



Munich Personal RePEc Archive

# **Green Purchase Intention: An Investigation from Vietnamese Young Consumers**

Ho, Thi Thu and Huynh, Cong Minh

Becamex Business School, Eastern International University, Binh Duong Province, Vietnam.

10 March 2022

Online at <https://mpra.ub.uni-muenchen.de/112355/>  
MPRA Paper No. 112355, posted 14 Mar 2022 17:16 UTC

# Green Purchase Intention: An Investigation from Vietnamese Young Consumers

## Ho Thi Thu

Becamex Business School, Eastern International University, Binh Duong Province, Vietnam.

Email: [thu.ho.bsba14@alumni.eiu.edu.vn](mailto:thu.ho.bsba14@alumni.eiu.edu.vn)

## Cong Minh Huynh \*

Becamex Business School, Eastern International University, Binh Duong Province, Vietnam.

Email: [minh.huynh@eiu.edu.vn](mailto:minh.huynh@eiu.edu.vn)

ORCID ID: 0000-0001-8169-5665

## Abstract

*The present study attempts to examine the impacts of Environmental Concern (EC), Perceived Consumers Effectiveness (PCE), Attitude Toward Green Products (AGP), and Perceived Environmental Knowledge (PEK) on Green Purchase Intention (GPI) of the young people in provinces of Southeast Vietnam, including Binh Duong, Dong Nai, Long An, Tay Ninh, and Ho Chi Minh City. Results from a survey of 1,200 young respondents show that the AGP has the strongest impact on GPI, following by the PCE and the EC. However, the PEK has no significant impact on GPI. The findings provide empirical evidence for local governments and businesses to promote green consumption in the region.*

**Key words:** Attitude toward green products; Environmental concern; Green purchase intention; Perceived consumers effectiveness; Perceived environmental knowledge.

JEL Classification: M11; M31; Q02; Q56.

## 1. Introduction

The fast growth of population in the world leads to a quick increase in manufacture,

---

\* Postal address: Becamex Business School, Eastern International University, Nam Ky Khoi Nghia St, Hoa Phu Ward, Thu Dau Mot City, Binh Duong Province, Vietnam.

Consumption, and environmental issues. Nowadays, the global unsustainable consumption causes serious problems for the environment such as global warming, water-air-soil pollution, and it leads social change in consumption patterns and buying behaviour (Jaiswal & Kant, 2018). Confronting the situation, creating a habit of green consumption for consumers is an effective way to protect and create sustainability for the environment. If consumers are aware of the worsening of the environment and their responsibility for environmental protection, they will have an attitude toward consideration of their purchase decisions especially on buying products which are less impact on the environment such as green products (Zhang & Xie, 2015). Green products are composed of recyclable materials and are manufactured by using water- and energy-saving methods to reduce waste, packaging and times of toxic materials disposal (Nimse et al., 2007). Therefore, building the green purchasing behaviour for consumers as well as improving their knowledge and perception on green products are very important. Studies in developing countries reveal that there is an increasing attention on green purchasing behaviour of citizens when they are aware of the effects of their purchase behaviour on the environment (Follows & Jobber, 2000). However, earlier studies which have used the theory planed behaviour model for green/eco-friendly purchase intention have neglected the impact of environmental concern and environmental knowledge on consumer purchase decision (Yadav, 2016). Yadav (2016) points out that the concern for the environment and environmental knowledge are considered equally important in making decisions to purchase green products.

In Vietnam, the government has made continuous efforts to increase consumers' environmental awareness and to encourage citizens engage in green consumption, which is considered a practical long-term environmental solution. The World Bank evaluates Vietnam to be ranked at the 85th out of 163 countries for The Environment

Effectiveness Index, given the fact that Vietnamese consumers have relatively low levels of environmental awareness in their everyday consumption, and that their knowledge toward eco-products is still insufficient” (Hoang & Nguyen, 2013). Thus, understanding young consumers’ perspective towards pro-environmental behaviour is very important because they will be consumers and representative of the future generation in the society (Kanchanapibul et al., 2014). They are also concerned about the future impact from their present action (Hume, 2010) as they have viewed the current serious issues of the environment. Prior studies on Vietnamese’s purchase intention do not focus on green consumption of the youth. For example, Nguyen and Huynh (2022) illustrate that Vietnamese consumers ‘purchase intentions are positively affected by perceived quality, perceived prestige, perceived value, and influence of others. However, previous studies have paid less attention on the young consumers in Vietnam, especially those in the Southeast region of Vietnam – where has experienced the strongest growth in industrialization and consumption in Vietnam.

We contribute to the literature by examining the impacts of not only Attitude Toward Green Products (AGP) and Perceived Consumers Effectiveness (PCE), but also Environmental Concern (EC) and Perceived Environmental Knowledge (PEK) on Green Purchase Intention (GPI) of the young people in provinces of Southeast Vietnam, including Binh Duong, Dong Nai, Long An, Tay Ninh, and Ho Chi Minh City. We also evaluate the impact magnitude of these factors on GPI. The research results can help businesses to have a general view about young customers behaviour on green products, and a better understanding about the potential green market and purchasing behaviour of green customers. The result of the study will evaluate customer acceptance on green products, fostering new research in quality management, marketing, and supply chains, thereby enhancing interdisciplinary knowledge sharing.

## **2. Literature review and theoretical framework**

### ***2.1. Green purchase intention***

Green purchase intention refers to the willingness to purchase green products of customers because of its benefit for the environment. This willingness of customers promotes their purchase intention on green products (Chan, 2001, Paul et al., 2016). Jaiswal and Kant (2018) show that consumers are not only concerned about the ecological quality of the products but also about “the environmental consequences associated with their purchase decisions for such products”.

### ***2.2. Factors of green purchase intention***

The theory of planned behaviour (TPB) is an extension of the theory of reasoned action (Ajzen & Fishbein, 1980). To Ajzen (2002), the intention is considered to be the precursor and the best predictor of behaviour. The TPB improves the ability to predict intention to purchase green products because it allows us to examine the influence of personal determinants and social surroundings as well as non-volitional determinants on intention (Han et al., 2010). According to Bamberg (2003), the TPB is not only useful to predict the intention and behaviour of people, but also powerful to explain the environment friendly behaviours.

Although the TPB is one of the most powerful models to predict the behavioural intention by three factors including attitude, subjective norm, and perceived behaviour control, prior scholars show that some dominant specific factors are not included in this model (Conner & Armitage, 1988; Donald et al., 2014; Armitage & Conner, 2001). According to Ajzen (1991), The TPB framework can be extended by adding new constructs or altering the path of the variables in the model. Based on the previous studies, we keep the attitude factor from the TPB and add three additional constructs in the case of green products including environment concern, perceived consumers

effectiveness, and perceived environmental knowledge.

### *2.2.1. Environmental concern (EC)*

Environmental concern is defined as a “strong attitude for protecting the environment” (Crosby et al., 1981). It is emphasized as one of the key cognitive measures in order to predict one's ecological friendly behaviour in the literature on green marketing over time (Jaiswal & Kant, 2018). According to Dunlap and Jones (2002), Environmental concern refers to the degree to which people are aware of problems regarding the environment and support efforts to solve them or indicate the willingness to contribute personally to their solution. Consumers see energy savings more favourable when their environmental concerns increase and they develop a positive attitude towards green energy and they are willing to pay a high price for green energy (Hartmann, 2012).

Padel and Foster (2005) finds that environmental concerns have the influence on motivate the purchase of organic food products. There is also a significantly positive impact of environmental concern on consumers' intention of buying eco-friendly electric vehicles (Sang & Bekhet, 2015). According to Pagiaslis and Krontalis (2014), there is a significant influence of environmental concern on consumers' intention to buy biofuels. There is a significant influence of environmental concern on consumers' intention to prefer green energy brands (Hartmann & Apaolaza-Ibañez, 2012). Jaiswal and Kant (2018) report that the environmental concern has direct effects on green purchase intention. Thus the following hypothesis is suggested:

*H1: Environmental concern positively affects consumers' green purchase intention.*

### *2.2.2. Perceived consumer effectiveness (PCE)*

Perceived consumer effectiveness is defined as consumers' evaluation of the extent to which their consumption can make a difference in the overall problem” (Webster, 1975). According to Ellen et al. (1991), the perception of consumer efficiency refers to the

extent to which individuals believe their actions make a difference in solving a problem. Previous studies find that there is a positive relationship between perceived consumer effectiveness and purchase intention for green products (Gleim et al., 2013; Gupta & Ogden, 2009). In addition, Ellen et al. (1991) report that perception of consumer awareness has an important link to the purchase of green products and recycling. The result is similar to findings from Balderjahn (1988), who finds a significant relationship between efficiency awareness by consumers and buying products that is less harmful to environment.

According to Roberts (1996) and Straughan & Roberts (1999), effective awareness of consumers is a good factor to predict behavioural of consumers and consumers will buy ecological safety when they believe that their behaviour will have a positive impact on their environment, resulting in consumers who have the high levels of perceived environment effectiveness will have the high purchase green products intention. Thus, we hypothesize that:

*H2: Perceived consumer effectiveness has a positive and significant influence on consumer purchase intention for green products.*

### *2.2.3. Attitude towards green products (ATG)*

Attitude towards green products in the environmental consumer research is one's beliefs or feelings towards the purchase decision of environment-friendly products, and the impact of such specific behaviour on the ecological consequences (Hines et al., 1987). According to Chan (2001), green purchase is a type of friendly environmental behaviours which consumers illustrate their concern about the environment. Purchasing green products can eliminate the detrimental impacts of consumption on the environment such as conserving water, and reducing energy usage and waste. Attitude refers to “degree to which a person has a favourable or unfavourable evaluation of the

behaviour in question” (Ajzen, 1991). Fishbein and Ajzen (1975) define that attitude is “a learned predisposition to respond in a consistently favourable or unfavourable manner with respect to a given object”. Attitude is one of the mandatory prerequisites of behavioural intent and actual behaviour in studies of green consumer psychology (Jaiswal & Kant, 2018). There are two terms of attitude, consisting of general and specific attitudes (Sun & Willson, 2008). According to Ajzen (1980), a general attitude requires a general tendency to engage in the relevant behavior of a kind of attitude object while a specific attitude is a strong predictor of a single behaviour on a particular attitude object. Therefore, specific attitudes are often regarded as attitudes towards green products or purchased in environmental consumer studies that hold their beliefs or feelings towards the decision to purchase environmental-friendly products and the impact of that particular behaviour on ecological consequences (Kaiser & Gutscher, 2003; Riethmuller & Buttriss, 2008).

The positive relationship between attitude toward green products and purchase intention has been established across many cultures (Mostafa, 2007). There are many studies evaluate the influence of attitude toward green products on the intention (Jaiswal & Kant, 2018). According to Kotchen and Reiling (2000), the attitude is the main important predictor of behavioural intention. Therefore, we suggest the following hypothesis:

*H3: Attitude toward green products of customers positively and significantly affects their purchase intention.*

#### *2.2.4. Perceived environmental knowledge (PEK)*

Perceived environmental knowledge is the cognitive ability of one person about environmental issues including air, water and land pollution, energy usage and efficiency, and recycling and waste generation, and their consequences on society and



environment (Chan, 2001). The environmental knowledge can be evaluated with the help of two knowledge mechanism: subjective and objective measures (Tan, 2011). The measure of subjective knowledge is based on a person's perception or self-assessment of their perceptions of green phenomena, known as abstract knowledge or environmental knowledge. On the other hand, objective measurement of knowledge is based on practical knowledge or specific behavioural knowledge (Tan, 2011) as a general knowledge of facts, content and concerns about the relationship between the environment, and its main ecosystem (Fryxell & Lo, 2003). In term of predicting green consumption, the subjective of abstract knowledge is more effective than the objective measure of environment knowledge to determine the green consumption intention (Hines et al., 1987; Mostafa, 2006; Tan, 2011).

Prior researchers have noted the direct influence of environmental knowledge for purchase intention for environment-friendly products, and therefore they claim that a higher level of understanding of environmental awareness will lead to higher purchase behaviour for these products (Mostafa, 2006; Yadav et al., 2016). According to Rokicka (2002), environmental knowledge influences the consumer eco-friendly purchase intention. Wang et al. (2014) also shows that there is a significant positive influence of environmental knowledge on customers' intention of buying environment-friendly products. Hence, we hypothesize that:

*H4: Perceived environmental knowledge has a positive and significant influence on the purchase intention of green products.*

### **2.3. Theoretical framework**

Based on the TPB (Azjen, 1991), and other factors proposed by Jaiswal & Kant (2018), as well as the previous studies as discussed above, we set up the theoretical framework for our empirical analysis as follows:

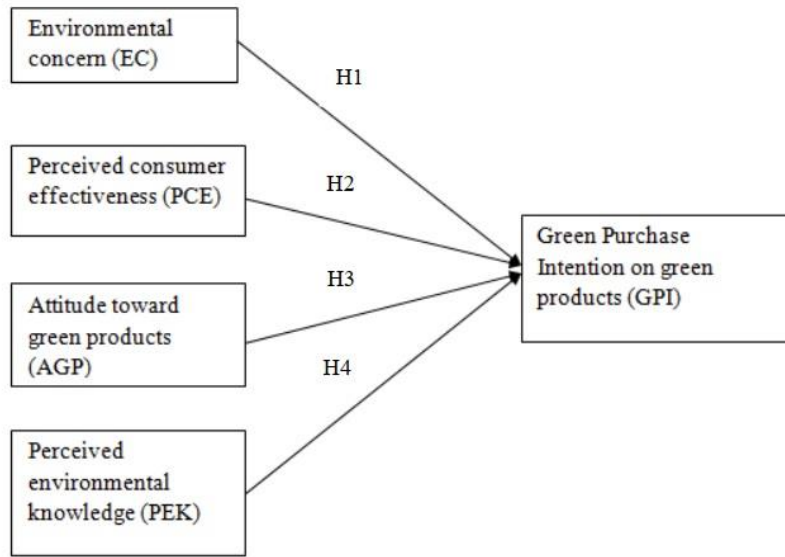


Figure 1. The theoretical framework on factors of GPI, adapted from Azjen (1991) and Jaiswal & Kant (2018).

### 3. Data and research methodology

We use quantitative research method test the impact of Environmental Concern (EC), Perceived Consumers Effectiveness (PCE), Attitude Toward Green Products (AGP), and Perceived Environmental Knowledge( PEK) on Green Purchase Intention (GPI) of the young people in provinces of Southeast Vietnam (Binh Duong, Dong Nai, Long An, Tay Ninh, and Ho Chi Minh City). We use the non-probability sampling method that can select samples based on the subjective judgment of the researcher rather than random selection, and convenience sampling is applied in this research.

We collect data from 1,200 young people who are from 18 – 29 years old and must complete the high school and above. Our sample size ensures the reliability of minimum size as proposed by (Hair, 1998) with the formula to calculate the sample size as follows:  $n=5*m$ . In which, n is the sample size and m is the number of questions. There are 20 questions in this research so the sample size must be larger than 100. This study will collect 1,200 young people. This sample size will be large enough to present the whole population of young people in our research. The data is collected by using a Google

form survey.

The Likert scale of five points is used to measure all variables in our study. This five-point Likert scale allows the individual to express how much they agree or disagree with a particular statement including 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree. The variable measurement are presented in Table 1.

**Table 1.** Variable measurement for all variables.

<b>Measurement</b>	<b>Items</b>	<b>Source</b>
<b>Environmental Concern (EC)</b>	<ol style="list-style-type: none"> <li>1. I am worried about the worsening quality of the environment in Vietnam.</li> <li>2. Vietnam’s environment is my major concern.</li> <li>3. I am emotionally involved in environmental protection issues in Vietnam.</li> <li>4. I often think about how the environmental quality in Vietnam can be improved.</li> <li>5. I would be willing to reduce my consumption to help protect the environment.</li> </ol>	Jaiswal & Kant (2018), Paul et al., (2016)
<b>Perceived Consumer Effectiveness (PCE)</b>	<ol style="list-style-type: none"> <li>1. Each person's behavior can have a positive effect on society by signing an appeal in support of promoting the environment.</li> <li>2. I feel capable of helping solve the environmental problems.</li> <li>3. I can protect the environment by buying products that are friendly to the environment.</li> </ol>	Jaiswal & Kant (2018)

	4. I feel I can help solve natural resource problems by conserving water and energy.	
<b>Attitude towards Green Products (AGP)</b>	<ol style="list-style-type: none"> <li>1. I like the idea of purchasing green products.</li> <li>2. I have a favourable attitude towards purchasing a green version of a product.</li> <li>3. Purchasing green is a good idea.</li> </ol>	Jaiswal & Kant (2018)
<b>Perceived Environmental Knowledge (PEK)</b>	<ol style="list-style-type: none"> <li>1. I am very knowledgeable about environmental issues.</li> <li>2. I know more about recycling than the average person.</li> <li>3. I know how to select products and packages that reduce the amount of landfill waste.</li> <li>4. I understand the environmental phrases and symbols on product package.</li> <li>5. I know that I buy products and packages that are environmentally safe.</li> </ol>	Jaiswal & Kant (2018)
<b>Green Purchase Intention (GPI)</b>	<ol style="list-style-type: none"> <li>1. I would consider buying products because they are less polluting in coming times.</li> <li>2. I will consider switching to environmental friendly brands for ecological reasons.</li> <li>3. I definitely want to purchase green products in near future.</li> </ol>	Paul et al., (2016)

#### 4. Results and discussions

There were totally 1,250 respondents participating in the online survey. However, we got 1,200 valid answers. We used Statistical Package for the Social Science (SPSS)

software version 20.0 for data analysis with procedure including descriptive statistics, reliability test, exploratory factor analysis (EFA), correlation test, and multiple linear regression.

#### ***4.1. Demographic statistics***

There are totally 1,200 respondents who provided the appropriate information for the study. 59.04% of respondents who join in this survey are female and 40.96% are male. In term of ages, the highest percentages among those respondents are from 23-25 years old, accounting for 50.96%; while respondents from 18-22 are accounted for 38 % and from 26-29 only accounted for 11.04%. In terms of education level, most of respondents are undergraduate which accounted for 70%; postgraduate and high school are accounted for 18% and 12%, respectively. In the field of income, most of respondents of survey have monthly income below 5 million VND (61.5%) while income from 5 million to 10 million VND accounted 22.5% and only 16% for who have income above 10 million VND monthly. On the marital status, most of respondents of survey is single (88%), married respondents follow up 10.5% and divorced ones account only 1.5%. In terms of selecting type of green products to buy in the future, most of respondents choose organic food (47.5%); green energy products account for 25.5% while the rest two type products (garment products and transportation vehicle products) account for 16% and 11%, respectively.

#### ***4.2. Reliability test***

The reliability test is used to check the degree of consistency of a measure. The reliability of each component will be assessed by using Cronbach's Alpha. According to Hair (1998), Cronbach's Alpha must be larger than 0.6 which illustrate the strength of the reliability of measure is acceptable. The reliability tests for all variables are reported in Table 2. It can be clearly seen that the Cronbach's Alpha values of all

variables are from above 0.6 to 0.9, indicating that items to measure each variable are reliable.

**Table 2.** Item-Total statistics and Cronbach's Alpha values for all variables.

Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
EC1	14.851	2.489	.589	.749
EC2	13.973	2.452	.661	.702
EC3	13.925	2.418	.546	.729
EC4	13.883	2.496	.581	.722
EC5	13.683	2.893	.652	.735
EC	<b>Cronbach's Alpha of EC: .798</b>			
PCE1	11.52	2.480	.672	.822
PCE2	10.87	2.639	.582	.798
PCE3	11.05	2.411	.611	.875
PCE4	10.58	2.645	.674	.829
PCE	<b>Cronbach's Alpha of PCE: .911</b>			
AGP1	7.291	2.218	.645	.787
AGP2	7.322	2.326	.598	.792
AGP3	7.415	2.413	.631	.786
AGP	<b>Cronbach's Alpha of AGP: .816</b>			
PEK1	14.134	2.219	.566	.721
PEK2	14.372	2.273	.538	.695
PEK3	15.011	2.185	.682	.756
PEK4	15.121	2.397	.573	.689
PEK5	14.835	2.322	.544	.678
PEK	<b>Cronbach's Alpha of PEK: .769</b>			
GPI1	8.134	2.329	.614	.752
GPI2	7.932	2.412	.725	.757
GPI3	8.136	2.194	.677	.771
GPI	<b>Cronbach's Alpha of PEK: .789</b>			

#### **4.3. Exploratory factor analysis (EFA)**

Kaiser-Mayer-Olkin (KMO) Test and Bartlett's Test are conducted to test whether or

not independent variables are suitable to run EFA (Friel, 2005). This test includes Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy, and Bartlett's Test of Sphericity. The KMO index ranges from 0 to 1, the results of the factor analysis would be useful as the value is greater than 0.50. The Bartlett's Test of Sphericity should be significant ( $p < 0.05$ ) for factor analysis to be suitable (Kaiser, 1974). KMO and Bartlett's Test, Total variance explained, and Rotated Component Matrix for independent variables are respectively shown in Tables 3, 4, and 5.

**Table 3.** KMO and Bartlett's Test for independent variables.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.792
Bartlett's Test of Sphericity	Approx. Chi-Square	1566.34
	df	13
	Sig.	.000

The KMO Measure of Sampling Adequacy is 0.792 ( $0.5 < \text{KMO} < 1.00$ ), indicating that the sample is adequate. Furthermore, the Sig. of Bartlett's Test of Sphericity is 0.000, indicating that it is acceptable. It denotes that the items are related to each other within a factor.

**Table 4.** Total variance explained for independent variables

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.117	70.288	73.129	5.117	70.288	73.129
2	4.625	64.756	75.338	4.625	64.756	75.338
3	2.487	55.193	78.296	2.487	55.193	78.296
4	1.329	40.204	79.303	1.329	40.204	79.303
5	.982	30.635	80.302			
6	.973	21.672	82.497			
7	.865	17.357	83.294			
8	.737	14.258	85.294			
9	.689	13.138	88.396			
10	.576	10.297	89.293			

11	.512	9.111	91.038		
12	.479	7.295	94.938		
13	.345	5.553	96.297		
14	.288	4.297	98.222		
15	.234	3.286	99.324		
16	.195	1.943	100.000		

Extraction Method: Principal Component Analysis.

Table 4 contains four factors that are greater than one in the initial Eigenvalues of four independent variables: factor 1 (5.117), factor 2 (4.625), factor 3 (2.487), and factor 4 (1.329). The first factor is measured by five observable items (EC1, EC2, EC3, EC4, EC5). The second factor is measured by four observable items (PCE1, PCE2, PCE3, PCE4). The third factor is measured by three observable items (AGP1, AGP2, AGP3). The fourth factor is measured by four observable items (PEK1, PEK2, PEK3, PEK 4). The cumulative of Extraction Sums of Squares Loading is 79.303 percent, being greater than 50% (Cumulative > 50%). This demonstrates that four factors explain 79.303 percent of the data variation.

**Table 5.** Rotated Component Matrix for independent variables.

	Component			
	1	2	3	4
EC2	.801			
EC4	.792			
EC3	.784			
EC5	.763			
EC1	.715			
PCE3		.907		
PCE2		.865		
PCE4		.839		
PCE1		.826		
AGP3			.795	
AGP2			.768	
AGP1			.742	
PEK4				.874
PEK2				.796



PEK3				.783
PEK1				.749

Extraction Method: Principal Component

Analysis.

Rotation Method: Varimax with Kaiser

Normalization.

a. Rotation converged in 5 iterations.

The Rotated Component Matrix for independent variables is provided in Table 5. The loadings of all 16 items are greater than 0.5 and are distributed across four components. These items, divided into four components, are intended to be similar to the research model. Furthermore, the first component has a higher EC2 with 0.801 than the others, indicating that it contributes more to the establishment of the EC. As a result, the second factor has a higher factor loading of PCE3 (0.907) than the other three, implying that PCE3 contributes more to the construction of the PCE. The third component has AGP3 with a value of factor loading at 0.795 that takes a higher contribution than other items to build up the AGP. The last component has PEK4 with highest value of 0.874, which is greater than the other three, indicating that PEK4 aids in the creation of the PEK more than the others.

Similarly, KMO and Bartlett's Test, Total variance explained, and Rotated Component Matrix for the dependent variable are shown in Tables 6, 7, and 8, respectively.

**Table 6.** KMO and Bartlett's Test for the dependent variable.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.779
Bartlett's Test of Sphericity	Approx. Chi-Square	197.23
	df	3
	Sig.	.000

After run EFA for independent variables, EFA for the dependent variable (green purchase intention) is conducted. The result show that Kaiser-Meyer-Olkin Measure of

Sampling Adequacy achieved 0.779 ( $0.5 < \text{KMO} < 1$ ) and Sig is .000 then the factor analysis is appropriate for the data.

**Table 7.** Total variance explained for the dependent variable.

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.428	73.274	72.378	2.428	73.274	72.378
2	.835	18.965	83.536			
3	.572	15.756	100.000			

Extraction Method: Principal Component Analysis.

As given in Table 7, the Initial Eigenvalues of the first component is larger than 1, so the Total Variance Explained is 72.378% which is larger than the minimum value of 50%. The results indicate that the data can be extracted from this analysis.

Table 8 shows the Rotated Component Matrix for the dependent variable. The loadings of all 3 items are greater than 0.5 and are distributed in 1 component. This component has a highest GPI2 of 0.879, compared to the other two items, indicating that it contributes most to the establishment of the GPI.

**Table 8.** Rotated Component Matrix for the dependent variable.

	Component
	1
GPI2	.879
GPI1	.854
GPI3	.823

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser

Normalization.

#### **4.4. Regression**

The multiple linear regression is employed to estimate the impacts of Environmental Concern (EC), Perceived Consumers Effectiveness (PCE), Attitude Toward Green Products (AGP), and Perceived Environmental Knowledge (PEK) on Green Purchase

Intention (GPI) of the young people in the Southeast of Vietnam. Results are provided in Tables 9, 10, and 11.

**Table 9. Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.826 <sup>a</sup>	.753	.731	.416	1.655

a. Predictors: (Constant), EC, PCE, AGP, PEK

b. Dependent Variable: GPI

As shown in Table 9, the Adjusted R Square is 0.731, illustrating that 73.1% of the variance in Green Purchase Intention (GPI) can be significantly explained by the Environmental Concern (EC), the Perceived Consumers Effectiveness (PCE), the Attitude Toward Green Products (AGP), and the Perceived Environmental Knowledge (PEK). Besides, the result of Durbin-Watson test ( $1.5 < DW = 1.655 < 2.5$ ) shows that there is no autocorrelation in the residuals of the model.

**Table 10. ANOVA Test<sup>a</sup>**

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	65.392	4	14.736	63.928	.000 <sup>b</sup>
1 Residual	17.071	198	.327		
Total	82.463	202			

a. Dependent Variable: CPI

b. Predictors: (Constant), IO, PQ, PV, PP

Results in Table 10 with the value of Sig. from the F-test illustrate that the combinations of independent variables substantially predict dependent variable and that multiple linear regression models are suitable for data sets.

**Table 11. Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
Constant	.548	.347		3.181	.001		
EC	.161	.054	.156	4.260	.006	8.999	1.001
PCE	.194	.067	.178	5.102	.002	8.744	1.256
AGP	.672	.062	.654	9.725	.000	8.606	1.394
PEK	-.0528	.051	-.045	-.348	.539	8.848	1.152

a. Dependent Variable: GPI

As presented in Table 11, there are three independent variables have Sig. satisfying the condition of less than 0.05 including EC (.006), PCE (.002), and AGP (0.000). Then those three factors have a significant influence on GPI. While PEK's Sig. is .707 (> .05), implying that this factor has no significant influence on GPI. Based on the Standardized Coefficient Beta – a good indicator that shows how strongly each predictor influences the dependent variable, the AGP has the largest Beta (.654), so it has the strongest impact on the GPI. Besides, the VIF values of all independent variables are lower than 2, indicating that there is no multicollinearity in this study. As a result, there is sufficient evidence to conclude the following findings:

Firstly, Attitude toward green products (AGP) has the strongest positive impact on green purchase intention (GPI) of young consumers in the Southeast region of Vietnam ( $\beta = .654$ , Sig= .000 < 0.05), confirming our third hypothesis. This result is similar to the findings Paul et al. (2016), Yadav (2016), and Jaiswal & Kant (2018) on the positive effect of attitude on green purchase intention of consumers.

Secondly, our second hypothesis is proved when Perceived consumer effectiveness (PCE) is found to have the second strongest impact on green purchase intention of young consumers ( $\beta = .178$ , Sig= .002 < 0.05), followed by AGP. This

finding is consistent with Ellen et al. (1991), Gupta & Ogden (2009), and Gleim et al. (2013).

Thirdly, the third influencing factor of GPI is the Environmental concern (EC) which represents for our first hypothesis ( $\beta = .156$ , Sig= .006 < 0.05). The positive impact of EC on GPI illustrates that when the youth becomes more concerned on the environment, they will have more intention to buy green products. This outcome is in line with Padel and Foster (2005), Hartmann & Apaolaza-Ibáñez (2012), Pagiaslis & Krontalis (2014), and Sang & Bekhet (2015) in the aspect of green consumer psychology.

Fourthly, the Perceived environmental knowledge (PEK) has an insignificant impact on GPI of young consumers. This finding is opposite to Rokicka (2002), Mostafa (2006), Wang et al. (2014), and Yadav et al. (2016). However, it can be explained that nowadays when the youth has a good environmental knowledge through the development of Information and Communication Technology (ICT), the impact of PEK on GPI becomes less and less significant or even insignificant.

## **5. Conclusion**

This paper empirically studies the impacts of Environmental Concern (EC), Perceived Consumers Effectiveness (PCE), Attitude Toward Green Products (AGP), and Perceived Environmental Knowledge (PEK) on Green Purchase Intention (GPI) of the young people in provinces of Southeast Vietnam, including Binh Duong, Dong Nai, Long An, Tay Ninh, and Ho Chi Minh City. Results from a survey of 1,200 young respondents show that the AGP has the strongest impact on GPI, following by the PCE and the EC. However, the PEK has no significant impact on GPI.

The findings provide empirical evidence for local governments and businesses to promote green consumption in the region. Local governments and businesses can enhance GPI of the youth through improving their environmental concern, perceived

consumers effectiveness, and especially attitude toward green products. The way of transforming from traditional consumerism to green consumerism can protect and improve the quality of the environment. Consumers are not only concerned on the ecological quality of the products but also care about the environmental consequences associated with their purchase making decision. When people perceive that their efforts can influence the environment in a positive way, they might go for friendly environment behaviour. Therefore, policymakers and green marketers can carry out strategies associated with the marketing communication approach to reduce the usage of plastic bag and increase the eco-carry bags to protect environmental sustainability.

**Conflict of interest: The authors declare that they have no conflict of interest.**

## **References**

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes* 50(2), 179-211.
- Ajzen, I. (2002). Perceived Behavioral Control, Self-Efficacy, Locus of Control, and the Theory of Planned Behavior. *Journal of Applied Social Psychology* 32(4), 665-683.
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice-Hall.
- Armitage, C. J. & Conner, M. (2001). Efficacy of the theory of planned behaviour: A meta-analytic review. *British Journal of Social Psychology* 40(4), 471-499. .
- Balderjahn, I. (1988). Personality variables and environmental attitudes as predictors of ecologically responsible consumption patterns. *Journal of Business* 17(1), 51-56.

- Bamberg, S. (2003). How does environmental concern influence specific environmentally related behaviors? A new answer to an old question. *Journal of Environmental Psychology* 23(1), 21-32.
- Chan, R. Y. (2001). Determinants of Chinese consumers' green purchase behavior. *Psychology Marketing* 18(4), 389-413.
- Conner, M. & Armitage, C.J. (1988). Extending the theory of planned behavior: a review and avenue for further research. *Journal of Applied Social Psychology* 28(15), 1429-1464.
- Crosby, L.A., Gill, J.D. & Taylor, J.R. (1981). Consumer/voter behavior in the passage of the Michigan container law. *The Journal of Marketing* 45(2), 19-32.
- Donald, I. J., Cooper, S.R. & Conchie, S.M. (2014). An extended theory of planned behaviour model of the psychological factors affecting commuters' transport mode use. *Journal of Environmental Psychology* 40, 39-48.
- Dunlap, R.E. & Jones, R.E. (2002). Environmental Concern: Conceptual and Measurement Issues. In: Dunlap, R., Michelson., W. (Eds.), *Environmental concern: conceptual and measurement issues*. In *Handbook of environmental sociology*, London:Greenwood.
- Ellen, P. S., Wiener, J.L. & Cathy Cobb-Walgren, C. (1991). The Role of Perceived Consumer Effectiveness in Motivating Environmentally Conscious Behaviors. *Journal of Public Policy & Marketing* 10(2), 102-117.
- Fishbein, M., & Ajzen, I. (1975). *Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research*. Reading, MA: Addison-Wesley.
- Follows, S. P. & Jobber, D. (2000). Environmentally responsible purchase behaviour: a test of a consumer model. *European Journal of Marketing* 34 (5/6), 723-746.

- Fryxell, G. E. & Lo, C.W.H. (2003). The influence of environmental knowledge and values on managerial behaviours on behalf of the environment: an empirical examination of managers in China . *Journal of Business Ethics* 46(1), 45-69.
- Gleim, M. R., Smith, J.S., Andrews, D. & Cronin, J.J. (2013). Against the green: A multi-method examination of the barriers to green consumption. *Journal of Retailing* 89(1), 44-61.
- Gupta, S., & Ogden, D.T. (2009). To buy or not to buy? A social dilemma perspective on green buying. *Journal of Consumer Marketing* 26(6), 376-391.
- Hair, J. F. (1998). *Multivariate Data Analysis*. New Jersey: Pearson University Press.
- Han, H., Hsu, L.T. & Sheu, C. (2010). Application of the Theory of Planned Behaviour to green hotel choice: testing the effect of environmental friendly activities. *Tourism Management* 31(3), 325-334.
- Hartmann, P. & Apaolaza-Ibañez, V. (2012). Consumer attitude and purchase intention toward green energy brands: The roles of psychological benefits and environmental concern, *Journal of Business Research* 65(9), 1254-1263.
- Hines, J.M., Hungerford, H.R. & Tomera, A.N. (1987). Analysis and synthesis of research on responsible environmental behavior: a meta-analysis. *Journal of Environmental Education* 18(2), 1-8.
- Hoang, V. H. & Nguyen, P.M. ( 2013). Environmental Awareness and Attitude of Vietnamese Consumers towards Green Purchasing. *VNU Journal of Science: Economics and Business* 29(2), 1-13.
- Hume, M. (2010). Compassion without action: examining the young consumers consumption and attitude to sustainable consumption. *Journal of World Business* 45(4), 385-394.



- 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.
- Kaiser, H.F. (1974). An index of factorial simplicity. *Psychometrika* 39, 31–36.
- Kaiser, F. G. & Gutscher, H. (2003). The proposition of a general version of the theory of planned behavior: predicting ecological behavior. *Journal Application Social Psychology* 33(3), 586-603.
- Kanchanapibul, M., Lacka, E., Wang, X., & Chan, H.K. (2014). An empirical investigation of green purchase behaviour among the young generation. *Journal of Cleaner Production* 66(1), 528-536.
- 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, 93–107.
- Mostafa, M.M. (2007). A Hierarchical Analysis of the Green Consciousness of the Egyptian Consumer. *Psychology Marketing* 24(5), 445–473.
- Mostafa, M.M. (2006). Antecedents of Egyptian consumers' green purchase intentions: a hierarchical multivariate regression model. *Journal of International Consumer Marketing* 19(2), 97–126.
- Nguyen, T.B.T & Huynh, C.M. (2022). Factors of Purchase Intentions toward Foreign Products: Empirical Evidence from Vietnamese Consumers' Perspective. MPRA Paper 111563, University Library of Munich, Germany.
- Nimse, P., Vijayan, A., Kumar, A. & Varadarajan, C. (2007). A review of green product databases. *Environmental Progress* 26(2), 131-137.

- Padel, S., & Foster, C. (2005). Exploring the gap between attitudes and behaviour: Understanding why consumers buy or do not buy organic food. *British Food Journal* 107(8), 606-625.
- Pagiaslis, A. & Krontalis, A.K. (2014). Green Consumption Behavior Antecedents: Environmental Concern, Knowledge, and Beliefs. *Psychology & Marketing* 31(5), 335-348.
- 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.
- Riethmuller, S. & Buttriss, G.(2008). Closing the gap between Pro-environmental Attitudes and Behaviour in Australia. In: Proceedings The Australian and New Zealand Marketing Academy (ANZMAC).
- Roberts, J.A. (1996). Green consumers in the 1990s: profile and implications for advertising. *Journal of Business Research* 36 (3), 217–231.
- Rokicka, E. (2002). Attitudes towards natural environment: A Study of Local Community Dwellers. *International Journal of Sociology* 32(3), 78–90.
- Sang, Y. N. & Bekhet, H.A. (2015). Journal of Cleaner Production. Modelling electric vehicle usage intentions: an empirical study in Malaysia. *Journal of Cleaner Production* 92, 75-83.
- Stephanie. (2014). Cronbach’s Alpha: Simple Definition, Use and Interpretation.
- Straughan, R.D. & Roberts, J.A. (1999). Environmental segmentation alternatives: a look at green consumer behaviour in the new millennium. *Journal of Consumer Marketing* 16(6), 558-575.

- Sun, J. & Willson, V.L. (2008). Assessing general and specific attitudes in human learning behavior: an activity perspective and a multilevel modeling approach. *Educational and Psychological Measurement* 68(2), 245-261.
- Tan, B. C. (2011). The roles of knowledge, threat, and PCE on green purchase behaviour. *International Journal of Business and Management* 6(12), 4-14.
- Wang, P., Liu, Q. & Qi, Y. (2014) Factors Influencing Sustainable Consumption Behaviors: A Survey of the Rural Residents in China. *Journal of Cleaner Production* 63, 152-165.
- Webster Jr, F. E. (1975). Determining the characteristics of the socially conscious consumer. *Journal of consumer research* 2, 188-196.
- Yadav, R. P. G. (2016). Young consumers' intention towards buying green products in a developing nation: Extending the theory of planned behavior. *Journal of Cleaner Production* 135, 732-739.
- Zhang, N., & Xie, H. (2015). Toward green T: modeling sustainable production characteristics for Chinese electronic information industry. *Technology Forecast. Society Change* 96, 62-70.