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# IMPACT OF PERCEPTION ON GREEN PURCHASE INTENTIONS AND BEHAVIOR OF VIETNAMESE CONSUMERS

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ARTICLE INFO	ABSTRACT
DOI: 10.52932/jfmr.v3i2e.712	The research was conducted to understand the influence of perception on green purchase intention and behavior of Vietnamese consumers. The research model was proposed with 08 hypotheses. An integrated approach
Received: January 06, 2025 Accepted: April 02, 2025 Published: July 25, 2025	of qualitative and quantitative methods was employed. Accordingly, with the qualitative method, the study conducted group discussions with 08 consumers who regularly buy green products, were randomly selected to explore and confirm cognitive factors that directly and indirectly affect green purchase intention and behavior. The scales were proposed on the basis of summarizing relevant theories and previous empirical studies. Quantitative research was conducted by surveying 371 consumers to evaluate the reliability of scales as well as to test the research model and proposed research hypotheses by combining PLS-SEM and IPMA. The results show that, except for perception of effectiveness, which does
	not affect green purchase intention, other factors such as perception of environment, perception of behavioral control, perception of price,
Keywords: Environment; Green purchase behavior; Green purchase intention;	and perception of health directly or indirectly influence green purchase intention and behavior. In particular, perception of environment and perception of behavioral control have a great influence on green purchase behavior, but the performance is low, so it needs to be improved. On that basis, the study also proposed some implications to businesses to raise awareness and increase green purchase intention and behavior of
Health; Perception.  JEL codes: C91, I15, D12, Q01	consumers in the future, such as coordinating with state management agencies to strengthen communication through green trade promotion activities or applying appropriate management, production, and business operation methods.

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#### 1. Introduction

Over the past decades, along with the growth and development of national economies, the increase in goods consumption has negatively impacted the environment and human health, leading to depletion of natural resources, environmental pollution, increased diseases, and decline in flora and fauna (Chen & Chai, 2010). From a traditional perspective, these issues stem from exploitation and production. However, Tanner and Wölfing Kast (2003) pointed out that natural resources have been severely damaged by human consumption; most unsustainable development issues are influenced by human activities and consumption (Geiger et al., 2018). Therefore, to mitigate negative impacts on the environment and society, it is essential not only for businesses to focus on green production but also to encourage consumers to purchase green products and use environmentally friendly products (Moisander, 2007). When searching for the keyword "green purchase intention and behavior" on the international database Scopus, there are 1118 research articles suggested by the system related to this topic. The authors used VOSviewer software version 1.6.20 to analyze the above 1,118 research articles. The results show that green purchasing has been a common topic for decades in developed countries, in which the earliest topic on green purchase was introduced in 1999 by Zotos and Ziamou in Greece (Zotos & Ziamou, 1999). In developing countries, topics on green purchasing have attracted the attention of researchers since 2010, which shows the emerging awareness of consumers on the topic. According to a World Bank survey, 71% of global consumers are willing to spend on "green" and "environmentally friendly" products (Duy Trinh, 2024).

Like many countries around the world, in Vietnam today, economic growth is associated with increased environmental pollution, affecting people's health. According to data from the Ministry of Natural Resources and Environment, Vietnam discharges about 1.8 million tons of plastic waste each year, of which only 27% is recycled (Manh Hung, 2022). Therefore, green purchasing and consumption in Vietnam is an urgent need, which is being paid attention to and encouraged by the State through a series of Decisions, policies and programs, namely National Strategy on Green Growth for the 2021 - 2030 period (Decision No. 1658/QD-TTg), National Action Plan on Sustainable Production and Consumption (2021 - 2030) (Decision No. 889/QD-TTg), the Law on Environmental Protection 2020 provides corporate income tax incentives for enterprises producing environmentally friendly products... In addition, a Nielsen survey shows that 86% of Vietnamese consumers are willing to pay more for products from brands with a commitment to social and environmental responsibility, higher than the average of 76% in the Southeast Asian region (Duy Trinh, 2024). Nonetheless, the percentage of consumers who actually prioritize buying green products is still low, only about 12% -18% in big cities like Hanoi and Ho Chi Minh City (Tra My, 2024). This paradoxical situation raises a question about whether the increasing number of consumers willing to spend more on environmentally friendly products leads to increased consumption of green products. In another vein, are there any relations between raising consumer awareness and green consumption, and shopping behavior? In reality, changing consumer perceptions towards green purchasing still faces many difficulties and challenges, which stem from economic, social, and environmental factors (Nguyen, 2023).

When exploring green purchase intention and behavior, many studies have affirmed that some cognitive factors influence green purchase intention and behavior, such as environmental awareness (Ariffin et al., 2016;

Karatu & Mat, 2015), perceived effectiveness of green purchase behavior (Ghali-Zinoubi, 2020; Wesley et al., 2012), health consciousness (Xu et al., 2020; Yadav & Pathak, 2017; Chen, 2009), perceived behavioral control (Testa et al., 2019; Wang et al., 2014), price perception (Gadenne et al., 2011; Han et al., 2011; Connell, 2010), etc., but they have been studied in separation, according to the VOSviewer software's result. No research on green purchase intention and behavior examining the combination of customers' perception of economic, social, and environmental factors, which are considered as drivers of sustainable development (Elkington, 1997). When these cognitive factors are studied together, the research results can provide a basis for policy and management implications to influence consumer perceptions and promote green product purchases.

Literature review affirms that there has been yet research on the relationship between consumers' perception and their green purchase intention and behavior in terms of economic, social, and environmental drivers. This gap will be addressed in this research and considered as its novel point. The findings of this research will be a scientific basis for businesses to plan business strategies and policies, as well as provide management implications to encourage green purchasing and sustainable development.

#### 2. Theoretical basis and research model

## 2.1. Theory of Planned Behavior - TPB

The Theory of Planned Behavior (TPB) is an extension of the Theory of Reasoned Action, incorporating the construct of perceived behavioral control (Ajzen, 1991). Accordingly, perceived behavioral control also influences behavioral intention and actual behavior. TPB has been applied to investigate the relationship between intention and behavior in engaging in environmentally friendly activities of an individual. Environmentally friendly behaviors

are those that do not harm the environment and are referred to as green consumer behavior, including the purchase and consumption of environmentally friendly goods and services (Park & Ha, 2014).

## 2.2. Triple Bottom Line - TBL

The Triple Bottom Line model with economic, social, and environmental drivers was proposed in the 1980s and popularized in the 1990s in the context of sustainable development. This model is associated with the United Nations' "Our Common Future" report (Brundtland et al., 1987). In terms of economics, consumers often consider product prices and affordability before making purchase decisions. If a product is reasonably priced compared to income or brings high efficiency (reasonable cost-benefit), they will tend to buy it. In terms of society, when a person has a high awareness of health and lives in an environment with social norms, they can change their purchase behavior towards a healthier direction. In terms of the environment, consumers are increasingly interested in environmentally friendly products such as organic foods, plastic-free products, sustainable fashion, electric vehicles, Products that use recycled packaging or contribute to reducing carbon emissions can influence purchase decisions.

The TBL model helps to understand that consumer purchase behavior is influenced not only by economic factors but also by social and environmental factors. Businesses that want to attract customers need to consider all three factors to optimize their marketing and product strategies.

## 2.3. Green purchase intention and behavior

According to Soomro et al. (2020), green purchasing is the purchase of environmentally friendly products and avoiding products that are harmful to the environment. These are energy-saving, over-packaged avoiding,

biodegradable and recyclable prioritizing, and locally sourced products, not only contributing to fairness and benefits for the community but also reducing pollution and preserving the planet (do Paço et al., 2013). Green purchasing is often measured by green purchase intention and behavior. Accordingly, green purchase intention is the willingness of consumers to buy green products (Chen et al., 2018) and the ability and willingness to purchase products that have more environmentally friendly features than other traditional products (Rashid, 2009). It is a strong predictor of green purchase behavior (Chen, 2010) and is influenced by factors that are driving forces affecting green purchase behavior (Ramayah et al., 2010). In another context, green purchase behavior is a complex form of social behavior for green products stemming from an ethical decisionmaking process (Joshi & Rahman, 2015). As socially responsible people, green consumers will consider the consequences of personal consumption and the changes that their green purchase behavior brings (Moisander, 2007).

## 2.4. Hypotheses and research models

## 2.4.1. Perception of environment

Perception of environment is an individual's state of knowledge about the environment and awareness of the consequences of human actions on the environment (Goh & Balaji, 2016). Simply put, it refers to the understanding of human impact on the environment, and this can lead to promoting environmental responsibility (Mouloudj et al., 2021).

According to Ajzen (2001), the perception of the environment can sometimes predict specific behaviors. Previous studies have also shown that individuals with environmental knowledge tend to engage in environmentally friendly behaviors (Hines et al., 1987). A large number of consumers express their growing awareness of environmental issues as well as their preference

for green products and willingness to buy them at a premium (Han et al., 2011). When consumers are aware of and able to assess the impact of products on the environment, they will be more aware of their responsibility to the environment and the need to purchase green products (Fryxell & Lo, 2003). Because of that responsibility, they may express an intention to purchase green products. Ariffin et al. (2016), and Karatu and Mat (2015) also confirmed that the perception of the environment has a positive influence on green purchase intention.

In addition, perception of the environment also drives consumer behavior (Follows & Jobber, 2000; Schlegelmilch et al., 1996). This is based on the rational choice model, with the assumption that people will engage in more pro-environmental behaviors if they are educated about environmental issues (Kollmuss & Agyeman, 2002). Consumers buy green products because they believe it will help protect the environment. However, Kollmuss and Agyeman (2002) argue that environmental awareness in itself is not a prerequisite for friendly behavior. environmentally argument is reinforced by Pagiaslis and Krontalis (2014) when they argue that although perception of environment is an important prerequisite for green purchase behavior, a high level of environmental awareness among consumers does not necessarily lead to an increase in specific green behaviors. In this study, the author suggests that a high level of environmental awareness can have a positive impact on green purchase intention and behavior. From there, the following hypotheses are proposed:

Hypothesis H1: Perception of environment has a positive influence on green purchase intention.

Hypothesis H2: Perception of environment has a positive influence on green purchase behavior.

## 2.4.2. Perception of effectiveness

Kinnear et al. (1974) posit that consumer beliefs pertain efficacy to consumers' perceptions of their actions' effectiveness. Conversely, Webster (1975) defines consumer efficacy beliefs as the evaluation of the extent to which their consumption can effect change in addressing issues. Kinnear et al. (1974) and Webster (1975) have framed efficacy beliefs as the firm conviction that consumers possess the capability to alter their behavioral outcomes positively. Meanwhile, Ellen et al. (1991) suggest that if consumers perceive their actions as failing to yield desired results, it can negatively impact their purchase intentions and behaviors.

Numerous studies have identified a positive between consumer perceived correlation effectiveness and the intention to purchase green products (Gleim et al., 2013). Consumers actively contribute to environmental protection by effectively making green purchase decisions, which in turn fosters their intention to buy green products (Kanchanapibul et al., 2014). Several other studies also indicate that consumers with a high perception of effectiveness demonstrate stronger intentions and behaviors related to green consumption (Ghali-Zinoubi, 2020; Wesley et al., 2012). Conversely, Nam et al. (2017) and Wu (2015) suggest that perception of effectiveness does not influence green consumption intention. In this research, the author posits that the perception of effectiveness positively influences green purchase intention and behavior. Therefore, the following hypothesis is proposed:

*Hypothesis H3:* Perception of effectiveness has a positive influence on green purchase intention.

## 2.4.3. Perception of health

Health consciousness refers to an individual's concern for maintaining their

health in their daily lives (Xu et al., 2020; Yadav & Pathak, 2017). In Maslow's Hierarchy of Needs (1981), physiological needs, including health, are positioned at the base, highlighting health as a fundamental need requiring primary consideration. The most prevalent and significant reason for consumers to purchase organic food stems from their health consciousness and the perception that organic food benefits their well-being (Padel & Foster, 2005). Health-conscious individuals motivated to purchase environmentally friendly products to mitigate both environmental and health risks (Yadav & Pathak, 2017). The health factor consistently arises when consumers consider purchasing green products (Xu et al., 2020). Xu et al. (2020) also affirm that health consciousness has a positive impact on green purchase intention. Several other studies provide evidence that a stronger emphasis on health among consumers correlates with a more robust intention to purchase organic products (Yadav & Pathak, 2017; Chen, 2009). Therefore, the author proposes the following hypothesis:

*Hypothesis H4:* Perception of health positively affects green purchase intention

## 2.4.4. Perception of price

Perception of price refers to how consumers perceive the value they receive in relation to the amount they spend (Lichtenstein et al., 1993). Typically, price is a primary factor influencing consumer purchase decisions, as they often seek quality products at reasonable prices. Consequently, due to the generally higher prices of green products, cost stands as a significant barrier to green purchase intention and behavior (Connell, 2010). High prices are a primary reason for consumers' to purchase green reluctance products (Gadenne et al., 2011). Conversely, lower prices can incentivize consumers to purchase green products. However, consumers remain willing to pay a premium for green products due to

the perception that these products are safe, beneficial to themselves, and environmentally friendly (Han et al., 2011). This study suggests that the perception of price negatively influences green purchase intention and behavior, leading to the following hypothesis:

*Hypothesis H5*: Perception of price negatively affects green purchase intention.

## 2.4.5. Perception of behavioral control

According to Ajzen (1991), perception of behavioral control is the perceived ability of an individual to control their behavior in relation to their actions. It refers to an individual's capacity to perform a specific behavior. Based on the empirical foundation of the Theory of Planned Behavior (TPB), numerous studies have confirmed that perception of behavioral control significantly influences the intention and behavior related to purchase green products (Wang et al., 2014). However, some studies indicate that perception of behavioral control has no impact on consumers' green purchase intentions (Pagiaslis & Krontalis, 2014; Arvola et al., 2008). Despite evidence suggesting a positive relationship between perception of behavioral control and green purchase intention and behavior, further empirical research is necessary. Therefore, the author proposes the following hypothesis:

*Hypothesis H6:* Perception of behavioral control has a positive influence on green purchase intention.

*Hypothesis H7:* Perception of behavioral control has a positive influence on green purchase behavior.

## 2.4.6. Green purchase intention and behavior

Ajzen (1991), through the Theory of Planned Behavior (TPB), posits that intention governs behavior, making it a primary factor in predicting and explaining specific actions. As individuals can plan actions to achieve goals, human behavior becomes predictable through behavioral intention. According to Kanchanapibul et al. (2014), green purchase intention directly drives green purchase behavior. Goh and Balaji (2016) argue that green purchase intention is the driving force behind green product purchase behavior. This intention aligns with consumers' desire to prioritize eco-friendly products (Al-Majali & Tarabieh, 2020). Purchase intention is crucial in predicting purchase behavior trends (Chen, 2010). Therefore, the author proposes the following hypothesis.

*Hypothesis H8:* Green purchase intention has a positive impact on green purchase behavior.

The research model is proposed with 08 hypotheses (Figure 01).

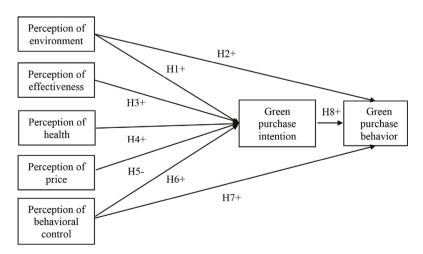


Figure 1. Research model

#### 3. Research method

To clearly determine the influence of perception on green purchase intention and behavior of consumers, this study uses a combination of qualitative and quantitative methods. Qualitative research is conducted through group discussions with 08 people who regularly buy green products, randomly selected in Ho Chi Minh City, to explore and confirm the influence of perceptual factors on green purchase intention and behavior. The measurement scales are proposed based on a summary of previous relevant theories and empirical studies. Quantitative research is used to assess the reliability of scales measuring the components of awareness that influence consumers' green purchase intention and behavior. At the same time, the quantitative research method is also used to test the research model and proposed research hypotheses by combining PLS-SEM and IPMA. To help studies reflect more deeply on the nature of the research problem, the Importance-Performance Matrix Analysis (IPMA) tool is increasingly being used (García-Fernández et al., 2020).

#### 3.1. Measurement scale

The scales were inherited and customized from previously published studies, applying a 5-point Likert scale to all observed variables. Specifically, perception of environment includes 5 variables (Maichum et al., 2017; Ellen et al., 1991), perception of effectiveness includes 5 variables (Gleim et al., 2013; Connell, 2010), perception of health includes 5 variables (Testa et al., 2019), perception of price includes 5 variables (Gleim et al., 2013; Connell, 2010), perception of behavioral control includes 5

variables (Testa et al., 2019; Wang et al., 2014), green purchase intention includes 05 variables (Butt, 2017; Maichum et al., 2017) and green purchase behavior includes 06 variables (Lee, 2008; Schlegelmilch et al., 1996) (*see Appendix 1 online*).

## 3.2. Research samples and data

Hair et al. (2021) proposed a 10-fold rule to determine the minimum sample in PLS-SEM, according to which the minimum sample size for this study is equal to 10 times the number of observed variables of a causal scale structure which has the most observed variables of 50. The sample includes consumers in Vietnam who have ever purchased green products and were selected under random principles. The survey was conducted online by sending questionnaires to online community groups in all three regions, North, Central, and Southern. The author received 409 responses to the questionnaire, of which 371 responses were valid, the remaining 38 responses were not reliable as they only chose one answer option or had never purchased green products. Details of the research sample are shown in Appendix 2 (see Appendix 2 online).

#### 4. Research result

## 4.1. Reliability, convergence, discrimination

After evaluating the quality of the observed variables, PH1, GPB6, and GPI5 had Outer Loadings greater than 0.7 and were eliminated, the remaining observed variables were meaningful in the model, so they continued to be used to analyze and test the measurement model.

Green purchase intention (GPI)

0,589

	<u>-</u>			
Variables	<b>Outer Loadings</b>	Cronbach's Alpha	CR	AVE
Perceived environmental (PE)	All scales > 0.7	0,841	0,887	0,612
Perceived behavior effectiveness (PBE)	(Figure 2)	0,822	0,866	0,563
Perceived Health (PH)		0,803	0,871	0,630
Perceived price of green product (PPP)		0,837	0,884	0,605
Perceived behavior control (PBC)		0,842	0,888	0,614

**Table 1.** Reliability and convergence

The observed variables are all meaningful in the model because all Outer Loadings are higher than 0.7. Cronbach's Alpha, CR of all scales get greater than 0.7, so the scales all ensure reliability. Additionally, all AVE values are larger than 0.5 (Table 1), so the scales ensure convergence. The square root of AVE is greater than the correlations between the latent variables (*see Appendix 3 online*) and

discriminant validity is ensured because all HTMT values are > 0.9 (see Appendix 4 online).

0,851

#### 4.2. Structural model

0,767

The structural model consists of relationships being built through hypothesis. Bootstrapping technique was performed to test the research hypothesis. The test results are given in Figure 2

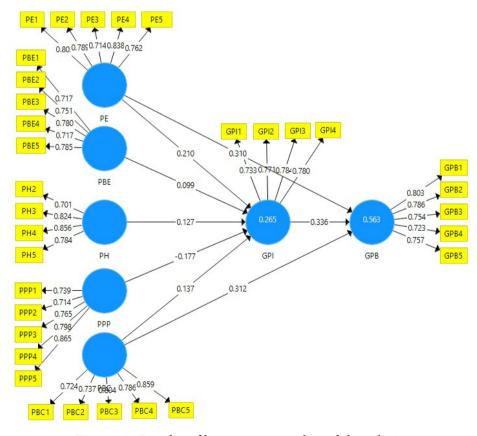


Figure 2. Results of linear structural model analysis

The impact of PBE on GPI, although it exists, is not significant because the T-test has a p-value higher than 0.05, the remaining effects are all

significant because the T-test has a p-value less than 0.05 (Table 3).

Table 3.	Hypothesis	testing	result
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Hypothesis	Relationship	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values	Conclude
H1	PE -> GPI	0.210	0.209	0.060	3.495	0.000	Accepted
H2	PE -> GPB	0.310	0.309	0.044	7.086	0.000	Accepted
H3	PBE -> GPI	0.099	0.108	0.059	1.684	0.092	Not accepted
H4	PH -> GPI	0.127	0.129	0.052	2.425	0.015	Accepted
H5	PPP -> GPI	-0.177	-0.179	0.059	3.018	0.003	Accepted
H6	PBC -> GPI	0.137	0.134	0.058	2.345	0.019	Accepted
H7	PBC -> GPB	0.312	0.314	0.039	8.034	0.000	Accepted
Н8	GPI -> GPB	0.336	0.337	0.039	8.701	0.000	Accepted

The structural equation model has VIF values smaller than 5, indicating that there is no multicollinearity occurring in the model because there is no homogeneity between the scales (*see Appendix 5 online*).

## 4.3. Influence level

To evaluate the explanatory power of the model, the study uses the adjusted R<sup>2</sup> value. The higher the adjusted R<sup>2</sup> value, the greater the explanatory power of the model. The adjusted R<sup>2</sup> values of the dependent variables in Appendix 6 (see Appendix 6 online) show that independent variables influence and explain

56% of the variance in the GPB variable; 25.5% of the variance in the GPI variable.

The  $f^2$  value represents the result of evaluating the influence of the construct when removed from the model. An  $f^2$  value less than 0.02 indicates no influence between the links. Except for the  $f^2$  coefficient of the PBE variable smaller than 0.02, we see that the remaining  $f^2$  coefficients are all greater than 0.02, meaning that each independent variable has an effect on the dependent variable (*see Appendix 7 online*).

## 4.4. Importance - Performance Map analysis - IPMA

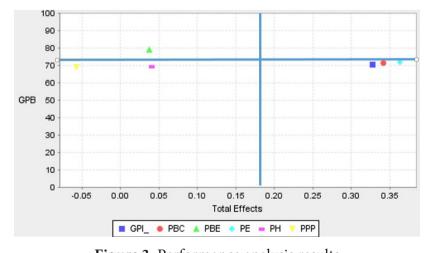


Figure 3. Performance analysis results

The results of the IPMA analysis (Figure 3) show that the four factors of environmental awareness, behavioral control, health awareness, and green purchase intention have below-average performance. Therefore, it is necessary to change consumers' awareness of the environment, behavioral control, and health, thereby changing green purchase intention and finally changing behavior, in which changing environmental awareness is of paramount importance because this factor greatly affects green purchase intention and behavior.

#### 4.5. Discussion on research results

The study of factors influencing green purchase intention and behavior of consumers has been conducted by many domestic and foreign authors. The results achieved by this study contribute to reinforcing the factors that have been affirmed and clarifying the contradictory arguments between the results of previous studies.

*Firstly*, the research results confirm that perception of effectiveness does not significantly affect green purchase intention, similar to the assertion of Nam et al. (2017), Wu (2015). The remaining factors, such as perception of environment, perception of health, and perception of behavioral control, all positively influence purchase intention, thereby promoting consumers' green purchase behavior. At the same time, perception of environment and perception of behavioral control directly influence green purchase behavior. The results of this study are also supported by the results of most previous studies, contrary to the argument that perception of behavioral control has no effect on consumers' green purchase intention (Pagiaslis & Krontalis, 2014; Arvola et al., 2008) when they argue that a high level perception on environment does not necessarily lead to an increase in specific green behavior.

Secondly, the perception of price is a controversial factor because there are many

studies with contradictory results. Connell (2010) and Gadenne et al. (2011) argued that consumers will not buy green products when they find the price high. However, Han et al. (2011) affirmed that consumers still have the intention to buy and are willing to pay higher prices to buy green products because they are safe and good for themselves and the environment. The results of this study contributed to reinforcing the viewpoint of Connell (2010) and Gadenne et al. (2011) when price perception negatively affects green purchase intention.

Finally, the IPMA analysis results show that perception of the environment and perception of behavioral control play a very important role, but the performance is below average. Therefore, it is necessary to actively change consumers' perception of the environment and behavioral control.

## 5. Conclusion and proposed implications

#### 5.1. Conclusion

Green consumption is a component of Vietnam's Green Growth Strategy for the period 2011-2020, with a vision to 2050. It can be said that the trend of green purchase and green consumption has been widely accepted in the community, from manufacturers to consumers, becoming an inevitable trend that brings many benefits to the community.

The study achieved its objectives and confirmed that awareness has a positive impact on green purchase intention and behavior of consumers in Vietnam, contributing to enriching existing documents on green purchase intention and behavior and green consumption. At the same time, it is a premise for conducting other empirical studies related to green purchase intention and behavior in the future.

Besides the achieved results, the limitations of this study include the small sample size and the focus on only a few key perceptual factors that many scholars are interested in. The study also did not analyze the moderating or controlling role of some demographic variables of consumers such as education level, occupation, place of residence, and income ... although these variables all have a certain relationship with consumption intention and behavior. In addition, consumer perceptions of product and service groups may vary, so in the future, this research model could be tested on specific product or service groups to explore different levels of green purchase behavior...

## 5.2. Proposed implications

The results of this study affirmed that perception influences green purchase intention and behavior. However, the degree of influence of perceptual factors on green purchase intention and behavior is not the same; specifically, health awareness has the smallest influence, and environmental perception has the greatest influence. This is useful information for businesses in implementing actions to raise consumer awareness, create green purchase

intentions, thereby increasing green purchase behavior.

To raise consumer awareness regarding green purchasing, with the support of State management agencies, businesses need to promote propaganda through advertising, product display, participation in events, exhibitions on green products, green consumption, etc., so that consumers can see the benefits of green purchase for themselves as well as the community.

As the majority of Vietnamese consumers currently have low to middle income, this somewhat negatively affects their green purchase intention and behavior. In addition to the Government's support policies, such as incentives, subsidies, etc., businesses need to apply appropriate management, production, and business operation methods to reduce costs, lower product prices, stimulate demand, and increase green purchase intention and behavior among consumers.

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