Factors Affecting the Willingness to Pay for Green Packaging among Vietnamese Youths

Nguyen-Nhu-Y Ho*, Thuy-Vy Vu, Thi Nhu Tam Nguyen, My Hanh Le

Faculty of Economics and Management, International School, Vietnam National University, Hanoi, Vietnam

*Corresponding author: hngny@vnu.edu.vn

Abstract

Research purpose: This study aims to explore the factors affecting the willingness to pay young consumers for green packaging products in Vietnam, using a planned behaviour model (TPB) as a theoretical basis.

Research motivation: In recent years, plastic packaging waste in Vietnam has increased rapidly, making up over 90% of marine pollution and threatening ecosystems. Green packaging has emerged as a sustainable solution. Therefore, it is essential to study young consumers' willingness to pay for green packaging and propose suitable marketing and communication strategies to promote responsible consumption.

Research design, approach, and method: The study was conducted with 321 young consumers in Hanoi, using a quantitative survey method to collect data. Structural Equation Modeling (SEM) is applied for data analysis to test the proposed relationships between variables.

Main findings: Environmental concern, perceived behavioural control, and perceived consumer effectiveness all positively influence the willingness to pay for green packaging. Subjective norms have a negative impact on willingness to pay. In addition, the moderating effect of knowledge factors do not significantly affect the relationship between willingness to pay and responsible consumer behaviour for green packaging.

Practical/managerial implications: The research that advances our knowledge of young Vietnamese consumers' sustainable buying habits and serves as a foundation for marketing plans and legislative initiatives aimed at promoting the use of eco-friendly packaging in the community.

Keywords: *Green packaging, Environmental concern, Perceived behavioural control, Perceived consumer effectiveness, Willingness to pay, Responsible consumer behaviour*

1.INTRODUCTION

Packaging is an inevitable part of food handling, logistics, manufacturing, transportation, warehousing, and retail (Lewis et al., 2007). However, packaging is the main cumulative leakage of plastic waste with over 150 million tons ending up in the ocean (Kosior & Crescenzi, 2020). In recent years, packaging waste, especially plastic packaging, has been increasing rapidly in Vietnam. Studies by the United Nations Environment Programme (UNEP) show that plastic waste accounts for more than 90% of marine pollution, seriously affecting marine ecosystems and biodiversity.

Faced with this alarming situation, green packaging has emerged as a sustainable alternative. Green packaging refers to the use of materials and processes in packaging that have a lower impact on the environment than traditional methods. The importance of green packaging lies not only in its ability to reduce waste and pollution, but also in promoting a corporate culture that values ecological responsibility, thereby improving brand image and customer loyalty (Qayyum et al., 2023).

According to Nguyen et al. (2020), green packaging is defined by design materials and procedures that give environmental sustainability top priority at every stage of the packaging life cycle, from manufacture to disposal. This idea is essential to sustainable retail since it directly responds to consumers' increasing desire for eco-friendly goods and procedures. In addition to helping the environment, making sure that green packaging is used effectively gives businesses a competitive edge when trying to boost customer loyalty and brand image (Wandosell et al., 2021). It is impossible to overstate the importance of green packaging in sustainable retail, particularly when considering young consumers who are becoming more conscious of the environmental effects of their actions and the items they buy (Aday & Yener, 2014; Nguyen et al., 2018). Due to increased environmental consciousness, research shows that young consumers in developing

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nations like Vietnam and India are more inclined to select items made with eco-friendly materials (Nguyen & TRAN, 2021; Prakash & Pathak, 2017). These customers' participation is essential since they make up a sizeable share of the market, which is driving up demand for the greenest retail practices (Jerzyk, 2016).

Theoretically, many studies have used the Theory of Planned Behavior (TPB) to analyze consumer behavior towards green packaging. Factors such as environmental awareness, perceived behavioral control, and personal norms are believed to influence attitudes and intentions to pay for sustainable products. Mahmoud et al. (2022) and Tanzares et al. (2024) demonstrated that high environmental awareness increases willingness to pay (WTP) for green packaging. Martinho et al. (2015) and Singh and Pandey (2018) also found that perceived quality and functionality of packaging play a mediating role in purchase decisions. The influence of social norms and corporate communications also has a significant impact on green purchasing behavior (Chaudhary & Bisai, 2018; Orzan et al., 2018).

In Vietnam, research on green packaging is still limited. In particular, the actual consumer behavior of young consumers - a group that accounts for 25% of the workforce and tends to be more environmentally friendly - has not been fully exploited. The lack of understanding of green packaging and confusion with "greenwashing" are undermining sustainable consumption efforts. Therefore, it is necessary to survey and analyze the actual consumer behavior of the young population towards green packaging products in Vietnam, thereby proposing appropriate marketing and communication strategies to promote responsible consumption.

The previous studies show that the consumer groups that pay more attention to green products or sustainable factors are Generation Z and Millenials (ages 18-35) are young consumers (Borre et al., 2024; Francis & Sarangi, 2022; Rossi & Rivetti, 2023; Wang, Wang, Xue, et al., 2018). This study specifically targets younger consumers since they are more likely than older generations to be open to the idea of green packaging and to have a higher intention to buy green products (Diamantopoulos et al., 2003). It has been demonstrated that young age and higher education level positively impact attitudes toward green consumers (Wang, 2014). Even though younger consumers make up 25% of the major workforce, they have not been the focus of recent research on green packaging in Vietnam. Hence, this study hopes to contribute knowledge to understand more green behavior among young consumers in Vietnam.

Accordingly, the present study seeks to address this gap by investigating the determinants of Willingness to Pay (WTP) for green packaging among young Vietnamese consumers. Specifically, this research aims to answer the following questions:

1. What factors significantly influence the WTP for green packaging among young consumers in Vietnam?
2. Does a higher WTP positively correlate with responsible consumer behavior?
3. What is the moderating effect of knowledge on the relationship between WTP and responsible consumer behavior?

The findings are expected to provide empirical insights for developing effective marketing strategies that encourage and support sustainable consumption patterns.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1. Theory of Planned Behavior (TPB)

The planned behavior theory (TPB) is a psychological framework that has gained broad recognition for its usefulness to understand and predict human behavior in several contexts. Developed by (Ajzen, 1985), the TPB postulates that individual intentions are influenced by three key components: attitudes, subjective norms and perceived behavioral control (Ajzen, 2020). Attitudes refer to the evaluation of the individual of behavior, subjective norms denote the social pressures perceived or not in behavior, and perceived behavioral control reflects the belief of the person in their ability to perform the behavior (Ajzen, 2020; Conner, 2020).

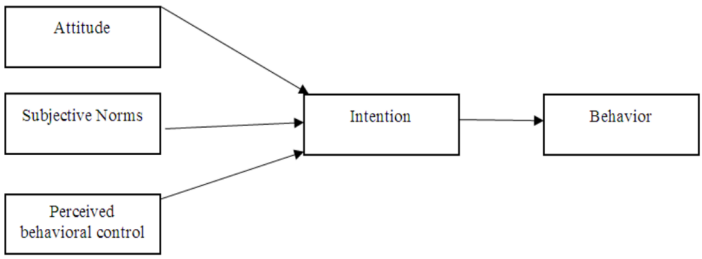

Figure 1: Theory of Planned Behavior

(Source: Adapted from (Ajzen, 1991)

The relevance of the Theory of Planned Behavior (TPB) in behavioral research is reinforced by its broad applicability to various domains, including environmental sustainability and green consumption. Numerous studies have shown that TPB can effectively explain behaviors ranging from health-related actions to pro-environmental practices such as waste reduction, recycling, and the adoption of eco-friendly products (Gao et al., 2017; Wang, Wang, Wang, et al., 2018). For instance, Burgess et al. (2017) applied the TPB framework to evaluate environmental management practices, revealing that intentions significantly influence the actual implementation of sustainable actions. Similarly, Hassan et al. (2016) through a multi-country review of TPB applications, confirmed the theory's validity across cultural contexts, including consumer decisions to purchase green products.

In the specific domain of sustainable packaging, TPB has been widely adopted to identify the psychological and behavioral drivers of consumers' willingness to pay (WTP) for eco-friendly packaging. It helps explain how attitudes toward environmental issues, subjective norms (social influence), and perceived behavioral control (PBC) shape consumers' green purchasing intentions. Research also highlights the role of perceived consumer effectiveness (PCE), which extends the TPB framework by showing how belief in one's ability to make a difference can strengthen intentions to choose green packaging over conventional options.

The adaptability of TPB has also been demonstrated in business and marketing contexts, such as promoting green packaging adoption among both producers and consumers. Ghouri, Khan, and Kareem (2016) argued that extending TPB with variables like environmental concern or eco-label trust can provide a robust framework for understanding and influencing purchasing behavior. Similarly, Gao et al. (2017) applied an extended TPB to energy-saving behaviors, revealing nuanced factors that could be adapted to green packaging promotion, such as product availability and perceived affordability.

The implications of TPB for green packaging research are substantial. It provides a structured model for identifying and measuring determinants of sustainable consumption, making it a valuable tool for both theoretical and applied research in this field (Lee & Vincent, 2021). Ajzen (2020) emphasize that interventions based on TPB — such as targeted environmental education, social marketing campaigns, and improved product accessibility — can effectively change behavior. Consistent findings across studies (Song et al., 2017; Steinmetz et al., 2016) suggest that TPB-based strategies can significantly increase consumers' willingness to adopt green packaging, thereby contributing to broader sustainability goals.

2.2. Develop research hypothesis

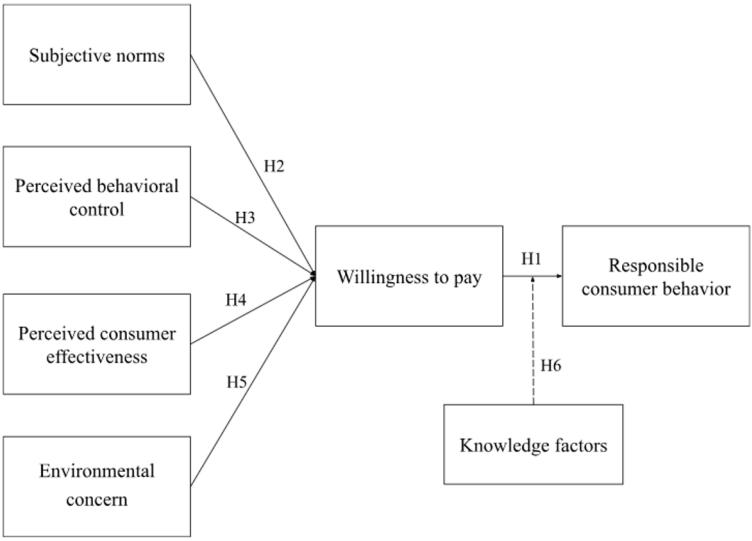

Figure 2: Conceptual model

(Source: By author, 2025)

The relationship between consumers' desire to pay (WTP) and their responsible behavior in purchasing decisions has drawn significant attention to recent literature, in particular concerning environmental, ethical and social implications. Research indicates that the WTP serves as a critical determinant in consumer choices, in particular when evaluated jointly with corporate social responsibility (CSR). Ferreira and Ribeiro (2017) explored this dynamic, saying that consumers often have a greater propensity to pay a bonus for brands demonstrating solid CSR frames, influencing their overall purchasing behavior towards national and international brands. Collectively, these studies select the multifaceted relationship between WTP and responsible behavior of consumers, strengthening the opinion that social, ethical and environmental considerations considerably shape purchasing decisions in various contexts.

H1: Willingness to pay has a positive effect on Responsible consumer behavior

The term "subjective norm" refers to the impact of social norms, which encompass people's opinions of the conduct of others who hold significant importance in their lives, such as friends, family, and the community. Ajzen (2012) elaborated on this idea, contending that social norms encompass people's perceptions of what society expects of them in addition to the actions of their reference group. Given that collectivist societies—like those in East Asia—may have a greater impact on consumer behavior than individualist societies—like those in the West—this is especially crucial when researching pro-environmental behavior (Shi et al., 2017). Subjective norms have been found to have a significant impact on consumers' decisions to adopt green packaging, particularly in areas where there is a strong social desire for environmental conservation and a high degree of community lifestyle. The likelihood that someone will pick green packaging will rise if they believe that the community around them expects or encourages them to do so.

H2: Subjective Norms has a positive effect on Willingness to pay

The concept of perceived behavioral control (PBC) has gained prominence in the understanding of the willingness of people to pay (WTP) for organic products. PBC, as described in the theory of planned behavior, refers to the perception of individuals of their ability to carry out a behavior, which influences their intention to participate in that behavior. This relationship has been particularly relevant to organic products, where consumers may feel limited by financial limitations or limited availability, affecting their WTP (Denisia et al., 2025). Biswas and Roy (2015) explored the will of consumers to pay for green products, stating that greater perceived control is positively correlated with a greater WTP among

consumers. Lavuri (2021) extended this exploration, identifying personal beliefs and social norms as significant promoters to promote ecological purchase intentions among millennials within emerging markets.

H3: Perceived behavioral control has a positive effect on Willingness to pay

The perceived consumer effectiveness (PCE) plays a fundamental role in determining the disposition of people to be paid (WTP) for sustainable products. This relationship is supported by a confluence of psychological, economic and social factors, which shows the intricate interaction between individual attitudes and the broader dynamics of the market. The will of consumers to pay the prices of the premium often correlates with their belief in the effectiveness of their purchases to promote change, reinforcing the opinion that the characteristics of the consumer give significantly form this will (Wei et al., 2018).

In general, existing literature underlines a multifaceted exploration of how PCE influences WTP for sustainable products, made up of psychological beliefs, economic evaluations and social norms. Additional explorations in this domain remain essential to understand the overview of evolving consumers and to formulate strategies that harmonize consumer values with sustainable practices (Biswas & Roy, 2015).

H4: Perceived consumer effectiveness has a positive effect on Willingness to pay

Understanding consumers' disposition of paying (WTP) by green packaging is crucial, especially as environmental concerns continue to increase. Several studies have documented that varying levels of environmental awareness significantly affect WTP for ecological packaging solutions. Hao et al. (2019) have found that China consumers are willing to pay a price for green packaging when their environmental awareness is high. Similarly, Mahmoud et al. (2022) highlighted the correlation between environmental awareness and consumer purchase decisions, suggesting that greater awareness can lead to an increase in WTP.

H5: Environmental concern has a positive effect on Willingness to pay

Research indicates that knowledge can considerably modify the perceptions and assessments of goods and services, in particular in emerging markets where the awareness of products is still developing (Islam et al., 2016). Different levels of knowledge lead to different levels of desire to pay for products, shaped by an interaction of psychological perceptions, economic assessments and socio -cultural influences. It is essential for attaining more responsible consumption, which necessitates much greater consumer effort in making decisions and typically restricts their purchase options (Shaw & Shiu, 2003). As the understanding becomes deepened, it becomes clearer than education and conscience are essential to shape consumer behavior and increase WTP, stressing the importance of personalized marketing strategies that inform and engage consumers (Johnson et al., 2016; Krueger et al., 2016).

H6: Knowledge factor has a moderating role in the relationship between Willingness to pay and Responsible consumer behavior

3. RESEARCH METHODOLOGY

3.1. Research design

This research is using the structural equation model (SEM) as a useful framework for testing moderation models, SEM differentiates between exogenous and endogenous variables. Exogenous variables, as noted by Bowen and Guo (2011), are independent of the influence of other model variables. Conversely, endogenous variables are causally determined by the state of other variables within the system (a distinction mirrored in the concepts of dependent/independent variables and explanandum/explanans (Lewis-Beck et al., 2004). This subsection will investigate seven variables within the context of the proposed research model.

3.2. Sample and data collection

Data for this study were collected during the months of May and June 2025. Based on previous online studies, a face-to-face survey in Vietnamese was designed using Google Forms, in an effort to facilitate efficient and accessible data collection (Malhotra, 2020). Researchers often choose to distribute questionnaires online (Aktas et al., 2018) due to its convenience and low cost (Schillewaert & Meulemeester, 2005). The average time for participants to complete the online survey was approximately 5 minutes, and no incentives were offered to encourage complete responses. The introduction of the questionnaire clearly stated the research objectives and ensured the anonymity of participants, thereby

minimizing the influence of socially acceptable responses. To minimize bias, questions were constructed with a balanced balance of positive and negative questions (McCarthy & Liu, 2017; von Kameke & Fischer, 2018).

Following Roscoe et al. (1975) advice on sample size, surveys typically use samples of 30 to 500 participants. Ensure that there are at least 30 participants in each subgroup if subgroups within the sample (such as gender or age) are to be examined. The sample size should be large enough for complex statistical analyses, ideally at least ten times the number of study variables. Even with smaller samples (10–20 individuals), well-controlled experimental setups (such as matched-pair designs) can still yield reliable results. This study collected 321 responses, which was considered a sufficient sample for further data analysis.

This study follows a deductive research approach, in which hypotheses are developed from previous studies and tested through methodological statistical tables. Data are collected through an online survey with a predefined questionnaire. Data will be processed and analyzed using SPSS and SmartPLS 4. Specifically, the study uses a 5-point Likert scale including the levels: (1) Strongly disagree, (2) Disagree, (3) Neutral, (4) Agree, (5) Strongly agree.

SPSS is used to clean the data and perform descriptive statistics on participant profiles, while SmartPLS 4 is used to evaluate the results through the method of partial least squares (SEM-PLS) - system structure modeling (Sabol et al., 2023).

Based on the established hypotheses, the questionnaire was designed for independent variables such as Environmental concern, Perceived behavioral control, Perceived consumer effectiveness and Subjective Norms; moderating variable is Knowledge Factors, mediating variable is Willingness to pay; and other dependent variable is Responsible sustainable consumer behavior.

The questionnaire consists of a total of 34 questions, divided into two main parts. The first part is related to demographic and personal behavioral questions, including 6 questions. Demographic factors include gender, age, education level, monthly income and place of origin. Personal behavioral questions include shopping frequency and types of Vietnamese goods purchased most often. The second part is the main questions, measured by a 5-point Likert scale, with a total of 28 questions. To suit the context and ensure ease of understanding, the questions in the survey have been reworded and a Vietnamese version has been added to make it more convenient for the Vietnamese market.

3.3. Measurement

Table 1: Dimensions and indicators of variables

CODE	ITEMS	REFERENCES
Dimensions and indicators of Environmental Concern (EVC)		
EVC1	I feel environmental problems in Vietnam, especially in Hanoi are becoming more and more serious day by day.	Choi and Kim (2005) Wang (2014)
EVC2	Sustainable development requires that people coexist peacefully with the environment.	
EVC3	I believe that our attempts to conserve natural resources are insufficient.	
EVC4	I believe it is the duty of individuals to protect the environment.	
Dimensions and indicators of Perceived Behavioral Control (PBC)		

PBC1	I believe I can purchase things with green packaging.	Armitage and Conner (1999); (Paul et al., 2016); Shukla (2019)
PBC2	I will definitely buy green packaging products if it is entirely up to me.	
PBC3	I have resources, time and willingness to buy green packaging products	
PBC4	Green packaging goods are available on my frequent shopping places	
PBC5	I feel that purchasing green packaging products are not in my control	
Dimensions and indicators of Perceived Consumer Effectiveness (PCE)		
PCE1	Every individual behaviour in support of environment can have a positive effect on society	Choi and Kim (2005); Jaiswal and Kant (2018)
PCE2	My contribution is capable of solving environmental problems	
PCE3	I can protect the environment by purchasing green packaging goods	
Dimensions and indicators of Subjective Norm (SN)		
SN1	Most people who are important to me think that I should buy green packaging products	Paul et al. (2016); Shukla (2019)
SN2	People opinion I value would prefer that I buy green packaging products	
SN3	My colleagues/ friends favorable opinion influences me to purchase green packaging products	
Dimensions and indicators of Knowledge Factors (KF)		
KF1	Green packaging is a part of environmental-friendly consumerism	Singh and Swati (2021)
KF2	Use green packaging to help protect the environment	
KF3	Green packaging contributes to societal well-being	
KF4	Green packaging creates less pollution	

KF5	I know the information on green packaging	
Dimensions and indicators of Willingness to Pay (WTP)		
WTP1	It is acceptable for me to pay more money for green packaging products	Prakash and Pathak (2017) Orzan et al. (2018)
WTP2	I feel proud to have green packaging products in my house though they are more costly than conventionally packaged products	
WTP3	I would be willing to spend more money in order to buy green packaging products	
WTP4	I am you willing to support local initiatives to support green packaging	
Dimensions and indicators of Responsible consumer behavior (RSCB)		
RSCB1	When there is a choice, I always choose the product that contributes to the least amount of pollution	Roberts and Bacon (1997) Webb et al. (2008)
RSCB2	Whenever possible I buy products that using green packaging	
RSCB3	When I purchase products, I make a conscious effort to buy those products that are low in pollutants	
RSCB4	I have switched products for environment reasons	
RSCB5	I do not buy a product if the company that sells it is environmentally irresponsible.	

Source: by author

3.4. Data collection techniques

Convenience sampling is used in this study since it is economical and requires little work. By sending surveys at various times, the research diversifies to obtain a suitable cross-section of the target population and prevent biases (Golzar et al., 2022). The goal of data collecting is to obtain the knowledge required to evaluate research theories that are based on research questions. These theories nevertheless need to be verified and are supported by actual data, which can only be gathered via particular techniques for gathering data. One popular technique for gathering data for research projects is the questionnaire. The researcher used a survey with two sections to collect primary data from Vietnamese city dwellers who were either current or previous residents:

Part 1: Contains detailed information of the respondents'profile such as gender, age, job, marital status and education level (between high school and post-graduate scholars or other) and income.

Part 2: Includes questions regarding customers'behavior about green packaging. The main content of this part is found on the basis of the Theory of Planned Behavior (TPB) presented in part 2.

4. DATA ANALYSIS & RESEARCH RESULTS

4.1. Characteristic of Respondents

Table 2: Characteristics of Respondents

Characteristic	Classification	Frequency	Percentage (%)
Gender	Male	125	38.9
	Female	196	61.1
Age	18 - 24	128	39.9
	25 - 34	193	60.1
Education	University	189	58.9
	Postgraduate	132	41.1
Marital status	Single	124	38.6
	Married	197	61.4
Occupation	Student	99	30.8
	Freelance	37	11.5
	Office Worker	160	49.8
	Teacher/Lecturer	25	7.8
Income	Under 5 million	46	14.3
	5 - 10.9 million	25	7.8
	11 - 16.9 million	88	27.4
	17 - 25 million	92	28.7
	Over 25 million	70	21.8

Source: by author

The analysis of 321 research participants provides detailed demographic insights, covering gender, age, education, marital status, occupation, and income. Table 2 presents this information systematically, enabling a clearer understanding of how demographic variables relate to consumer behavior patterns.

Among the respondents, males and females were evenly represented, each accounting for 38.9% (125 respondents). In terms of age, the largest group was aged 25–34, representing 60.1% (193 respondents), followed by those aged 18–24

at 39.9% (128 respondents). Regarding education, 58.9% (189 respondents) held a university degree, while 41.1% (132 respondents) had a postgraduate qualification.

For marital status, 61.4% (197 respondents) were married, and 38.6% (124 respondents) were single. Occupationally, office workers formed the largest group at 49.8% (160 respondents), followed by students at 30.8% (99 respondents). Freelancers accounted for 11.5% (37 respondents), and teachers/lecturers represented the smallest proportion at 7.8% (25 respondents).

Income distribution among participants was diverse. The smallest income group, earning under 5 million VND per month, accounted for 14.3% (46 respondents). The 5–10.9 million group made up 7.8% (25 respondents). Those earning 11–16.9 million comprised 27.4% (88 respondents), while 28.7% (92 respondents) earned 17–25 million, representing the largest income group. Finally, 21.8% (70 respondents) reported earning over 25 million. These results indicate that most participants fell into the middle- to upper-income categories, with nearly half earning above 17 million per month.

4.2. Reliability Analysis

Table 3: Reliability Analysis

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
EVC	0.751	0.758	0.858	0.668
KF	0.855	0.914	0.891	0.621
PBC	0.858	0.859	0.898	0.637
PCE	0.777	0.778	0.871	0.692
RSCB	0.796	0.797	0.867	0.620
SN	0.759	0.777	0.861	0.673
WTP	0.798	0.799	0.869	0.623
WTP*KF	1.000	1.000	1.000	1.000

Source: Data processed by Smart-PLS

Cronbach alpha and composite reliability (CR) are critical measures in the evaluation of the reliability of measurement scales. These clues evaluate to what extent the elements of a scale give consistent results through different observations and indicate the degree of present measurement error. A commonly accepted threshold for the Cronbach is 0.70, which means an acceptable level of reliability (Hair et al., 2021). The values higher than this threshold improve the credibility of a measurement scale and ensure that it effectively captures study constructions (Hair et al., 2020). The importance of adhering to this reference is obvious in studies examining the psychometric properties of various scales. Cronbach's Alpha and Composite Reliability values for all scales are higher than the suggested cutoff of 0.70, according to the results of the internal consistency reliability evaluation (Table 3).

The convergent validity is central in quantitative research because it assesses the degree to what extent the measurements of similar constructions are correlated. This is a fundamental aspect of validity which guarantees that the measurement scales effectively capture the expected constructions. A critical statistic used to assess the convergent validity is the average variance extracted (AVE), which provides a quantitative measurement of the quantity of variance captured by a construction compared to the variance due to the measurement error. An AV value exceeding 0.5 suggests that a higher proportion of variance is taken into account by construction only by mistake, indicating a strong convergent validity (Sarstedt et al., 2014). The implications for the reliability of the measurement scales are significant. The high values of the AV strengthen confidence in the measured constructions, strengthening the results of quantitative studies (Mulyana & Jamaludin, 2023).

All scales have AVE values above the 0.50 threshold, according to the results of the convergent validity study. This demonstrates that every scale satisfies the standards of quantitative research and achieves good convergent validity.

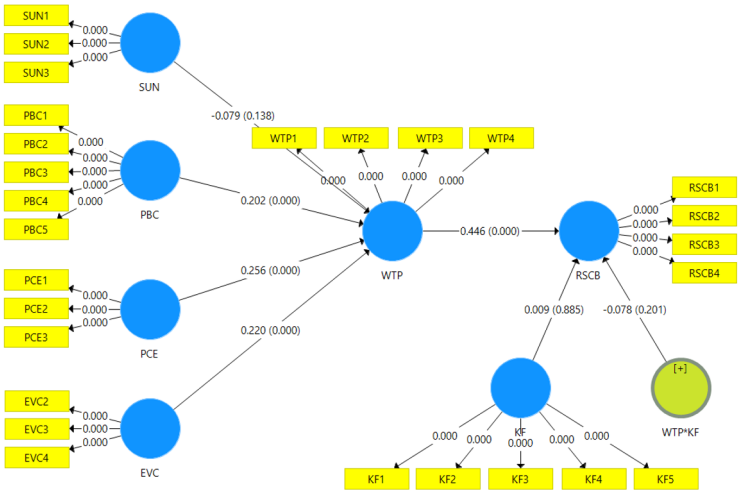

Figure 3: PLS-Structural Equation Model

Source: Data processed by Smart-PLS

4.3. Discriminant Validity

Table 4: Discriminant Validity

	EVC	KF	PBC	PCE	RSCB	SN	WTP	WTP*KF
EVC	0.817							
KF	0.123	0.788						
PBC	0.496	0.122	0.798					
PCE	0.463	0.141	0.521	0.832				
RSCB	0.511	0.098	0.491	0.498	0.787			
SN	-0.415	-0.127	-0.449	-0.474	-0.467	0.821		
WTP	0.471	0.178	0.480	0.500	0.460	-0.382	0.789	
WTP*KF	-0.163	-0.117	-0.193	-0.202	-0.146	0.158	-0.142	1.000

Source: Data processed by Smart-PLS

4.4. Structural Model Assessment: Hypotheses Testing

Table 5: Hypotheses Testing

	Coefficients	T Values	P Values	Hypothesis	Hypothesis support
EVC -> WTP	0.220	3.899	**0.000**	H5	**Supported**

KF -> RSCB	0.009	0.144	**0.885**		**Unsupported**
PBC -> WTP	0.202	3.894	**0.000**	H3	**Supported**
PCE -> WTP	0.256	4.491	**0.000**	H4	**Supported**
SN -> WTP	-0.079	1.485	**0.138**	H2	**Unsupported**
WTP -> RSCB	0.446	7.645	**0.000**	H1	**Supported**
WTP*KF -> RSCB	-0.078	1.281	**0.201**	H6	**Unsupported**

Based on t-statistics exceeding the 1.645 threshold ($t > 1.645$) and p-values below 0.005 ($p < 0.005$), the findings of the hypothesis testing in Table indicate that hypotheses H1, H3, H4, and H5 are supported. The strongest correlation is hypothesis 1 which is seen in the link between willingness to pay and responsible consumer behavior ($\beta = 0.446$; $t = 7.645$; $p < 0.000$).

However, as the hypothesis H2 and H6 do not reach the statistical significance level ($p > 0.05$), they are not supported.

5. DISCUSSION

Our investigation of young consumers' willingness to pay for green packaging in Hanoi offers significant academic and applied contributions to the field of sustainable consumption and environmental research, shedding light on key factors that can guide both theory and practice in promoting eco-friendly behavior.

This study aims to explore how environmental concern, perceived behavioral control, and perceived consumer effectiveness influence sustainable consumption, specifically the willingness to pay for green packaging among Hanoi's young population. The research applies the Theory of Planned Behavior to analyze these relationships, demonstrating the model's suitability for explaining green purchasing behavior in the context of packaging. Previous studies have shown that higher environmental concern correlates with stronger intention to buy eco-friendly products, while perceived behavioral control reflects the belief in one's ability to perform specific actions despite barriers such as cost or product availability. The addition of perceived consumer effectiveness — the belief that individual actions can make a difference — further strengthens the TPB framework in this context.

This study validates the expanded Theory of Planned Behavior (TPB) model by confirming that Environmental Concern (EVC), Perceived Behavioral Control (PBC), and Perceived Consumer Effectiveness (PCE) are significant predictors of Willingness to Pay (WTP) for green packaging among Hanoi's young consumers. The finding that EVC and PBC are the two most important drivers of WTP aligns strongly with established literature (Gomes et al., 2023; Hao et al., 2019), which frequently identifies attitude and control as fundamental antecedents of green consumption behavior, particularly in the emerging market context of Vietnam. Our results, which show a strong positive effect of PBC, further support the notion that consumers must feel that green options are readily available and affordable to translate their green intentions into purchasing actions (Lopes et al., 2023). Notably, the integrated role of PCE strengthens the TPB framework, validating research that suggests the belief in the difference an individual action can make is a critical psychological mechanism that bridges the often-cited attitude-behavior gap in pro-environmental conduct (Ellen et al., 1991).

From a theoretical perspective, this study enriches the body of knowledge on sustainable consumption by validating the effectiveness of TPB in explaining green purchasing decisions in Vietnam. It confirms that EVC, PBC, and PCE are significant predictors of WTP in the green packaging context and complements earlier research (Nguyen et al., 2017) by focusing on a younger demographic.

From a practical perspective, the findings have important implications for multiple stakeholders. For consumers, the research raises awareness about the environmental impact of packaging and frames the purchase of green packaging as both environmental protection and a personal commitment to sustainable values. For businesses, the growing demand for eco-friendly packaging presents opportunities to innovate, enhance brand image, and build competitive advantage by integrating environmental values into products. For retailers, the study highlights the role they can play in promoting sustainable consumption through increased availability of green products, collaboration with manufacturers, targeted promotions, and awareness campaigns.

In addition, the study offers strategies to encourage sustainable behavior, such as providing transparent product information, linking environmental benefits to personal and community well-being, and designing marketing campaigns that emphasize the role of individual action in achieving sustainability. These strategies not only support environmental goals but also strengthen consumer trust and loyalty.

6. CONCLUSION

In conclusion, this research demonstrates that young Vietnamese consumers' willingness to pay for green packaging is primarily driven by their environmental concerns, their belief in the effectiveness of their actions, and their perceived control over their purchasing decisions. Social pressure appears to be less influential.

However, limitations must be acknowledged. The study focuses on young consumers in Hanoi with a relatively small sample size, which may limit the generalizability of results to the broader Vietnamese population. Moreover, the research measures willingness to pay rather than actual purchasing behavior, which could be influenced by price, convenience, and information availability. Future research should expand the sample to include different age groups, regions, and socio-economic backgrounds, employ cross-cultural comparisons, and integrate qualitative methods (e.g., interviews, focus groups) to explore psychological, social, and cultural influences in greater depth.

Future studies should address the gap between awareness and actual behavior, investigate other potential factors such as environmental education and social norms, and conduct longitudinal research to track changes in consumer habits over time. This will help refine marketing strategies, inform policy, and advance the sustainable consumption agenda in Vietnam and beyond.

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