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Factors Affecting Green Consumption Behavior of Generation Z in Hanoi

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Abstract:
The study's goal is to investigate the variables influencing Generation Z's environmentally conscious purchasing habits in Hanoi. The study surveyed 459 students from several universities in Hanoi. The study used a partial least squares structural model (PLS-SEM) to test the hypotheses. The findings indicated that four factors:

- *Environmental awareness,*
- *Green product characteristics,*
- *Green product price, and*
- *Product availability affected Generation Z's green consumption behavior in Hanoi.*

The social influence element modifies the other four factors mentioned above as well. Based on this, several suggestions are made for managers to establish a business plan that appeals to today's customers.

Keywords: *Green consumption, Hanoi, green behavior*

1. Introduction

Green consumption is a trend in the world today, as the environment has become a top concern in many countries (Ho Thanh Thuy, 2018). In Vietnam, in the "Green Growth Strategy for the period 2011-2020 and vision to 2050", the four goals are:

- Greening production;
- Reducing greenhouse gas emissions per unit of GDP;
- Increasing the rate of renewable energy use;
- Greening lifestyle and sustainable consumption (Prime Minister, 2012).

Although there have been positive changes in consumption style, the perception and actions of consumers still depend on both subjective and objective factors (Chu Thi Kim Loan, 2020). Green consumption is an issue that has been mentioned by many managers and scholars, affirming its essential role for the environment and society, progress, and savings (Follows & Jobber, 2000). Over the past few decades, many studies on green consumer behavior have been published (Harrison et al., 2005). A large number of respondents worldwide responded that they are interested or very interested in environmental issues (Diekmann & Franzen, 1999). Customers are more aware of the severity of environmental degradation, leading to ecological awareness and the desire to buy environmentally friendly products, giving priority to businesses that like to practice environmental practices (M. Laroche et al., 2001).

Nowadays, consumers have begun to realize that their consumption behavior can have a significant impact on the natural environment. According to a recent study, about 80% of Vietnamese consumers are willing to spend more to buy products of environmentally friendly origin, and 79% agree to pay more for safe products that do not contain unwanted ingredients. This consumption behavior is increasingly popular in Vietnam. Economic growth is often accompanied by increased environmental pollution and reduced natural resources. Increasing green shopping and consumption along with environmental protection can effectively improve this adverse effect. To do this well, there needs to be direction and guidance from the Government and determination from businesses and consumers to identify the factors that really affect the green consumption behavior of Vietnamese people in general and Generation Z consumers in particular (Hoang Trong Hung et al., 2018).

Each year, Generation Z globally can consume about 200 billion USD and influence about 600 billion USD of family consumption. Because they are at an age with many needs for shopping and entertainment, the consumer behavior of this generation has a substantial impact on the market. Most of the decisions to buy food for the family are made by them (Phuong Quyen & Thanh Hang, 2018). In addition, Generation Z also decides to choose outdoor entertainment activities for themselves and their families, as well as modern technology products (Nielsen, 2017). Identifying factors affecting green

consumer behavior is extremely important to this study because this will be the basis for building the main factors affecting green consumer behavior of Generation Z.

2. Literature Review

2.1. Green Product

Green products, according to Chen & Chai (2010), employ recyclable materials and do not need much packaging. These items do not harm the environment at all and are highly eco–friendly. Nguyen Gia Tho (2019) states that a product is deemed green if it satisfies one of four requirements:

- It is composed of environmentally friendly materials;
- It offers safe alternatives to conventionally toxic products for the environment and human health;
- It lessens the product's adverse effects on the environment while in use; and
- It establishes a safe and welcoming environment for human health.

According to Hoai Nam (2020), green products are goods and services produced using eco-friendly ingredients. They are made using energy-efficient techniques, either fully or partially from recycled materials, and are, after that, sold in an environmentally responsible way. Thus, one of the following qualities needs to be guaranteed by green products:

- Constructed from recycled materials;
- Low maintenance and energy-efficient;
- Free of hazardous substances;
- No pollution to the environment during production; and
- Reusable, recyclable, or biodegradable.

2.2. Green Consumption

Since 1990, green consumption has grown in popularity. Mainieri et al. (1997) defined green consumption as the act of purchasing environmentally benign and valuable products. These are products that help achieve the long-term goal of environmental protection and preservation. According to Chan (2001), green consumption demonstrates responsibility for environmental conservation by choosing ecologically friendly products and following suitable waste disposal procedures. Sisira (2012) provided a comprehensive description of green consumption, indicating that it is a process involving social behaviors such as purchasing organic foods, recycling, reusing, limiting waste, and adopting environmentally friendly transportation methods.

According to Vu Phong (2021), green consumption is the acquisition and usage of environmentally friendly products that are not harmful to human health or endanger the natural environment. Nowadays, green consumption encompasses not only green shopping behaviors but also a range of behaviors viewed through the lens of sustainable development: purchasing ecological foods, recycling, reusing, saving, and using environmentally friendly transportation systems (Nguyen The Khai & Nguyen Thi Lan Anh, 2016).

According to the notions presented above, green consumption is defined as human behaviors aimed at maintaining, saving natural resources, and protecting the environment, thereby contributing to the economy's green growth. In fact, consumers may not understand green products, but their actions of purchasing and using items with the goal of lowering operating costs (buying electricity and water-saving devices; reusing packaging) or assuring health (buying organic products) are still termed green consumption.

2.3. Research Model

Identifying factors affecting green consumption behavior is extremely important for this study because this will be the basis for building the main factors affecting the green consumption behavior of Generation Z in Hanoi. After absorbing and supplementing the research of Ajzen (1991) and Boztepe (2012), the study proposed a research model consisting of 4 main factors:

- Environmental awareness,
- Green product characteristics,
- Green product price,
- Product availability and the moderating factor is social influence. (Figure 1).

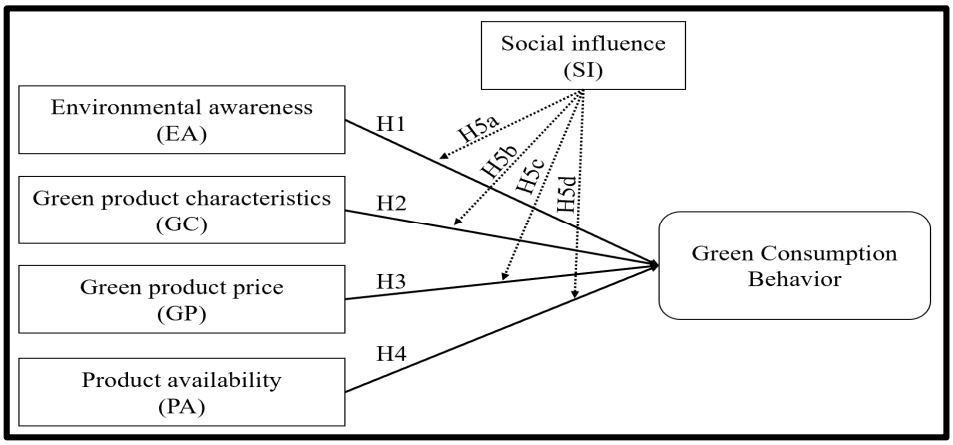

Figure 1: Research Model

Some research hypotheses are proposed as follows:

- Hypothesis H1: There is a positive relationship between environmental awareness and green consumer behavior;
- Hypothesis H2: There is a positive relationship between green product characteristics and green consumer behavior;
- Hypothesis H3: Green product prices have a negative impact on green consumer behavior;
- Hypothesis H4: Product availability has a positive effect on green consumers' behavior.
- Hypothesis H5: Social influence affects consumer behavior through environmental awareness, green product characteristics, green product prices, and product availability.

3. Methodology

Based on the theoretical basis, the qualitative research method includes synthesis, analysis of secondary data combined with expert consultation, and a complete set of scales that meet the requirements of mathematical statistics and are based on the research of the five groups of authors introduced above. The testing of the model and hypothesis is carried out by a quantitative study based on online survey data using the Google Docs form. These are self-scoring questionnaires. Each answer is evaluated on a 5-point Likert scale.

The questions are built based on the questionnaires of previous scholars, filtered and supplemented to suit the conditions of Vietnam. After collection, the data will be processed using SPSS software through the following steps: preliminary assessment of the scales and exploratory factor analysis EFA. During the process of analysis, evaluation, and testing of the scales, the component variables will continue to be eliminated, grouped, or grouped according to characteristic groups and named appropriately.

The scale was validated to determine the factors affecting the green consumption behavior of Generation Z in Hanoi. The quantitative research was conducted as follows:

- Phase I: preliminary quantitative research;
- Phase II: official quantitative research.

Before forming the official scale, the author conducted preliminary research with experts by direct interviews (n=5) and conducted a preliminary quantitative survey (n=50) to clarify the concepts.

From 24 observed variables of the draft scale, after in-depth interviews with experts, the authors eliminated 3three variables because the meaning was unclear, contrary to other observed variables, causing contrast in the scale and quickly confusing the survey subjects. After adjustment, the preliminary scale had 15 observed variables belonging to 4 groups of factors (independent variables); 4 observed variables belong to the factor "Green consumer behavior" (dependent variable), and two variables belong to the factor "social influence" (moderating variable).

Four independent variables, one dependent variable, and one moderating variable are coded as follows:

- EA - Environmental awareness with observed variables from EA1 to EA4;
- GC - Green product characteristics with observed variables GC1 - GC3;
- GP - Green product price with observed variables GP1 - GP4;
- PA - Product availability with observed variables PA1-PA4;
- Moderating variable SI - Social influence with observed variables SI1-SI2;
- Dependent variable GCB - Green consumer behavior with observed variables GBC1-GBC4.

With 21 questions, the minimum sample size required is 105 questionnaires. The survey sample was selected using the selective stratified method. The research subjects are people who have used green products between the ages of 10-23, regardless of gender. The survey questionnaires were sent to universities in Hanoi. Then, the study used the PLS-SEM model to test the hypotheses.

4. Results

4.1. Reliability and Validity of Model

Convergent and discriminant validity indicate construct validity, which shows how well the assessment items connect to the constructs. We have employed three tests — item reliability, composite reliability, and average variance extracted — to show convergent validity. Composite dependability is further supported by Cronbach's alphas, whose values over 0.6 show that they are sufficient. As shown in table 1, the composite reliabilities and Cronbach's alpha for our constructions were more significant than 0.7. Last but not least, the average variance extracted, or AVE, shows how much variance a construct captures through its items in comparison to how much variation results from measurement error. We discovered that the retrieved variance for each construct was more significant than the suggested threshold of 0.5.

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Environmental awareness (EA)	0,871	0,905	0,911	0,720
Green product characteristics (GC)	0,804	0,938	0,875	0,701
Green product price (GP)	0,853	0,863	0,900	0,694
Product availability (PA)	0,730	0,757	0,780	0,678
Social influence (SI)	0,817	0,908	0,913	0,840
Green consumer behavior (GB)	0,838	0,844	0,892	0,675

Table 1: Construct Reliability and Validity

As a result, we have determined that the convergent validity of each of our constructs was sufficient. Comparing item loadings with item cross-loadings and the variance retrieved from the construct with shared variance are the two tests we utilized to assess discriminant validity. On its designated construct, each item should load higher than on any other construct. We discovered that every one of our products satisfies this requirement (see Table 2).

	Environmental awareness	Green consumer behavior	Green product characteristics	Green product price	Product availability	Social influence
EA1	0,840					
EA2	0,898					
EA3	0,904					
EA4	0,742					
GC1			0,810			
GC2			0,892			
GC3			0,808			
GCB1		0,879				
GCB2		0,843				
GCB3		0,782				
GCB4		0,777				
GP1				0,868		
GP2				0,828		
GP3				0,761		
GP4				0,870		
PA1					0,692	
PA2					0,807	
PA3					0,788	
PA4					0,536	
SI1						0,884
SI2						0,949

Table 2: Outer Loadings

4.2. PLS Structural Model Results

We then looked at the structural model's overall explanatory power, the amount of variation explained by the independent variables, and the magnitude and strength of its paths, which correspond to each of our hypotheses (Table 3).

Hypothesis		Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
H1	Environmental awareness -> Green consumer behavior	0,222	0,223	0,048	4,608	0,000
H2	Green product characteristics -> Green consumer behavior	0,596	0,576	0,100	5,940	0,000
H3	Green product price -> Green consumer behavior	0,417	0,394	0,085	4,903	0,000
H4	Product availability -> Green consumer behavior	0,171	0,179	0,047	3,636	0,000
H5a	Social influence x Green product characteristics -> Green consumer behavior	0,186	0,179	0,089	2,093	0,036
H5b	Social influence x Green product price -> Green consumer behavior	0,150	0,135	0,073	2,048	0,041
H5c	Social influence x Product availability -> Green consumer behavior	0,128	0,126	0,051	2,512	0,012
H5d	Social influence x Environmental awareness -> Green consumer behavior	0,123	0,122	0,046	2,689	0,007

Table 3: Hypothesis Results

From the path analysis, the result indicates that the path between green product characteristics and green consumer behavior is highly significant (β = 0.596, T = 5.940, P = 0.000 < 0.05), fully supporting hypothesis H1, H2, H3, and H4 that green product price positively affects green consumer behavior (β = 0.417, T = 4.903, P = 0.000 < 0.05), environmental awareness positively affects green consumer behavior (β = 0.222, T = 4.608, P = 0.000 < 0.05), and product availability affects green consumer behavior (β = 0.171, T = 3.636, P = 0.000 < 0.05).

About the moderating variable, social influence positively affects green consumer behavior through green product characteristics (β = 0.186, T = 2.093, P = 0.036 < 0.05); green product price (β = 0.150, T = 2.048, P = 0.041 < 0.05); product availability (β = 0.128, T = 2.512, P = 0.012 < 0.05); Environmental awareness (β = 0.123, T = 2.689, P = 0.007 < 0.05).

As a result, it can be concluded that all hypotheses are supported, as shown in table 3 and figure 2.

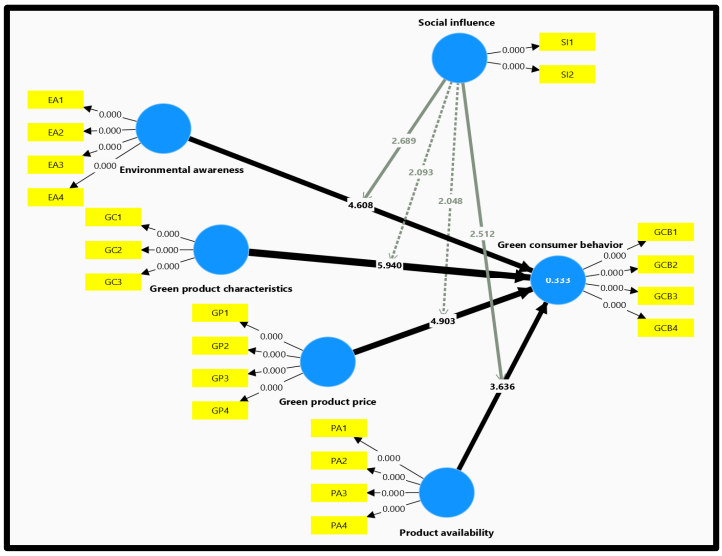

Figure 2: Research Results

5. Conclusion

The research findings indicate that four factors influence Generation Z's intention to consume green in Hanoi. Green product characteristics had the most significant influence, with a coefficient of β = 0.596, followed by green product price, with a coefficient of β = 0.417, followed by environmental awareness, with a coefficient of β = 0.222, and product availability, with a coefficient of β = 0.171. Based on the research findings, several managerial implications are offered as follows:

- First, students' perceived value of green consumption should be increased. Policymakers and marketers should develop effective communication strategies regarding the benefits of green products because communication is regarded as a crucial strategy for increasing green consumption intention. Green product benefits and values should be promoted through workshops in schools and social media platforms like Facebook and Instagram. Because students are a price-sensitive demographic, the government should implement a program that subsidizes green items when selling them. Other information about green products, such as health advantages, long-term cost savings, safety when used, and so on, should be extensively distributed to promote the value of green products and boost students' faith in green products and green consumption.
- Second, it improves attitudes toward sustainable consumption. Schools should promote, provide conditions for, and organize environmental and green consumer clubs to foster student interactions while also providing valuable and beneficial knowledge in a green approach. Green Consumption Day, Green Consumption Month, and

Plastic Bag-Free Day at school are all examples of events that can be organized. Marketers and manufacturers should devise a plan for using green consumption ambassadors and influencers to persuade students to have a more positive attitude toward green consumption.

6. References

i. A. Diekmann, A. Franzen (1999), "The wealth of nations and environmental concerns," Environment and Behavior, 31(4), pp.540–549.
ii. Chan, R. Y. K. (2001). Determinants of Chinese consumers green purchase behavior, Psychology & Marketing, 18(4), 389–413.
iii. Chu Thi Kim Loan (2020). Factors Influencing Green Purchase Intention of Students: A Case Study at the Vietnam National University of Agriculture. Vietnam Journal of Agricultural Sciences. 3(3): 732–745.
iv. Follows, s. B., and Jobber, D. (2000). Environmentally responsible purchase behavior: A test of a consumer model, European Journal of Marketing, 34(5-6), 723–746.
v. Harrison, R., Newholm, T., & Shaw, D. (2005). The Ethical Consumer, London: Sage Publications.
vi. Hoang Trong Hung; Huynh Thi Thu Quyen; Huynh Thi Nhi (2018). Factors affecting consumer behavior in Hue City, Hue University Journal of Science, I27 (5A), 199–212.
vii. Ho Thanh Thuy (2018). Green consumption trends: Overcoming challenges, seizing opportunities, https://tinnhanhchungkhoan.vn/xu-huong-tieu-dung-xanh-vuot-thach-thuc-don-co-hoi-post178000.html
viii. Mainieri T., Barnett, E.G., Valdero T.R., Unipan J.B. & Oskamp S. (1997). Green buying: The influence of environmental concern on consumer behavior. The Journal of Social Psychology. 137(2): 189–204.
ix. M. Laroche et al. (2001). "Targeting consumers who are willing to pay more for environmentally friendly products," Journal of Consumer Marketing, 18(6), pp.503–520.
x. Nguyen Gia Tho (2019). Green consumption policy in Vietnam. Doctoral thesis in Economic Management. Central Institute of Management Research.
xi. Nguyen The Khai & Nguyen Thi Lan Anh. (2016). Research on green consumption intention of consumers in Ho Chi Minh City. Journal of Science, Ho Chi Minh City Open University. 2(47): 42–53.
xii. Nielsen (2017), Vietnam Consumer Confidence Ended 2017 on a High Note.
xiii. Pham Tuan Anh, Nguyen Thi Thu Hong (2019). Factors influencing sustainable consumption choices in the food and beverage sector: A case study of university students in Hanoi, Journal of Economics and Management, No. 131, 23–31.
xiv. Phuong Quyen, Thanh Hang (2018), Generation Z: The Future of the Global Economy, https://nhipcaudautu.vn/chuyen-de/the-he-z-tuong-lai-cua-kinh-te-toan-cau-3324816/
xv. Prime Minister (2012). Decision No. 1393/QD-TTg, dated September 25, 2012, approving the National Strategy on Green Growth.
xvi. Paul, J., Modi, A., and Patel, J. (2016). Predicting green product consumption using the theory of planned behavior and reasoned action, Journal of Retailing and Consumer Services, 29, 123–134.
xvii. Sisira s. Withanachchi (2012). Green Consumption' Beyond Mainstream Economy: A Discourse Analysis, Journal on Food, Agriculture, and Society, 1(1).
xviii. Yadav, R., & Pathak, G. S. (2017). Determinants of Consumers' Green Purchase Behavior in a Developing Nation: Applying and Extending the Theory of Planned Behavior, Ecological Economics, 134, 114–122.