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Determinants on green purchasing behavior of generation Y: Empirical evidence in Can Tho city

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ABSTRACT

This study aims to analyze the determinants of green purchasing behavior of Generation Y in Can Tho city based on the survey data from 180 consumers. The results estimated by PLS - SEM show that concern for the environment has the highest impact on green purchasing intention, followed by green price sensitivity and perceived green behavior control. Besides, the evidence indicates that green purchasing intention has a positive effect on the green purchasing behavior of millennials. Based on the research results, several managerial implications have been proposed for businesses in the industry. These include the need to expand selling locations and distribution channels to increase the convenience of finding green products; organizing environmental awareness campaigns in collaboration with government agencies; developing product pricing strategies that reflect the product's value and consumer benefits; and enhancing consumer intentions by implementing communication campaigns that highlight the information and benefits of green products.

1. INTRODUCTION

According to data from the World Health Organization (WHO), Viet Nam is among the countries with the highest rates of cancer in the world. Therefore, green purchasing to protect health and the environment is becoming a trend that many Vietnamese consumers are interested in as one of the efforts to decrease this rate. Green purchasing has been implemented by many countries and is becoming an inevitable trend in the world towards the goal of sustainable development. In Viet Nam, transforming the purchasing model towards green and sustainability has become the line, viewpoint, and policy of the Party and the State and is a fundamental content of the current development goals.

The Green Growth Strategy for the period 2021-2030 and a vision to 2050 has set out four goals including reducing the intensity of greenhouse gas emissions as a percentage of GDP, greening economic sectors, greening lifestyles and promoting sustainable consumption as well as greening the transition on the principles of equality, inclusion and resilience. At the United Nations Climate Change Summit in 2021, Viet Nam committed to achieving “net zero emissions” by 2050, reducing methane emissions by 30% by 2030, gradually eliminating coal power in the period of 2030-2040, and protecting forests. In fact, the term green product has been developed in recent years as people have become concerned with the extent of pollution occurring on a local and global scale, the greenhouse effect, global warming, and the degradation of the natural environment (Srivastava, 2007). As a result,

the behavior change to purchase green products is one of the approaches that could support Viet Nam in achieving these objectives. Green products are products that do not pollute the earth or damage natural resources and are recyclable and conserving. It is commonly defined a product whose materials or packaging are designed to be more environmentally friendly, thereby reducing its impact on the environment (Shamdasani et al., 1993).

Generation Y (Gen Y) are also known as Millennials - born between 1980 and 1994 (Ogiemwonyi, 2021). To promote a green economy out of the ongoing environmental crisis and usher in a new era of sustainability, millennial consumers are believed to play an important role in mitigating environmental problems. Previous research stated that Gen Y green consumers could have an important role in facilitating the green movement because they represent the image of society and agents of change in modern green movements. In addition, Gen Y is also the future of society with the right attitude that is different from other generations (Ogiemwonyi, 2021). Hence, if the drivers leading to their decision in making change are understood, the green movements could be realized.

In line with the trend of environmentally responsible green consumption, Can Tho city issued the plan 'Development of Domestic Trade in the Period to 2030, with a Vision to 2045.' This plan aims to transform Can Tho into the trade, service, and cultural center of the Mekong Delta, characterized by rapid and sustainable growth. The city has organized numerous awareness campaigns to educate businesses and residents about obeying environmental laws, actively protecting the environment, and adapting to climate change. As a result, people have changed their purchasing behavior and adopted more environmentally friendly lifestyles. There are some studies on green purchasing behavior, not only in Western countries such as Ogiemwonyi (2021) conducted in Nigeria, Maichum et al., (2016) in Thailand or Seyrek and Gul (2017) in Turkey but also in Asian countries (Ha, 2022). However, most of the studies on this issue in Viet Nam have been approached through the introduction of concepts, assessment of the current situation, and explanation of purchasing behavior with variables in terms of context, level of lifestyle, and demographic characteristics (Tuu et al., 2018). Currently, development in all fields and regions is encouraged to go hand in hand with sustainable practices. However, studies on the green purchasing

behavior of Generation Y are still scarce.. The mantra of this generation is "live to contribute something meaningful" (Sanchez & Lacap, 2021). To exploit this segment effectively, assessing this generation's behavior on green products and the factors that influence their purchasing behavior can help businesses enforce product policies that not only help protect the environment but also improve public health.

In addition, the rate of cancer in Viet Nam is currently very high due to the use of contaminated products, lack of clear standards and testing, and failure to ensure food hygiene and safety. Consumers' lack of knowledge about which products are beneficial for health exacerbates this issue, directly affecting their well-being. Therefore, this study uses Can Tho as a case study to understand the drivers of green purchasing behavior among Generation Y. The results of this study not only enrich the empirical evidence supporting the Theory of Planned Behavior (TPB) in this field but also provide businesses with valuable insights into what drives green purchasing behavior. Moreover, policymakers can use the research findings to develop effective strategies and policies to promote green purchasing behavior in the future. This paper is divided into five sections. The remaining parts include a literature review and hypotheses, methodology, results and discussion, conclusions, and recommendations.

2. LITERATURE REVIEW, HYPOTHESES AND METHODOLOGY

2.1. Green purchasing behavior and green products

2.1.1. Green purchasing behavior

The term "green development" first appeared in 1980 in the publication of World Conservation Strategy (published by the International Union for Conservation of Nature and Natural Resources - IUCN) with very simple content that "The development of mankind cannot only focus on economic development but also respect the inevitable needs of society and the impact on the ecological environment".

According to Jaiswal and Kant (2018), green purchasing behavior refers to the purchase of environmentally friendly products or sustainable products that are recyclable and beneficial to the environment. This behavior also refers to avoiding the purchase of products harmful to the environment and society. In addition, green behavior is also

considered as the purchasing of good products that benefit the environment and the behavior of individuals or organizations towards natural resources. In other words, green purchasing is about minimizing the adverse impacts on the environment (Ao et al., 2021).

Green purchasing behavior refers to the purchase of environmentally friendly products and services. It involves considering environmental issues alongside criteria such as price and efficiency when making purchasing decisions to minimize the impact on health and the environment. This consideration can address one or all adverse environmental impacts throughout the product's entire life cycle, including production, transportation, use, and recycling or disposal (Tuu et al., 2018). According to the National Association of State Procurement Officials (NASPO), green purchasing is called by many different names, such as responsible purchasing, ecological consumption and sustainable consumption. It is a way of adding environmental considerations with the price and performance criteria of public and private procurement to purchasing decisions.

In addition, Hessami and Yousefi (2013) suggested that green purchasing behavior includes efforts to conserve energy and avoid purchasing products with inappropriate packaging, while Buhutto et al. (2019) argues that green purchasing behavior refers to purchasing environmentally friendly and sustainable products that can be easily recycled and are safe for the environment, as well as society.

It could be said that green purchasing behavior is a multi-dimensional conceptual structure including environmental protection actions, economical use of electricity, water, equipment, use of environmentally friendly packaging, etc. This term is designed to measure green product concepts and their specific manifestations such as products that minimize the impact on the surrounding social environment, do not cause harm to the environment and are safe for health during production, use less water, use less packaging, use locally grown and organic products, use recyclable materials, save energy, use no or little harmful chemicals, radioactive materials, and biological products (Tuu et al., 2018).

In summary, green purchasing behavior can be defined as the purchase, use, and promotion of environmentally friendly products that do not pose a risk to human health and do not threaten the functions or diversity of natural ecosystems. Green

purchasing comes from the desire to protect resources for future generations and improve people's quality of life. Currently, consumers around the world are gradually moving towards green, environmentally friendly products and consider it as a standard for high-quality products and services. Consumers are willing to pay higher prices for goods labeled with sustainable production standards. As a result of the growing interest in green products globally, many companies have started to produce environmentally friendly green products and show their efforts to protect the environment. Governments are also making efforts to come up with many policies to promote green consumption. Most developing countries in Asia have developed environmental protection laws. More people have been willing to pay more for eco-friendly products; hence, the market for eco-friendly products has been expanding.

2.1.2 Green products

According to Maichum et al. (2016), "Green products have little impact on the environment and are less harmful to human health. Green products have grown due to growing concern about global warming, global and local pollution levels, dwindling natural reserves and rampant waste". In addition, Yang (2017) stated that "Green products are products that are designed or manufactured in such a way to minimize the environmental impact associated with production, distribution and consumption. This may involve the use of recyclable materials, biodegradable elements and ingredients". Green products are created from environmentally friendly materials. Green products are low-toxic products that can reduce the impact on workers, improve indoor air quality and reduce water pollution. Green products are increasingly attracted by consumers in the market because of the benefits that they bring not only for health but also for environmental protection.

In Viet Nam, according to Decree No. 19/2015/ND-CP dated February 14, 2015, of the Prime Minister detailing the implementation of a number of articles of the Law on Environmental Protection, environmental products are products that in the process of raw material extraction, production, existence, use and after disposal cause less harm to the environment than products of the same type and are issued with an eco-label of an organization approved by the Government. A product is considered green if it meets one of the four criteria, including i), typically products made from

environmentally friendly materials. The process of manufacturing environmentally friendly products is labeled with the Vietnam Green Label by the Ministry of Natural Resources and Environment. Products from recycling and waste treatment activities are certified by the competent authority, ii) the product offers safe solutions to the environment and health instead of traditional toxic products, iii) products reduce the impact on the environment during use (less waste, use renewable energy, low maintenance costs) and iv) the product creates a friendly and safe environment for health.

In short, green products are defined as products that are environmentally friendly, have little impact on the natural environment, and have a green life cycle. At every stage of the product's life cycle, from design and raw material decisions to production, storage, transportation, use, and post-use, the product must have minimal impact on the environment. It has been proven that using green products not only reduces damage to the natural environment but also improves health and improves recyclability.

2.2. Conceptual research and hypotheses

The proposed research model will expand the theory of planned behavior by adjusting the variables and scales to suit the context, the specifics of the field, the research area, and some necessary factors consistent with the characteristics of green products and green consumers of Gen Y in Can Tho City. First of all, according to Sreen et al. (2018) and Ogiemwonyi et al. (2020), in order to develop a sustainable economy along with environmental protection and improve public health, it is necessary to clarify the relationship between green purchasing culture and green purchasing intentions. Second, the value of knowledge is a very important factor affecting green purchasing intention. This factor is inherited from Lin and Huang (2012), Maichum et al. (2016) and Seyrek and Gul (2018).

Third, consumers tend to form their own set of beliefs about green brands. Therefore, trust in green products is an important factor that has a great influence on the purchase intention of green consumers. The study inherits this factor from Tuu et al. (2018), Sanchez and Lacap (2021), and Ogiemwonyi (2021). Fourth, consumers are increasingly aware of their behavior and are willing to make sacrifices to contribute to improving environmental quality since it is believed that environmental concerns have an important influence on consumers' green purchasing intentions

(Lin & Huang, 2012, Maichum et al., 2016, Hoang et al., 2018). Fifth, in addition to product quality, price is also one of the factors that have a significant influence on consumers' purchasing decisions—especially for green products. Therefore, the green price sensitivity factor could have a potential influence on the green purchasing behavior of customers in this research context. This factor is inherited from the research by Yadav and Pathak (2017) and Ogiemwonyi (2021).

In addition, the inclusion of the intermediate variable in this study is necessary. Previous studies have concluded that prior to the appearance of actual purchasing behavior, most consumers have prior purchasing intentions (Zhu et al., 2012; Hessami & Yousefi, 2013; Awuni et al., 2016; Yadav & Pathak, 2017). Intention is thought to be the motivating factor that leads to behavior; it is an indicator of how much effort people will put in or how much effort they intend to put into performing a particular behavior. Hence, the stronger the intention, the greater the likelihood that the behavior will be carried out. Therefore, green purchasing intention could be considered as an important factor affecting green purchasing behavior. The proposed hypotheses are discussed as follows:

According to Ajzen (1991), behavioral control explains the ease or difficulty of performing a particular behavior. Behavioral control works in two aspects, controlling internal and external behavior. Consumers with internal behavioral controls realize they have more control over their internal resources. They are confident in planning, ingenuity, and able to perform a particular behavior. Consumers with external behavioral control can overcome external constraints, such as money or time, to perform a particular behavior (Ogiemwonyi, 2021). Internal and external behavioral control is an important mechanism for establishing favorable and unfavorable control over a particular behavior (Ajzen, 1991). Several literature studies suggest that product unavailability and high price sensitivity lead to consumers' decision not to buy green products (Sreen et al., 2018). Beliefs reflected from perceived behavioral control are about the resources and opportunities required to perform a part of the behavior (Chen & Hung, 2016). If green products are not scarce and have sufficient environmental quality, there will be high purchasing behavior (Ogiemwonyi et al., 2020). Therefore, this study proposes the perceived green behavioral control as a component consistent with previous literature studies. In addition, the TPB theory of Ajzen (1991)

has concluded that perceived behavioral control has a direct influence on purchasing intention. Therefore, the first hypothesis is proposed as follows:

H₁: Perceived green behavior control has a positive effect on green purchasing intention of Gen Y.

The relationship between green purchasing culture and green purchasing intention has been documented by several authors (Sreen et al., 2018; Ogiemwonyi et al., 2020). The behavior advocating the adoption of policies that save the environment from committed people in society can be considered a green culture. Meanwhile, green behavior is habitual behavior that directly affects the environment, such as buying green products and using natural resources. If a consumer embrace a green culture, they are more likely to exhibit green behavior in spite of potentially desirable facts about environmental outcomes (Ogiemwonyi et al., 2020). However, before deciding whether green purchasing behavior is implemented or not, green purchasing intention is an intermediary factor affecting the behavior. Therefore, green purchasing culture could play a decisive role in the green movement. Therefore, the following hypothesis is formed:

H₂: Green purchasing culture has a positive influence on the green purchasing intention of Gen Y.

Consumer research recognizes knowledge as a characteristic that affects all stages of the decision process. In addition to the needs related to the buying situation, a consumer's knowledge of a product also plays an important role in determining the acceptance of a new product (Lin & Huang, 2012). Previous studies have investigated the positive relationship between knowledge value and green purchasing intention (Yang, 2007; Lin & Huang, 2012; Maichum et al., 2016; Seyrek & Gul, 2017). To make a green choice from a wide range of products, customers have to be able to distinguish between green and non-green products. Therefore, they should understand the symbols and related information about green products (Seyrek & Gul, 2017). Several studies have implied that substantial ecological knowledge is an important factor for motivating people to learn and consume more strongly. Ecological knowledge has an impact on purchasing behavior, especially for recycled products and vehicles (Kanchanapibul et al., 2014). When consumers encounter a new product and when making a decision to use that product, they judge it by a combination of familiarity with a

known product category and new information about the new product. Information seeking serves as a means for individuals to potentially create a knowledge database that is useful (Lin & Huang, 2012). The information seeking could improve environmental problem-solving skills through green purchasing intentions. Therefore, the next hypothesis is set up as follows:

H₃: Knowledge value has a positive influence on the green purchasing intention of Gen Y.

In psychosocial studies, trust is defined in terms of the ability to trust and the goodwill of other parties. Goodwill refers to the concern about the goals and welfare of both parties in the pursuit of common interests (Chen et al., 2015). When a green consumer has high confidence in green products, it reduces anxiety and uncertainty. It reinforces the integrity of product and service providers. According to previous research, four aspects called effect-based, cognitive-based, experiential, and personality-oriented were used to assess the underlying structure of green product trust (Ogiemwonyi, 2021).

Several previous studies have investigated the relationship between product trust and green purchasing intention (Hessami and Yousefi, 2013; Tuu et al., 2018; Ogiemwonyi, 2021; Sanchez & Lacap, 2021). The consumer may begin to think that green products are right and will fit his or her needs based on the trust formed. After the trust in green products is formed, consumers decide to act in a certain way towards green products. Thus, a green buying decision will be made. Gen Y green consumers could feel that green products are generally reliable and that the claims meet their expectations. Hence, Gen Y green consumers may have no doubt and accept green products (Ogiemwonyi, 2021). Therefore, the following hypothesis supposes that:

H₄: Green product trust has a positive influence on the green purchasing intention of Gen Y.

According to Lasuin and Ching (2014), environmental concerns indicate the extent to which people are aware of environmental problems and their willingness to solve these problems. Some authors have linked environmental concerns with eco-friendly behavior. Consumers with green awareness are more willing to ask for and pay for green products because they understand the environmental benefits (Ogiemwonyi, 2021). Attitude towards environmental concern is any

behavior that positively impacts material availability or behavior that positively alters the structure and dynamics of an ecosystem (Awuni et al., 2016).

When consumers care about the environment, they realize that consuming green products is a meaningful action that contributes to improving and protecting the environment; they tend to buy green products (Thanh et al., 2021). It is thought that green buying recommendations can be most effectively implemented by increasing the environmental concerns of consumers (Lasuin & Ching, 2014). Many previous studies have documented the influence of environmental concerns on green purchasing intention (Lin & Huang, 2012; Lasuin & Ching, 2014; Maichum et al., 2016; Hoang et al., 2018). As a result, the fifth hypothesis is proposed as follows:

H₅: Concern for the environment has a positive influence on the green purchasing intention of Gen Y.

Price has always been considered as one of the most important factors determining the consumer decision process. Understanding consumers' willingness to pay for socially responsible products is important for organizations, as price is the most important barrier to green purchasing and willingness to pay. Green price sensitivity is defined as the degree to which demand changes as the cost of a sustainable product or service changes. Price sensitivity varies according to how important the consumer is to price relative to other purchasing criteria. Some consumers value product quality more than price, and this makes them less suspicious of price sensitivity. In contrast, a more price-sensitive consumer is willing to sacrifice quality (Ogiemwonyi, 2021).

Previous studies have evaluated the relationship between green price sensitivity and green purchasing behavior (Yadav & Pathak, 2017; Ogiemwonyi, 2021). Some consumers pay more for sustainable goods and services than others. Other third parties, such as the government, are also willing to pay more than individual consumers. Consumers are willing to spend more money on green products and believe businesses act responsibly towards the environment. Consumers who value environmental conservation and prefer the environment over convenience for life are willing to pay more for green products and services (Yadav & Pathak, 2017). Green price sensitivity has been found to be the strongest influence on green behavior of millennials. Given the impact of price

sensitivity, previous research shows that millennials are true green consumers and will pay more for a good quality product (Ogiemwonyi, 2021). Given the uniqueness of price sensitivity to green intention and behavior, the following hypothesis is formed:

H₆: Green price sensitivity has a positive influence on the green purchasing intention of Gen Y.

Purchasing intention is an indication of an individual's willingness to perform a certain behavior. It is assumed to be the antecedent of the behavior. The attitude towards the behavior becomes more favorable as the subjective norm becomes more favorable. In addition, the greater the perceived ability to control the behavior, the stronger the individual's intention to perform the behavior (Yadav & Pathak, 2017). Green purchasing behavior refers to purchasing sustainable and eco-friendly products that can be easily recycled and are safe for the environment as well as for society. Green purchasing behavior is the use of products that respond to environmental concerns (Bhutto et al., 2019).

Many recent studies have demonstrated that a significant relationship exists between green purchasing intention and green purchasing behavior (Chan, 2001; Gan et al., 2008; Zhu et al., 2012; Hessami & Yousefi, 2013; Awuni et al., 2016; Yadav & Pathak, 2017; Hoang et al., 2018; Bhutto et al., 2019). Intention is the determination to act in a particular way. However, the presence of a behavioral intention is no guarantee of actual behavior (Awuni et al., 2016). Previous studies have shown the predictive power of the theory of planning behavior in measuring the relationship between intention and environmentally friendly consumer behavior in a wide range of eco-friendly products and services such as energy-saving products, green hotels, and restaurants (Yadav & Pathak, 2017). Green purchasing intention is increasingly concerned due to health and environmental reasons, so it is expected to be the predictor of green purchasing behavior (Bhutto et al., 2019). Therefore, the following hypothesis is proposed:

H₇: Green purchasing intention has a positive influence on the green purchasing behavior of Gen Y.

2.3. Methodology

2.3.1. Data collection

This study uses the survey data of millennial consumers - born from 1980 to 1996 (from 26 to 42

years old) living in Can Tho city by a structured questionnaire. According to Hair et al. (1998), the minimum sample size should be 5 times the total number of observed variables. The research model has 33 observed variables, so the expected sample size is 165 consumers.

Besides, in order to have the reliability in testing the suitability of Structural Equation Modeling (SEM), the sample size must be from 100 to 200 to be satisfactory (Hoyle, 1995). Chin and Newsted (1999) present a Monte Carlo simulation study on Partial Least Squares Structural Equation Modeling (PLS-SEM) involving small samples. They found that the PLS path modeling method could provide information on the concordance of the indices at sample sizes as low as 20. This study confirms the great consistency of the load estimates with the significant number of observed variables represented on each measurement model. Sample size can affect several aspects of SEM, including parameter estimation, model fit and statistical power. However, unlike Covariance-Based SEM (CB-SEM), PLS-SEM can be used with much smaller sample sizes, even when the models are very complex. In these situations, PLS-SEM typically achieves a higher level of statistical power and exhibits much better converging behavior than CB-SEM (Reinartz et al., 2009; Henseler, 2010). As a result, this study targets the sample size of 180 millennial consumers. The sample was collected by the convenience sampling method through direct contact and via Google Form the potential respondents, of which 45 respondents participated in the online survey (accounting for 25% of the research sample) and 135 respondents participated in the in-person survey.

2.3.2. Data analysis

First, the reliability of the scale will be checked by the coefficient of Cronbach's Alpha. Then, Exploratory Factors Analysis (EFA) is used to extract correlated observed variables. Next, confirmatory factor analysis (CFA) is used to assess the fit of the model with the research data. The CFA method was used to confirm the univariate, multivariable, convergent and discriminant validity of the scale. Finally, PLS-SEM was used to test the hypotheses.

With PLS-SEM, the composite reliability is best when the value is greater than 0.7 (Du, 2020). Convergent validity is assessed through the external load coefficient of the observed variables and the

AVE coefficient. The AVE coefficient needs to be above 0.5 and the external load factor needs to be greater than 0.7 for the scale to converge (Hair et al., 2017). In addition, the discriminant validity is also assessed through the heterotrait - monotrait ratio, referred to as the HTMT index. The scale achieves discriminant value when the HTMT index is less than 1 and preferably less than 0.9 (Du, 2020).

3. RESULTS AND DISCUSSION

3.1. Sample description

The sample comprises 81 men consumers (accounting for 45%) and 99 women (accounting for 55%). The majority of respondents are aged from 26 to 31 years old (114 people accounting for 63.3% of the total number of respondents). The highest number of consumers who have known or used green products have a university degree (77 consumers, accounting for 42.8%). Singles accounted for the largest percentage in the sample (57.8% of the total respondents). The majority of consumers have a self-employed occupation (accounting for 23.3%), followed by office workers (accounting for 21.7%). Among 180 consumers surveyed, 115 consumers said that they shop for green products from 1 to 2 times in a month (accounted for 63.9%). There are 43 Gen Y consumers having a frequency of shopping from 3 to 5 times (accounted for 23.9%). In terms of income, there are 43 consumers with a monthly average income of less than 5 million VND (accounting for 23.9%), 65 people with income from 5 million to less than 10 million VND (accounting for 36.1% of total sample). The rest are consumers who have an income of 10 million VND or higher.

3.2. Results of EFA and CFA

After conducting the Cronbach's Alpha reliability analysis, all the observed variables met the requirements and were continued to be included in the EFA. Regarding of independent factors, the results of the first time EFA show that the observed variable TT1 of the green product trust factor is excluded because it has a factor loading being less than 0.5. Performing EFA for the second time extracted 6 factors, which are the same as the proposed scale. The results of the first time EFA for green purchasing intention and green purchasing behavior remain unchanged compared to the proposed scale (The result of EFA is displayed in Table 1).

Table 1. Results of EFA

No.	Variable code	Observed variables	Factor					
			1	2	3	4	5	6
Knowledge value								
1	KT4	Understand if the product is eco-friendly by the symbol on it	0.948					
2	KT1	Understand the inputs, processes and environmental impact of green products.	0.894					
3	KT2	Want to get important information about green products	0.822					
4	KT3	Ready to find new information about green products	0.754					
5	KT5	Understand whether the product is eco-friendly from the information about the content	0.523					
Green consumer culture								
6	VH2	Together we encourage more people to behave in an eco-friendly way		1.009				
7	VH3	Communities can accept green culture		0.828				
8	VH1	My family and important people want me to consume green products		0.810				
9	VH4	Understand and grasp how nature works and act rationally		0.779				
Perception of green behavior control								
10	KS4	Buy green products instead of conventional products			0.971			
11	KS3	Buy green products for ecological reasons			0.798			
12	KS1	Having sufficient resources, time, and opportunities to purchase green products			0,757			
13	KS2	Buying green products is entirely my decision			0,747			
Concern for the environment								
14	QT2	Buy products from recycled materials				0,944		
15	QT1	Avoid buying products that are harmful to the environment				0,857		
16	QT3	Switch to using green products for ecological reasons				0,845		
17	QT4	Choose to buy products that are less harmful to others and the environment				0,570		
Green product trust								
18	TT2	Green product claims are trustworthy					0,786	
19	TT4	Green products keep the promise of environmental protection					0,757	
20	TT3	Manufacturers are responsible to the community					0,695	
Green price sensitivity								
21	GC3	The price of the green product matches the value of the product						0,885
22	GC4	The price of green products is more economical						0,810
23	GC2	The price of green products is in line with the interests of consumers						0,688
24	GC1	Pay more for good quality green products						0,553

Eigenvalue		10,062	1,746	1,529	1,444	1,150	1,006
	Total extracted Variance (%)						70,572%
	KMO coefficient						0,910
	Significant level						0,000
Green consumption intention (Intermediate factor)							
No.	Variable code	Observed variables				Factor	
1	YD2	I am willing to buy green products				0,888	
2	YD4	I plan to switch to green product consumption				0,836	
3	YD1	I plan to buy green products for ecological reasons				0,830	
4	YD3	I will make an effort to buy green products				0,824	
Total extracted Variance (%)							71,372%
KMO coefficient							0,811
Significant level							0,000
Green consumption behavior (Dependent factor)							
No.	Variable code	Observed variables				Factor	
1	HV3	I regularly recommend green products to my family and friends				0,845	
2	HV2	I buy green products often				0,843	
3	HV1	I choose to buy eco-friendly products				0,834	
4	HV4	I often buy green products whose packaging is reusable or reusable				0,813	
Total extracted Variance (%)							69,491%
KMO coefficient							0,808
Significant level							0,000

Source: Analytical results from a sample of 180 consumers in Can Tho City (2022)

Next, confirmatory factor analysis (CFA) is performed to check whether the measurement model and scale meet the requirements. To measure the fit of the model, this study uses Chi-squared criteria, GFI index, CFI, TLI and RMSEA index. There are also evaluation criteria, including convergent value and discriminant value.

Measuring the model's fit with market information: To evaluate the model's relevance, the study used Chi - square/df index < 3, GFI index > 0.8, CFI index > 0.9, TLI index > 0.9 and RMSEA index < 0.08. The results show that these indicators have satisfactory values for the conditions, so the research model can be considered suitable for data and for the next PLS - SEM analysis. However, the observed variable GC4 is excluded because it affects the AVE value of the Green Price Sensitivity factor below 0.5. After removing the GC4

observation, the AVE of the GC factor improved at 0.614.

Evaluating the reliability of the scale: The reliability of the scale was assessed through 3 indicators, including composite reliability (CR) > 0.7, extracted mean variance (AVE) > 0.5 and Cronbach's Alpha coefficient. The composite reliability values and the total variance extracted from the factors in Table 2 generally satisfy the requirements.

Checking the convergence value: The results of the CFA show that the unnormalized weights and the normalized weights are all greater than 0.5 and have statistical significance (p < 0.05). Besides, the AVE values are more than 0.5 as required. From the above results, it can be concluded that the scale achieves a convergent value.

Table 2. Composite reliability and extracted mean variance

Factor	Code	Composite reliability (CR)	Extracted mean variance (AVE)
Green purchasing culture	VH	0.866	0.620
Knowledge value	KT	0.859	0.550
Perceived green behavior control	KS	0.863	0.614
Concern for the environment	QT	0.857	0.600
Green product trust	TT	0.833	0.625
Green price sensitivity	GC	0.826	0.614
Green purchasing intention	YD	0.868	0.622
Green purchasing behavior	HV	0.853	0.592

Source: Analytical results from a sample of 180 consumers in Can Tho City (2022)

Discriminant validity test. The correlation coefficients between the components are all less than 0.9, corresponding p value < 0.05 (95% confidence). The extracted mean variance (AVE) is larger than the maximum specific variance (MSV).

The square root value of AVE is greater than the inter-structure correlation. Thus, it can be concluded that the scale has discriminant validity. Besides, all HTMT indices are less than 0.9 (Table 3). This confirms that the scale has discriminant validity.

Table 3. Results of measuring the reliability of the model

	CR	AVE	MSV	VH	KT	KS	QT	TT	GC	YD	HV
VH	0.866	0.620	0.468	0.787							
KT	0.859	0.550	0.493	0.645	0.742						
KS	0.863	0.614	0.539	0.684	0.671	0.783					
QT	0.857	0.600	0.530	0.564	0.584	0.579	0.774				
TT	0.833	0.625	0.467	0.511	0.558	0.614	0.499	0.791			
GC	0.826	0.614	0.587	0.684	0.702	0.734	0.690	0.604	0.784		
YD	0.868	0.622	0.587	0.643	0.660	0.723	0.728	0.575	0.766	0.789	
HV	0.853	0.592	0.537	0.604	0.651	0.714	0.684	0.684	0.669	0.733	0.769

Source: Analytical results from a sample of 180 consumers in Can Tho City (2022)

3.3 Results of PLS-SEM

After performing CFA, the study continued to analyze PLS-SEM to determine the influence on green purchasing behavior of consumers. The estimated results of the theoretical model are presented in Figure 1. The estimated results show that perceived green behavior control, concern for the environment and green price sensitivity have a positive influence on green consumer intentions. Meanwhile, three factors of green purchasing culture, knowledge value and green product trust have no influence on green purchasing intention. The above factors explain 59.7% of the variation of green purchasing intention. In addition, the green purchasing intention factor has a positive effect on green purchasing behavior. This factor could explain 40.5% of the variation of green purchasing behavior.

Perceived green behavior control

The perceived green behavior control has a positive effect on the green purchasing intention of

consumers with a weight of 0.201 and a p-value of 0.01 (99% confidence level). Hence, the statistical evidence supports for hypothesis H₁. It means that if other factors are constant, the better the perceived green behavior control, the higher the green purchasing intention. Perceived behavioral control refers to the case that consumers perceive the difficulty or convenience in accessing and buying green products. When consumers have enough resources,

time and opportunities, they will have an intention to consume green products. In addition, if consumers realize that green products have enough quality, are not scarce, are convenient to shop, bring good impacts to the environment and improve their own health, they can consume the green product instead of conventional products. Millennial consumers, especially, have the conditions and resources to independently control their actions in order to create purchasing intentions that meet their needs and desires. In summary, in the context of environmentally friendly green consumption,

perceived green behavioral control describes consumers' perceptions of the availability of products, required resources, barriers, and ease of use in conducting environmentally friendly green purchasing. The result of this study reinforces the thesis that perceived behavioral control is one of the three factors affecting purchasing intention in the

theory of Rational Behavior (TRA) and Planned Behavior (TPB) (Ajzen et al., 1991). In addition, the results of this study are also consistent with those of Awuni et al. (2016), Chen and Hung (2016), Maichum et al. (2016), Yadav and Pathak (2017), Tuu et al. (2018), Bhutto et al. (2019), and Thanh et al. (2021).

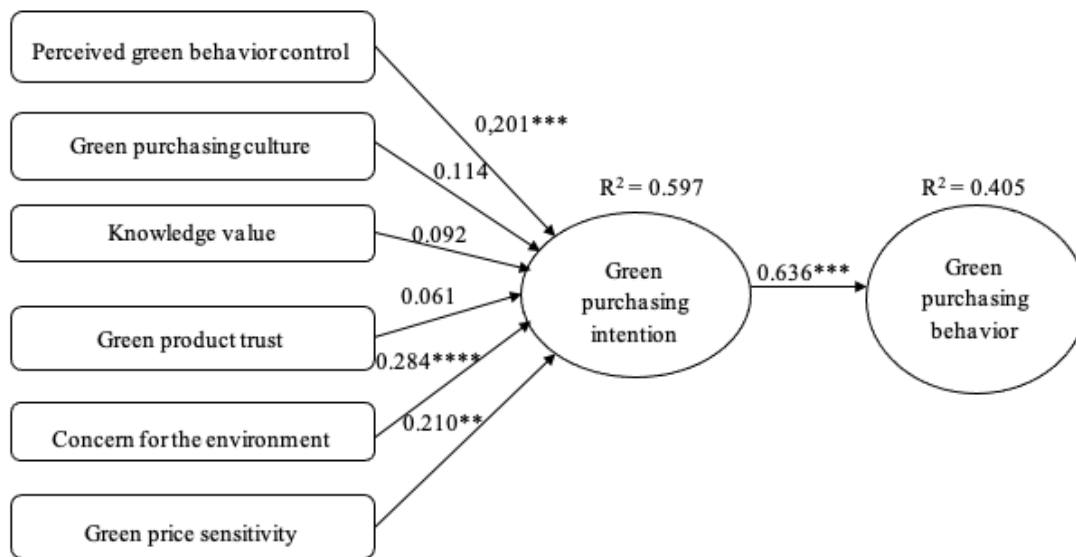


Figure 1. Results of PLS – SEM

Note: *, ** and *** refer to the statistically significant level at 10%, 5% and 1%, respectively

Source: Analytical results from a sample of 180 consumers in Can Tho City (2022)

Concern for the environment

The result in Figure 1 shows that the environmental concern has a positive influence on green purchasing intention of millennial consumers. In other words, the more consumers are concerned and responsible for the environment, the higher the intention to consume green products that are environmentally friendly. Concern for the environment shows the level of understanding and awareness of environmental inadequacies and willingness to offer solutions to those problems. Consumers show concern by avoiding buying environmentally harmful products and making an effort to buy products made from recycled materials. They are willing to switch to using green products instead of conventional products in order to reduce their negative impact on the environment. When consumers care about the environment, they realize that consuming green products is a meaningful action that contributes to improving and protecting the environment, the green purchasing intentions

increase. The results support the study of Maichum et al. (2016), Hoang et al. (2018), Thanh et al. (2021) that concern for the environment has a positive influence on the intention to consume green products.

Green price sensitivity

The evidence in Figure 1 supports hypothesis H₆ that green price sensitivity has a positive effect on green purchasing intention of millennial consumers. This implies that consumers are willing to pay more for green products and believe that the price of green products is in line with the interests of consumers and the value of the product. This is a significant factor in meeting the needs of consumers and manufacturers. Consumers are willing to pay more for products they believe are good for their health and protect the environment. Although green products have a higher selling price than traditional products, millennial consumers are willing to pay and prefer these products. The results of this study are consistent with Ogiemwonyi (2021) or Ao et al.

(2021).

Green purchasing culture

Figure 1 shows that green purchasing culture has no influence on green purchasing intention. Green culture represents the behavior of a group of people or people in a society who collectively perceive and believe the values through which the behaviors are performed. Currently, the trend of green purchasing is still quite new, so the establishment of green communities or the reproduction of traditional consumer communities could still be limited in Can Tho city. Propaganda and encouragement together to behave in accordance with environmentally friendly practices have not been put into the minds and awareness of consumers. Although digitalization in the field of sales and purchasing is increasingly developing, especially in big cities like Can Tho, the establishment of groups or building communities to exchange and learn together information as well as knowledge about green products and green purchasing is still limited. In other words, the green purchasing intention of millennial consumers in Can Tho city is not influenced by consumer culture or community. Screen et al. (2018) also found no influence of green purchasing culture on green purchasing intention.

Knowledge value

The analysis results also show that the values of knowledge do not affect the green purchasing intention of millennial consumers. The reason could be that consumers do not understand the information related to green products that manufacturers often use through the symbols on the product, as well as the information printed on the product packaging. Hence, a consumer's intention to consume green products may not form because of the knowledge values that he or she knows. This result is consistent with Maichum et al. (2016) and Ahmad and Thyagaraj (2015) that environmental knowledge does not provide any positive motivation related to intention to purchase environmentally friendly green products.

Green product trust

The evidence in Figure 1 does not support H₄ that green product trust has a positive effect on the intention to consume green products of Gen Y. The result implies that consumers' beliefs about the benefits of green products and the manufacturer's promise to be responsible to consumers and the community do not affect the intention to consume green products. In other words, consumers' green

purchasing intention are formed may not be because of the trust in green products between green product manufacturers and consumers about the values green products bring. This result is consistent with the findings of Karatu and Mat (2015).

Green purchasing intention

The statistical evidence in Figure 1 supports hypothesis H₇ that the higher the green purchasing intention, the higher the green purchasing behavior. This implies that consumers will be willing and eager to consume green products in the future. Moreover, they are willing to change their purchasing behavior from traditional products to green products. The result of this study is consistent with previous research such as Zhu et al. (2012), Hessami and Yousefi (2013), Awuni et al. (2016), Yadav and Pathak (2017), Hoang et al. (2018) and Bhutto et al. (2019).

In order to be able to generalize the research results, the model needs to be tested for reliability. The bootstrapping technique is conducted with a repeated sample size of 1000 observations (n = 1000) with an initial sample size of 180 observations. The estimated results show that all weights do not have a significant difference. Thus, the estimates in the model can be concluded to be reliable.

4. CONCLUSION AND MANAGERIAL IMPLICATIONS

This study analyzes the factors affecting the green purchasing behavior of Gen Y in Can Tho City based on the primary data surveyed from 180 millennial consumers (from 26 to 42 years old) who know or use green products.

First, the Cronbach's Alpha coefficient is performed to test the reliability of the universal scale and eliminate inappropriate variables. The results show that all variables are suitable and reliable to conduct EFA. When analyzing EFA for the first time, an observed variable of the green product trust factor is excluded. The second time of EFA extracts 6 groups of independent factors. Besides, the EFA extracts one intermediate factor of green purchasing intention and one dependent factor of green purchasing behavior. All extracted factors are similar to the proposed scale. The results of CFA show that the measurement model and scale have met the requirements and are consistent with market data.

The results estimated by PLS - SEM show that there

are three factors affecting green purchasing intention of Gen Y including perceived green behavior control, concern for the environment and green price sensitivity. Environmental concern has the highest impact on green purchasing intention, followed by green price sensitivity and perceived green behavior control. The study also finds that green purchasing intention has a positive effect on green purchasing behavior of millennials. Besides, the evidence in this study supports for the expansion of TPB in many contexts, especially in this case, explaining the green purchasing behavior of Gen Y.

In this study, green price sensitivity is a new factor in assessing green consumer behavior. Therefore, academically, the research has contributed to introducing a scale to measure green purchasing behavior of green products of Gen Y. Researchers in the field of green purchasing behavior can consider this as a reference model in developing further research directions. From the results of this research, the managers of enterprises can realize the importance of factors affecting green purchasing behavior and then propose solutions to promote green purchasing behavior.

Based on the research, some managerial implications are proposed in order to promote the intention and behavior of green product purchasing of Gen Y as follows:

Managers should create a comfortable environment for customers to absorb information about products easily, experience products, and share information. Enterprises should be transparent about their business activities to show that they do not harm the environment, must comply with all government environmental regulations, and meet environmental standards. Products should meet green standards licensed by reputable organizations to strengthen consumer confidence. It is essential to let customers

know that by purchasing this product, they are fulfilling their environmental responsibility and contributing to solving environmental problems.

In addition, businesses and specialized agencies should continue to promote propaganda to raise people's awareness about the meaning and importance of green purchasing for the living environment and human health, towards changing awareness and actions of the whole society in environmental protection activities. Enterprises need to improve production processes, innovate technologies, and develop clean energy sources, renewable energy, and production technologies in order to proactively save resources, consume less energy, and prioritize the use of environmentally friendly input materials.

Consumers' health should be the focus of product development and have a product development strategy associated with a commitment to sustainability. In addition, it is very important to build a pricing strategy that is consistent with the value of the product and the interests of consumers. In general, green purchasing is the purchasing trend of the 21st century. The higher the consumer concern for the environment, the higher the green purchasing behavior is realized. However, to change purchasing habits, consumers will have to take a long time. But with the contribution of agencies, the commitment of businesses and the willingness of consumers, green purchasing will surely grow stronger and stronger.

This study uses a non-random sampling method of convenience, so it has limitations in representativeness. Therefore, further research should choose the random sampling method with a more expanded research space to improve the generalization of the results.

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