questionnaire/survey in a research. How to Test the Validation of a Questionnaire/Survey in a Research. https://doi.org/10.2139/ssrn.3205040
- Tan, B. C. (2011). The roles of knowledge, threat, and PCE on green purchase behaviour. International Journal of Business and Management, 6(12), 14–27. https:// doi.org/10.5539/ijbm.v6n12p14
- Tripathi, A., & Singh, M. P. (2016). Determinants of sustainable/green consumption: A review. International Journal of Environmental Technology and Management, 19(3–4), 316–358. https://doi.org/10. 1504/IJETM.2016.082258
- Tsarenko, Y., Ferraro, C., Sands, S., & McLeod, C. (2013). Environmentally conscious consumption: The role of retailers and peers as external influences. Journal of Retailing and Consumer Services, 20(3), 302–310. https://doi.org/10.1016/j.jretconser.2013.01.006
- Varah, F., Mahongnao, M., Pani, B., & Khamrang, S. (2021). Exploring young consumers' intention toward green products: Applying an extended theory of planned behavior. Environment, Development and Sustainability, 23(6), 9181–9195. https://doi.org/10. 1007/s10668-020-01018-z
- Vermeir, I., & Verbeke, W. (2006). Sustainable food consumpti on: Exploring the consumer "attitude–behavioral intention" gap. Journal of Agricultural & Environmental Ethics, 19(2), 169–194. https://doi.org/ 10.1007/s10806-005-5485-3
- Wang, S. T. (2014). Consumer characteristics and social influence factors on green purchasing intentions. Marketing Intelligence & Planning.
- Wang, J., Shen, M., & Chu, M. (2021). Why is green consumption easier said than done? Exploring the green consumption attitude-intention gap in China with behavioral reasoning theory. Cleaner and Responsible Consumption, 2, 100015. https://doi.org/10.1016/j. clrc.2021.100015
- Wei, S., Ang, T., & Jancenelle, V. E. (2018). Willingness to pay more for green products: The interplay of consumer characteristics and customer participation. *Journal of Retailing and Consumer Services*, 45, 230–238. https://doi.org/10.1016/j.jretconser.2018. 08.015
- Welsch, H., & Kühling, J. (2009). Determinants of pro-environmental consumption: The role of

reference groups and routine behav ior. *Ecological Economics*, 69(1), 166–176. https://doi.org/10.1016/j. ecolecon.2009.08.009

- Wheale, P., & Hinton, D. (2007). Ethical consumers in search of markets. Business Strategy and the Environment, 16(4), 302–315. https://doi.org/10. 1002/bse.484
- White, K., Habib, R., & Hardisty, D. J. (2019). How to SHIFT consumer behaviors to be more sustainable: A literature review and guiding framework. Journal of Marketing, 83(3), 22–49. https://doi.org/10.1177/ 0022242919825649
- Yadav, R., & Pathak, G. S. (2017). Determinants of consumers' green purchase behavior in a developing nation: Applying and extending the theory of planned behavior. *Ecological Economics*, 134, 114–122. https://doi.org/10.1016/j.ecolecon.2016.12. 019
- Yang, S., Li, L., & Zhang, J. (2018). Understanding consumers' sustainable consumption intention at china's double-11 online shopping festival: An extended theory of planned behavior model. Sustainability, 10 (6), 1801. https://doi.org/10.3390/su10061801
- Yii, J., Shein, H., & Ming, W. P. (2020). Green products purchase intention: A study of Sibu Sarawak. Journal of Social Sciences and Humanities, 17(1), 62–79.
- Young, W., Hwang, K., McDonald, S., & Oates, C. J. (2010). Sustainable consumption: Green consumer behaviour when purchasing products. Sustainable Development, 18(1), 20–31. https://doi.org/10.1002/sd.394
- Yuriev, A., Dahmen, M., Paillé, P., Boiral, O., & Guillaumie, L. (2020). Pro-environmental behaviors through the lens of the theory of planned behavior: A scoping review. *Resources Conservation and Recycling*, 155, 104660. https://doi.org/10.1016/j. resconrec.2019.104660
- Zainudin, A., Asyraf, A., & Mustafa, M. (2016). The Likert scale analysis using parametric-based structural equation modeling (SEM). *Computational Methods in Social Sciences*, 4(1), 56–73. https://doi.org/10.5281/ zenodo.1299429
- Zhang, Y., Lee, T. J., & Xiong, Y. (2019). A conflict resolution model for sustainable heritage tourism. International Journal of Tourism Research, 21(4), 478–492. https://doi.org/10.1002/jtr.2276
- Zhu, Q., Li, Y., Geng, Y., & Qi, Y. (2013). Green food consumption intention, behaviors and influencing factors among Chinese consumers. Food Quality and Preference, 28(1), 279–286. https://doi.org/10.1016/j. foodqual.2012.10.005