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Determinants of Intention to Use Eco-Friendly Bags of People in Vietnam when Shopping

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Abstract

This study explores the factors influencing Vietnamese consumers' intention to use eco-friendly bags when shopping. Adopting the extended Theory of Planned Behavior (TPB), the model incorporates environmental aspects. A survey of 504 participants was analyzed with Smart-PLS. Results show that environmental awareness, environmental concern, attitude, perceived behavioral control, and subjective norms significantly affect the intention to adopt eco-friendly bags. Attitude also mediates the effects of awareness and concern on behavioral intention, highlighting their importance in encouraging eco-conscious behavior. The findings suggest that raising public environmental awareness and concern is crucial for fostering sustainable habits. Policymakers should enhance environmental education across all levels, shape positive consumer attitudes, and support the availability and affordability of eco-friendly products. In addition, utilizing influential figures and tailored communication can strengthen social norms favoring green practices. These insights offer practical implications for promoting sustainable consumption in emerging economies.

Keywords: *Eco-friendly Bags, Environmental Awareness, Environmental Concern, Intention to Use, Theory of Planned Behavior.*

Introduction

Currently, climate change, air pollution, water contamination, and global warming are alarming issues, resulting in people becoming increasingly aware of environmental degradation. Environmental destruction has started to alter people's lifestyles and activities (Zaremohzzabieh et al., 2021). Business efforts to manage green production to ensure a sustainable future (Safarov & Hasanov, 2024). Consumers pay more attention to "reducing, recycling, and reusing' (Sebestova & Sroka, 2020). Currently, non-degradable bags or single-use plastic bags are one of the primary causes of environmental issues. Although they appear small and fragile, their decomposition process could last from 500 to 1,000 years if not affected by sunlight. The existence of non-degradable bags in the environment will seriously damage soil and water, leading to soil erosion and preventing nutrient oxygen from passing through the soil, which

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negatively affects plant growth. If non-biodegradable bags are thrown into ponds, lakes, or rivers, they will clog drains, and ditches, resulting in wastewater stagnation and flooding as well as the production of many disease-causing bacteria, having a direct and indirect impact on human health. To inhibit the consumption of plastic bags, many countries worldwide have launched campaigns to reduce nylon bags, promulgated policies on using eco-friendly bags, and participated in campaigns against environmental pollution by banning supermarkets from using disposable nylon bags (Sushant, 2023).

Vietnam is among the countries that consume the largest number of plastic bags in the world. On average, a Vietnamese household uses to 5-7 non-biodegradable bags of many different sizes per day. Owing to their convenience and low price, nonbiodegradable bags are commonly used and appear everywhere today. They are delivered to customers without fees when they buy items from markets, small retail stores, and supermarkets to large shopping malls. Supermarkets use most nylon bags; on average, they use 104,000 single-use plastic bags every day, or 38 million bags per year (Minh Nga, 2022). Under the current threat of nylon bags to the environment, this study was conducted with the aim of identifying factors influencing the intention to use eco-friendly bags of people in Vietnam, and then propose implications for policymakers to enhance the intention of citizens to use eco-friendly bags, helping to eliminate the harmful effects of non-degradable bags on the environment.

Literature Review and Hypotheses Theoretical Basis

This study employs Ajzen's (1991) theory of Planned Behavior (TPB) to form the foundation for creating a framework to examine the determinants of people's intention to use eco-friendly bags. This theory indicates that behavioral intention includes motivational factors (attitude, subjective norms, and perceived behavioral control) that influence actual behavior. In particular, attitude is a positive or negative judgment of the behavior performed; subjective norms are social influence and belief that one is under social pressure to engage in a certain behavior; perceived behavioral control refers to an individual's ability to perform a particular behavior, reflecting the difficulty or ease of performing a behavior, and whether the performance of that behavior is controlled or limited by the availability of resources and opportunities to perform it. Perceived behavioral control and intention directly impact actual behavior. Perceived behavioral control influences both intentions and behavior.

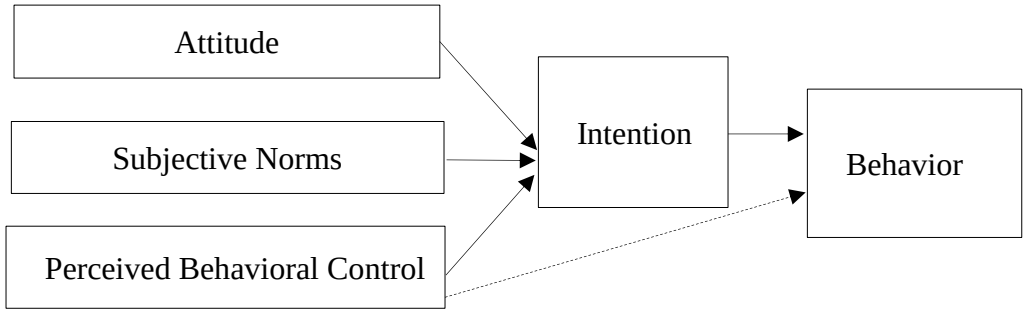

Figure 1. The Research Model of Ajzen

Source: Ajzen (1991)

However, in the context of green consumption in general and the use of eco-bags in particular, this theory seems to fail if TPB is used alone (Montano & Kasprzyk, 2015; Echegaray & Hansstein, 2017). To overcome these limitations, some studies have suggested modifying TPB (Zaremohzzabieh et al., 2020). Therefore, this research also incorporates additional factors related to the environment in the context of the study.

Relevant Concepts and Hypotheses Development

Behavior Intention (IN)

Intention is an important concept in the business field, particularly in other fields. In business, behavioral intention helps managers predict the subsequent behavior (actual behavior) of customers. Behavioral intention consists of motivational factors that affect each individual's behavior (Ajzen, 1991).

Eco-friendly Bags

"Eco-friendly" is not harmful to the environment. For products, everything from manufacturing to packaging must be environmentally safe. Such products are often called "Environmentally friendly", "eco-friendly and Earth-friendly".

Eco-friendly bags are a specific product, which is a small and particular aspect of the concept of green consumption. The concept of eco-friendly bags is used for all types of bags to help reduce environmental impacts when they are discharged into the environment. Environmentally friendly bags should be easily decomposed. The ability to self-decompose gives users peace of mind because after a period of no longer being used, the bags disappear without the need for any treatment. There are various types of popular eco-friendly bags on the market today, including paper, canvas, woven, hemp, jute, biodegradable plastic, recycling, and reusable bags.

Attitude (AT)

Ajzen and Fishbein (2000) defined "attitude as an individual's belief and assessment toward a behavior". Attitude is also a mental readiness acquired from experience, which creates a direct impact on how someone reacts to the things or circumstances to which they are exposed. According to McShane and Von Glinow (2005) and Obonsawin et al. (2013), attitudes consist of beliefs and emotions. Research on pro-environmental behavior, such as recycling e-waste and managing plastic garbage has affirmed that intention is favorably influenced by attitude (Obonsawin et al., 2013; Khan et al., 2019). The studies by Maichum et al. (2016), Wang et al. (2020), and Chanda et al. (2023) indicated that consumer attitudes toward green products impact green product purchasing intention. Similarly, Agyeman and Badugu (2017) argued that consumers with good attitudes towards environmentally friendly bags influence their intention to use them. Therefore, we propose the following hypothesis is put forward:

H1: Attitude (AT) on eco- friendly bags favorably influences the intention of using eco-friendly bags.

Subjective Norms (SN)

Subjective norms may be understood by people as social norms, which refer to an individual's perception of social pressure to engage in a particular action or not (Ajzen, 1991). This is a community factor, specifically social pressure on an individual. Subjective norms come from the expectations of the community (family, friends, colleagues, media, etc.) for an individual to comply with certain norms, as well as the individual's motivation to enforce compliance with

those norms to meet the expectations of surrounding people (Ajzen & Fishbein, 2000). Various studies have shown that subjective norms, social pressures, and judgments play crucial roles in a person's perception. Maichum et al. (2016) and Wang et al. (2020) posit that subjective norms influence the intention to purchase green products. Likewise, those feeling under social pressure are more likely to use cloth bags rather than single-use plastic bags (Ari & Yılmaz, 2017). Therefore, we propose the following hypotheses:

H2: Subjective norm (SN) positively affects the intention of using eco-friendly bags.

Perceived Behavioral Control (BC)

BC displays an individual's viewpoints on the difficulty or ease of doing an activity, and it considers both prior experience and expected barriers (Wang et al., 2020). BC is composed of a feeling of control and self-efficacy (Ajzen, 1991). The sense of control primarily refers to a person's evaluation of the ability to complete the task (using eco-friendly bags), and internal control elements are also included. Self-efficacy is an assessment of the challenge of using eco-friendly bags and emphasizes external and general factors (Armitage & Conner, 2001). For example, when people intend to use eco-friendly bags, they consider their convenience and availability, or if it is a waste of time for doing activities with reused bags. Some studies posit that BC is a crucial factor that positively influences on sustainable consumption intention (Ajzen, 1991; Wang et al., 2020; Wang et al., 2014; Maichum et al., 2016). It is proposed that:

H3: Perceived behavioral control (BC) positively affects the intention of using eco-friendly bags.

Environmental Awareness (EA)

Kollmuss and Agyeman (2002) defined "environmental awareness as the impact of human behavior on the environment. Environmental awareness has both a cognitive, knowledge-based component and an affective, perception-based component". When people require a certain degree of environmental awareness, they develop an affective relationship with the natural world and react emotionally to environmental problems. This also means that if people are deeply aware of the fact that the environment is being polluted by multiple factors, especially human consumption behavior, they will be more cautious in choosing the products they use and have individual responsibilities towards environmental quality. The environmental awareness of individuals towards environmental damage plays a key role in forming consumer perceptions of green products (Hessami & Yousefi, 2013; Kumar et al., 2017). Similarly, Boztepe (2012) and Sarumathi (2014) found a positive relationship between environmental awareness and consumers' green shopping behavior.

H4: Environmental awareness (EA) is favorably associated with intention to use eco-friendly bags.

Furthermore, Zaremohzzabieh et al. (2021), Sarumathi (2014), and Maichum et al. (2016) posited that environmental awareness is a critical factor forming consumer attitudes towards green items and influences the intention to make green purchases. Agyeman and Badugu (2017) affirmed that environmental awareness is correlated with attitudes towards using eco-friendly bags.

H5: Environmental awareness (EA) is favorably associated with attitude towards using eco-friendly.

Environmental Concern (EC)

Environmental concerns represent an individual's tendency and interest in environmental issues, attitude towards environmental consequences, and strong attitude towards protecting the environment **(**Hessami & Yousefi, 2013). It is considered a significant factor in predicting environmentally conscious behaviors, including green shopping (Pandey & Sunaina, 2012; Samarasinghe, 2012). It is reasonable to assume that people concerned about environmental issues have positive moves in changing their minds to make efforts to buy green products (Hartmann & ApaolazaIbanez, 2012; Hessami & Yousefi, 2013).

H6: Environmental concern (EC) positively affects intention to use eco-friendly bags.

Environmental concerns also significantly influenced customer attitudes. Hartmann and ApaolazaIbanez (2012), Sarumathi (2014), Maichum et al. (2016), and Zaremohzzabieh et al. (2021) indicated that consumers with environmental concerns are more likely to have favorable attitudes and engage in green consumer activities than those who are not concerned about the environment. In addition, a number of studies have demonstrated a connection between environmental concerns and customers' attitudes towards green products (Tang et al., 2015; Yadav & Pathak, 2016). Agyeman and Badugu (2017) posited that environmental concerns affect consumers' attitude stowards eco-friendly bags.

H7: Environmental concern (EC) is positively related to consumer attitude towards eco-friendly bags.

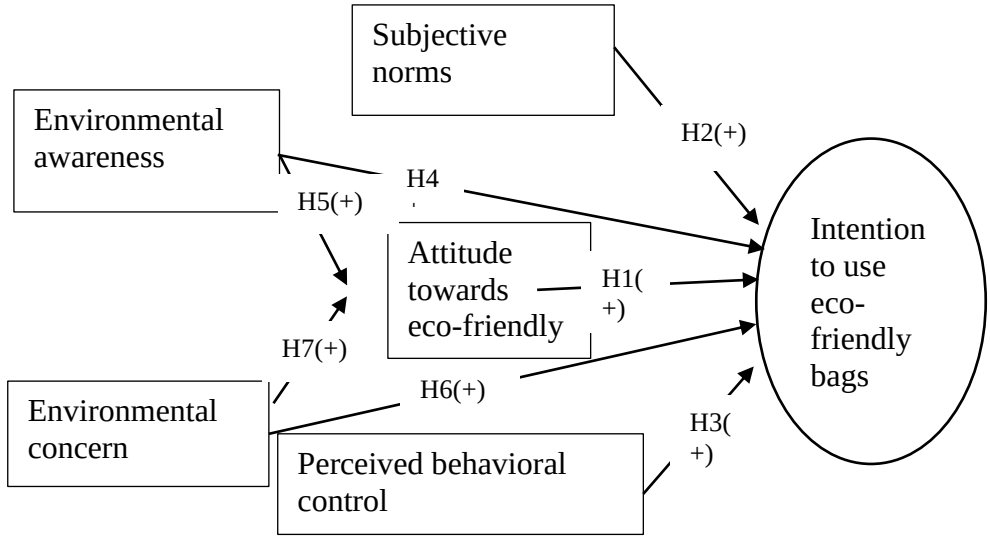

Figure 2. The Proposed Conceptual Framework

Source: Authors' analysis

The measurement items of each conept are developed as below.

Code	Statement	Source
Attitude		
AT1	I like to use eco-friendly bags because it protects the environment	Agyeman and Badugu (2017), Wang et al. (2020), Chanda et al. (2023), Xu et al. (2019)
AT2	I like to use eco-friendly bags because there are many different types of friendly materials (disposable paper, fabric, 100% compostable bags).	
AT3	I like to use eco-friendly bags because there are many different designs and styles	
AT4	I like to use eco-friendly bags because they can be used for many different purposes	
AT5	I like to use eco-friendly bags because they can be reused many times	
AT6	I like to use eco-friendly bags because it is convenient for me	
Subjective norm		
SN1	The habit of using eco-friendly bags of acquaintances, family and friends positively influences me	Wang et al. (2020), Ari and Yılmaz (2017), Chanda et al. (2023), Xu et al. (2019)
SN 2	Acquaintances, family and friends advised me to use eco-friendly bags	
SN 3	The current trend of using eco-friendly bags has a positive impact on me	
SN 4	Influential people on social networks (media) have a positive impact on me	
SN 5	The policy of encouraging the use of eco-friendly bags affects me	
Perceived behaviour control		
BC1	I can afford to buy eco-friendly bags	Wang et al. (2020), Chanda et al. (2023), Xu et al. (2019)
BC2	I personally am determined to give up the habit of using non-biodegradable bags	
BC3	I made my own decision to use friendly bags	
BC4	The friendly bag products sold in many places trigger me to use	
BC5	Carrying a friendly bag to everywhere is an easy thing	
BC6	I personally have time to research and consider buying environmentally friendly bags.	
Environmental awareness		
EA1	I realize that humans are seriously polluting the environment	Ari and Yılmaz (2017), Xu et al. (2019), Agyeman and Badugu (2017)
EA2	I concern for environmental protection by watch news on TV and online newspapers showing	
EA3	I realize that the balance of the natural environment is very complex and easy to lose	

EA4	I realize that the environment is being affected by people's shopping behavior.	
Environmental concern		
EC1	Using environmentally friendly bags helps reduce environmental pollution	Wang et al. (2020), Agyemen and Badugu (2017)
EC2	I feel angry when I see the environment being destroyed in the community	
EC3	I realize that environmental pollution will improve when people take action to protect it	
EC4	Modern development is destroying the environment	
EC5	I feel interested in participating in environmental protection activities	
Intention to use eco-friendly bags		
IN1	I will buy environmentally friendly bags because they cause less environmental pollution	Agyemen và Badugu (2017), Wang và et al. (2020), Ari and Yilmaz 2017)
IN2	I will use environmentally friendly bag products	
IN3	I am willing to buy environmentally friendly bag products for my family	
IN4	I will encourage relatives and friends to use environmentally friendly bag products	
IN5	I am willing to pay more for environmentally friendly bags	

Table 1: Measurement Items of Concepts

Methodolody Research Sample

Based on the literature review, a conceptual model and hypotheses were established. Subsequently, a group of 10 people discussed the factors and the indicators of each factor, and replaced any ambiguous wordings that easily caused misunderstanding for respondents. The results of this step were used to create the final Vietnamese questionnaire. There are two parts to the survey questionnaire: part one includes indicators measuring the constructs, while part two focuses on demographic aspects. Part one has a total of 31 indicators, in which attitude embraces 6, subjective norms 5, perceived behavioral control 6, environmental awareness 4, environmental concern 5, and the intention to use eco-friendly bags 4. Respondents will be assessed on a five-point Likert scale (1 = completely disagree, 5 = completely agree).

Hair et al. (2016) state that the minimum sample size should be 100 -150. The sample size must not be less than 5 indicators. The study has 31 indicators; therefore, the minimum sample size should be 5*31 = 155; thus, 504 responses are sufficient to conduct the study. Data in the study were collected through an online survey via Google forms using the convenience sampling method from 504 respondents. Participation in the study was volunteer and suitable for ethical clearance in Vietnam. All the ethical considerations were include in the head of the questionnaire to allow participants to understand the study clearly. Transparent information about the reasons for data collection is presented on the cover page to clarify the participants' voluntariness and consent. Therefore, written consent of the participant was obtained. The respondents were in different groups in terms of occupation, age, education level, and income.

Statistical Method

The tool of Partial Least squares (PLS) using Smart PLS version 3.0 is applied in this research. According to Hair et al. (2016), the measurement and structural models are two parts of PLS analysis.

The measurement model aimed to evaluate the internal consistency reliability, convergent validity, and discriminant validity of the constructs.

The Structural Model is performed in several steps including assessing the collinearity issue via the variance inflation factor (VIF), assessing the significance and relevance of the structural model relationships via bootstrapping, and evaluating the structural model via the coefficient of determination (R^2 adjusted value).

Result Measurement Model

To examine the internal consistency reliability, Cronbach's alpha and composite reliability (CR) were checked. Every construct received a value greater than 0.7, and the reliability of all constructs was thus satisfactory.

The convergent validity of the constructs was tested via outer loading and average variance extracted (AVE). The outer loadings of all indicators are approximately 0.7 and higher. This means that the indicators of each construct have much in common, as captured by its construct. The values of AVE are more than 0.5, indicating that convergent validity is not breached because each construct explains more than half of the variance of its indicators.

Constructs	No of indicators	Reliability		Convergent validity	
		Cronbach's alpha	Composite reliability	Outer loadings	AVE
AT (Attitude)	6	0.849	0.888	0.674- 0.800	0.570
SN (Subjective norms)	5	0.813	0.877	0.773 -0.815	0.640
BC (Perceived behavioral Control)	6	0.834	0.883	0.688-0.789	0.601
EA (Environmental awareness)	4	0.834	0.883	0.761-0.823	0.602
EC (Environmental concern)	5	0.856	0.893	0.720-0.809	0.582
IN (Intention)	4	0.850	0.893	0.685-0.830	0.624

Table 2. The Reliability and Convergent Validity of the Constructs

Source: Authors' analyzed results

Next, we checked the constructs' discriminant validities. First, checking the indicators' cross-loadings and outcomes demonstrates that all indicators have greater loads on their associated constructs than on any other construct.

	AT	BC	EA	EC	SN	IN
AT1	**0.760**	0.565	0.485	0.476	0.505	0.512
AT2	**0.750**	0.527	0.467	0.450	0.478	0.456
AT3	**0.674**	0.452	0.351	0.302	0.432	0.360
AT4	**0.800**	0.498	0.460	0.416	0.441	0.467
AT5	**0.774**	0.468	0.476	0.449	0.389	0.498
AT6	**0.766**	0.550	0.464	0.435	0.539	0.531
BC1	0.560	**0.786**	0.507	0.507	0.483	0.565
BC2	0.536	**0.789**	0.458	0.470	0.542	0.517
BC3	0.459	**0.778**	0.438	0.409	0.518	0.492
BC4	0.491	**0.688**	0.523	0.477	0.418	0.468
BC5	0.511	**0.776**	0.406	0.404	0.535	0.517
BC6	0.537	**0.756**	0.359	0.361	0.536	0.545
EA1	0.404	0.377	**0.761**	0.549	0.302	0.501
EA2	0.534	0.536	**0.823**	0.569	0.428	0.546
EA3	0.500	0.484	**0.799**	0.587	0.441	0.531
EA4	0.476	0.467	**0.817**	0.609	0.385	0.553
EC1	0.478	0.463	0.588	**0.720**	0.385	0.519
EC2	0.439	0.457	0.558	**0.809**	0.347	0.494
EC3	0.406	0.421	0.564	**0.793**	0.351	0.468
EC4	0.403	0.400	0.546	**0.762**	0.380	0.487
EC5	0.450	0.472	0.541	**0.789**	0.415	0.563
SN1	0.464	0.473	0.351	0.367	**0.773**	0.418
SN2	0.464	0.529	0.343	0.325	**0.779**	0.434
SN3	0.588	0.589	0.492	0.472	**0.815**	0.554
SN4	0.420	0.503	0.339	0.353	**0.810**	0.457
SN5	0.475	0.512	0.384	0.386	**0.774**	0.484
IN1	0.518	0.569	0.543	0.597	0.468	**0.791**
IN2	0.513	0.535	0.555	0.546	0.418	**0.778**
IN3	0.511	0.525	0.558	0.511	0.466	**0.830**
IN4	0.463	0.500	0.508	0.483	0.507	**0.789**
IN5	0.428	0.506	0.407	0.390	0.475	**0.685**

Table 3. Cross-Loadings of the Indicators in the Model

Source: Authors' analyzed results

The discriminant validity of the constructs was also double-checked using the square root of the AVE values (Fornell-Larcker criterion). According to the findings, each construct's square root (in bold) was greater than that of any other construct. In conclusion, each construct is unique and captures phenomena that are not represented by the other constructs in the model.

	AT	EA	EC	BC	SN	IN
AT	**0.755**					
EA	0.601	**0.800**				
EC	0.564	0.723	**0.775**			
BC	0.678	0.586	0.574	**0.763**		
SN	0.615	0.489	0.487	0.663	**0.790**	
IN	0.629	0.666	0.657	0.680	0.599	0.776

Table 4. The Square Root of AVE (Fornell- Larcker Criterion) Of the Constructs in the Model

Source: Authors' analyzed results

Structural Model

Assessing the structural model aims to examine the model fit and proposed hypothesis.

First, collinearity was assessed using the variance inflation factor (VIF). The VIF of every construct is below five; thus, there is no collinearity issue in the proposed structural model.

Constructs	AT	IN
AT		2.273
BC		2.456
EA	2.095	2.427
EC	2.095	2.300
SN		1.982

Table 5. Inner VIF value

Source: Authors' analyzed results

Second, we investigate the structural model by examining the relationships of constructs on the basis of the path coefficient and p-value. Non-parametric bootstrapping with 1000 replications was performed. This finding supports all five hypotheses because they all have a sig value of less than 0.05, so they are all statistically significant.

	Path Coefficient	P Values	Accept/ reject hypothesis
AT -> IN	0.111	0.018	Accept
SN -> IN	0.151	0.000	Accept
BC -> IN	0.250	0.000	Accept
EA -> IN	0.223	0.000	Accept
EC -> IN	0.216	0.000	Accept
EA -> AT	0.405	0.000	Accept
EC -> AT	0.271	0.000	Accept

Table 6. Path Coefficient of the Relationships of Constructs

Source: Authors' analyzed results

Next, we examined the indirect effect between environmental awareness and intention, environmental concern and intention via attitude towards eco-friendly bags. The findings reveal an indirect effect between environmental awareness and intention, with a coefficient of 0.045, and an indirect effect between environmental awareness and intention with a coefficient of 0.03.

	Path Coefficient	P Values
EA -> AT -> IN	0.045	0.000
EC -> AT -> IN	0.030	0.000

Table 7. Indirect effect between EA and IN; EC and IN via AT

Source: Authors' analyzed results

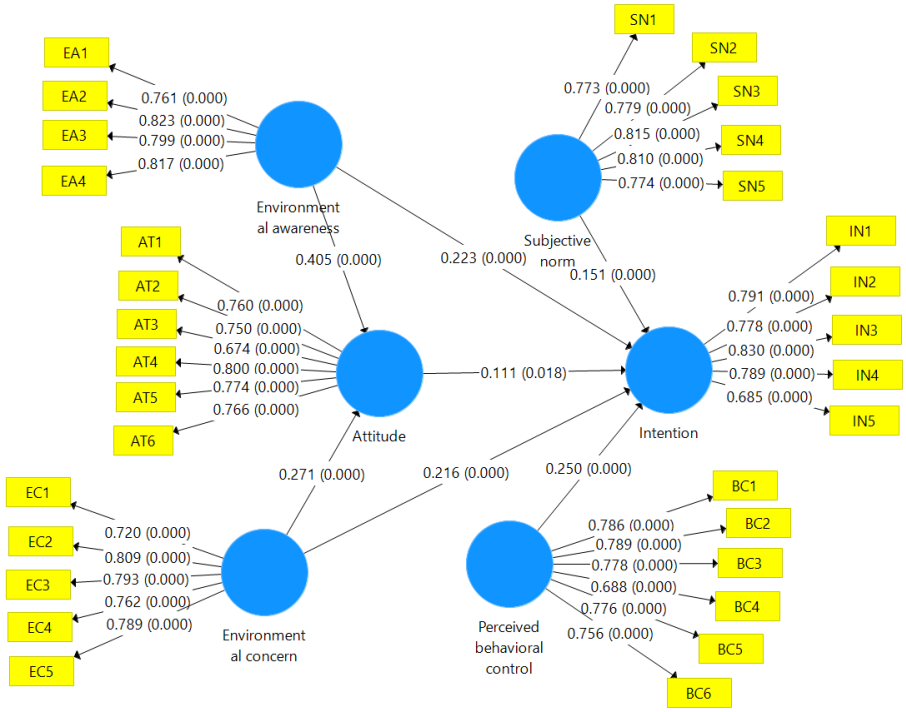

Figure 3. The Result of the Relationships Between the Constructs

Source: Authors' analyzed results

Finally, adjusted R^2 and R^2 values were examined. According to Hock and Ringle (2010), R^2 result ranked from 0.19 to 0.33, 0.33 to 0.67, above 0.67 means that the structure model is explained at level of "substantial, moderate, or weak" respectively. Therefore, the results confirm that environmental awareness and environmental concern could explain 39.4% of

attitude (at moderate level); environmental awareness, environmental concern, attitude, subjective norm, perceived behavioral control could explain 61.7% of intention (at a moderate level and nearly reach "substantial level").

	R^2	R^2 adjusted
Attitude towards eco-friendly bags (AT)	0.396	0.394
Intention of using eco-friendly bags (IN)	0.621	0.617

Table 8. R^2 and R^2 adjusted value

Source: Authors' analyzed results

Discussion

The research results show that all 7 hypotheses are accepted.

First, the study confirms that the three relationships in hypotheses H1, H2, and H3 are accepted. This means that attitude, subjective norms, and perceived behavioral control have an impact on the intention to use eco-friendly bags. This has been supported by Maichum et al. (2016), Wang et al. (2020), Xu et al. (2019), Chanda et al. (2023), and Zaremohzzabieh et al. (2021), and is also strengthened by the theory of TPB.

Next, the research results also show that environmental factors, including environmental awareness, environmental concern, also affect the intention to use eco-friendly bags. H4 and H6 were accepted. This finding is supported by Kumar et al. (2017), Hessami and Yousefi (2013), and Hartmann and Apaolaza-Ibanez (2012). Customers who care about the environment make an effort to purchase goods that do not harm their community or environment as much. Moreover, people's level of concern about environmental issues is related to their interest and desire to buy green products and express their readiness to pay more for renewable energy than others.

Finally, the study affirms the existence of positive relationships between environmental factors and attitude towards eco-friendly bags. The H5 and H7 hypotheses are accepted. That is, environmental awareness and concern have an impact on attitudes towards eco-friendly bags, which is supported by previous studies on green consumption by Agyeman and Badugu (2017), Zaremohzzabieh et al. (2021), Sarumathi (2014), and Huang et al. (2014). In reality, the clearer an individual's awareness and concern about environmental issues are, the more positive that individual will be towards green products in general or eco-friendly bags in particular.

Among the five factors that directly affect the intention to use eco-friendly bags, environmental awareness is the most significant factor (β= 0.223), followed by perceived behavioral control (β = 0.250), environmental concern (0.216), subjective norm (β = 0.151) and attitude (β = 0.111).

The results also indicate attitude towards eco-friendly bags was the mediating variable between environmental awareness, environmental concern and intention to use eco-friendly bags. Specifically, the coefficient path between environmental awareness and attitude was β = 0.405 and that between environmental concern and attitude was β = 0.271. Therefore, it is surprising that the total effects of environmental awareness and concern on intention are very significant. Specifically, the direct and indirect impact of Environmental awareness on Intention is 0.405 x 0.111 + 0.223 = 0.723, and that of environmental concern on intention is 0.271x0.111 + 0.223 = 0.516. This means that the more awareness of and concern a person has about the environment,

the better their attitude toward eco-friendly bags will be, and they all will have a greater impact on the intention to use eco-friendly bags. Thus, environmental awareness and concern can be considered important factors in the study of the intention to use eco-friendly bags in particular or green consumption in general.

From the research results, the study proposes the following policy implications to foster more intention to use environmentally friendly bags among Vietnamese people.

Environmental awareness and concern are important factors in the study of the intention to use environmentally friendly bags. Therefore, policymakers need to increase their awareness, concern, and thinking about the environment. Authorities need to focus on the current situation of environmental pollution, showing how people's careless daily consumption behavior has contributed to pollution, and how green consumption behavior (using environmentally friendly bags) can help improve the environment. It is necessary to diversify the forms of propaganda that are suitable for the main audience in each propaganda channel. Simultaneously, it is important to promote environmental education in schools. According to the Report of the Organization for Economic Cooperation and Development, developing countries that establish green growth models need to improve environmental education for the younger generation. The best way is to effectively incorporate contents about the environment and environmental protection, the consequences of using single-use plastic bags in schools, and to develop green consumption behavior for students throughout their learning at school.

Attitude towards eco-friendly bags is the mediating variable linking environmental awareness, environmental concern, and intention to use eco-friendly bags. Therefore, to increase people's intention to use environmentally friendly bags, the government needs to develop positive attitudes towards them. When propagating through the mass media, it is necessary to emphasize the value gained from the normal life habits of using eco-bags but contributing significantly to environmental protection, preserving a green living environment for future generations, or emphasizing that using environmentally friendly bags or campaigning to collect plastic waste in local communes illustrates individual responsibility towards the community. Besides, there are also media programs that criticize the indiscriminate use of plastic bags leading to unpredictable negative consequences.

Perceived behavioral control is a factor that significantly influences intention in the model. Thus, policymakers must continue to develop ways to encourage businesses to produce environmentally friendly bags, thereby increasing the presence of eco-friendly bags in the market. Currently, Vietnam has imposed a high environmental tax on non-biodegradable plastic bags and no tax on eco-friendly bags, keeping the cost of eco-friendly bags low compared to non-biodegradable plastic bags. However, there are still many plastic bags with unclear origin sold at very cheap prices on the market to lure customers, so authorities need to properly control the origin of all sources of plastic bags. In addition, a unique feature of the Vietnamese market is that there are many small stores, grocery stores, and street vendors everywhere, so people really like the convenience of buying stuffs. Therefore, authorities need to have a mechanism to encourage businesses to distribute environmentally friendly bags in many places to help consumers easily access and buy them when needed.

Subjective norms also has an impact on the intention to use friendly bags. This result reflects the fact that individual behavior is always influenced by people around them to some extent. Unlike some developed economies, collectivism in Vietnam, where people are dependent upon interpersonal bonds with others and they obtain common thought, is very high. This comes from

the history of village culture and agricultural culture, which require close interactive relationships within the community to serve the purpose of collective labor. If an individual lives in an environment where the surroundings use eco-friendly bags, they are put under pressure to use eco-friendly bags. Accordingly, when implementing communication messages, policymakers need to emphasize using environmentally friendly bags as the right action and trend in today's society. There should be posters in public places with images of celebrities and influencers who like to use environmentally friendly bags to convey the image of new citizens and environmentally responsible consumers.

Conclusion

The main contribution of this research is to add environmental factors (environmental awareness, environmental concern) into the research to enrich the original model of TPB, allowing researchers to further explore the motivations and barriers to the intention to use eco-friendly bags. In addition to the indirect impact, this study has explored the direct impact of environmental awareness and environmental concern on the intention to use eco-bags, which has not been shown by previous studies, helping policymakers pay more attention to the content of propaganda activities to citizens to foster their intention to use eco-friendly bags.

The limitation of the research was that it is carried out using convenience samples, which may have affected the survey quality. Furthermore, the model can explain only 61.7% of the intention to use environmentally friendly bags. This shows that in addition to these five factors, additional factors should also be included in the model. In the future, to improve the sample size and caliber of the survey, the research team could broaden the survey with additional factors and collect more samples.

Conflict of Interest

The authors declare no conflicts of interest

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