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Intention and behavior towards bringing your own shopping bags in Vietnam: an Investigation Using the Theory of Planned Behavior

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Abstract: Sustainable consumption is a topic of concern in many countries around the world, including Vietnam. Although recognizing the behavior of using plastic bags instead of bringing own shopping bags (BYOB) is not good, many Vietnamese consumers still choose plastic bags because of their convenience. Using the TPB theory, this study explores the relationship between attitude, subjective norms, perceived behavioral control and intention towards BYOB and the relationship between intention and behavior towards BYOB. Based on the research results, the authors give some suggestions to state management agencies to promote intention and behavior toward BYOB.

Keywords: Intention, behavior, plastic bags, Vietnam.

I. INTRODUCTION

In recent decades, public concern about the environment has steadily increased and has emerged as a problem of global significance [1]. Such concerns have led to major changes in attitudes and behavior towards sustainability [2]. Sustainable consumption refers to the purchase, use and disposal of products in a way that reduces damage to the environment [3]. Most consumers are aware that plastic bags are dangerous for the environment, but many consumers will still choose plastic bags over shopping bags. The use of plastic bags leads to serious threats to the environment [4]. According to Leblanc (2016), plastic products can take up to 1000 years to decompose in the ground, and the plastic bags that people use every day will take on average 10 to 20 years to decompose [5].

Glanz et al. (2008) believe that theory of planned behavior (TPB) is appropriate for empirical studies in identifying the important factors predicting sustainable consumption behaviors [6], behaviors related to the environment, from general environmental behavior [7] to specific behaviors such as mode of travel [8, 9, 10], composting [11] and recycling [12, 13].

In Vietnam, for a long time, using plastic bags in people's lives has become a habit and a way of life because of its utility. According to the statistics of the Ministry of Natural Resources and Environment in 2020, it is estimated that each Vietnamese household uses and generates at least 1 plastic bag every day and nationwide is about 25 million bags/day. Plastic bags in Vietnam are used for many purposes, one of which is to store goods when shopping. This behavior will certainly seriously affect the current and future environment of Vietnam.

Therefore, this study will use the TPB theory to study factors influencing consumer behavior towards bringing own shopping bags (BYOB) in Vietnam, thereby providing solutions for state management agencies to promote behavior towards BYOB and restrict the use of plastic bags of Vietnamese consumers.

II. THEORETICAL BACKGROUND AND HYPOTHESES

Theory of planned behavior (TPB) of Ajzen (1991) is a development and extension of theory of reasoned action (TRA) - the earlier work of Ajzen and Fishbein (1975) [14, 15]. In TRA theory, the importance of behavioral intent in predicting actual behavior and behavioral intent is also influenced by a group of factors from an individual's perspective and society is attitude and subjective normz [15]. TRA theory is not enough to explain behavioral intent and actual consumer behavior [14]. The birth of TPB theory stems from the limitation of behavior that people have little control, although the motivation is very high from attitude and subjective norms but in some fields they still do not perform the act because of the effects of external conditions on the behavioral intention [14]. Therefore, compared with TRA theory, perceived behavioral control was added by Ajzen (1991) [14].

Applying TPB theory to the study of factors affecting BYOB, this study predicts that intention towards BYOB of consumers is positively influenced by attitudes, subjective norms and perceived behavioral control. Besides, intention towards BYOB also positively affects customers' behavior towards BYOB.

The intention to perform a behavior precedes the actual behavior [15]. This intent is called the behavioral intention and is the result of a belief that performing the behavior will lead to a particular outcome. The TPB theory states that strong intentions increase the motivation to perform the act, which leads to an increase in the ability of the behavior to be performed. Intentions predate actual behavior, so the authors propose the following hypothesis to test the impact of intent on behavior [15]:

H1: Intention have a positive impact on the BYOB behavior of consumers

Attitude towards behavior is the expression of an individual's positive or negative perceptions about performing a behavior, which can be measured by the combination of the strength of this belief and rating [16]. Attitude is an important determinant of an individual's behavioral intentions [17]. Consumer attitudes are related to the intention to favor the environment [18]. When studying the factors influencing green consumer behavior in China concludes that attitude is the most important factor in predicting pro-environmental behavioral intentions [19]. From the above studies and arguments, the authors propose the following research hypotheses:

H2: Attitude has a positive effect on the BYOB intentions of consumers

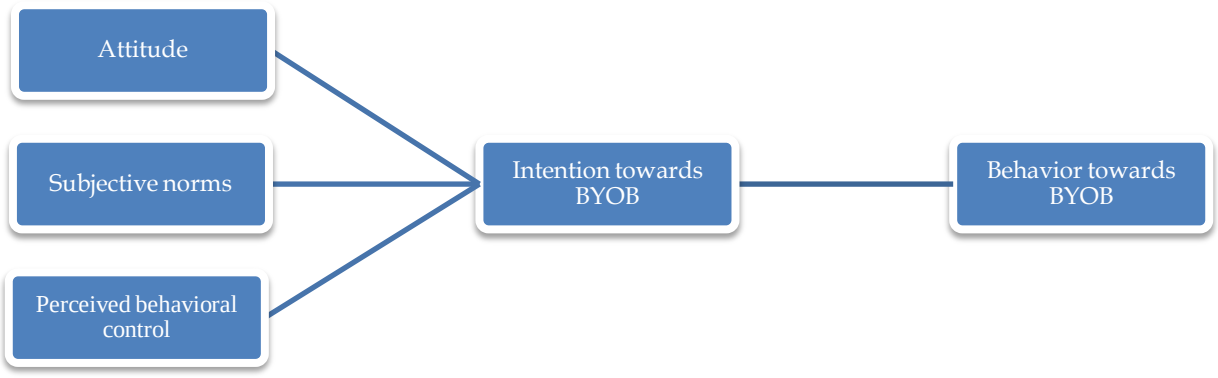
Subjective norms as perceptions of the influencers who would think that individual should or should not act [14]. Subjective norms can be described as individual perceptions of social pressures on performing or not performing a certain act. Subjective norms can be formed through the perception of normative beliefs from people or social factors that influence consumer intent such as family, friends, colleagues and the media [15]. Therefore, the authors propose the following hypothesis:

H3: Subjective norms have a positive effect on the BYOB intentions of consumers

Perceived behavioral control is individual motivation affected by perception of a behavior's difficulty level [20]. Perceived behavioral control has a positive impact on consumers' intention to use plastic bags [21]. Perceived behavioral control had a strong impact and ranked second, only after the attitude factor to green consumption intentions [22]. From the above arguments, the authors propose the following research hypotheses:

H4: Perceived behavioral control has a positive effect on the BYOB intentions of consumers

Fig 1. Research model



III. METHODOLOGY

3.1. Sample and procedure

After researching the secondary data, the authors conducted in-depth interviews with 9 customers in Hanoi, Vietnam to test the scales in the research model. Based on the research overview and the results of in-depth interviews,

the author proceeded to develop the survey to serve the investigation. The scales in the research model with observed variables inherited from previous studies.

To collect accurate data, the authors went directly to schools, supermarkets, companies of customers in Hanoi, Vietnam to distribute and collect the survey in August, 2020. The survey questionnaire was divided into 2 parts: the first part explored the respondent's perception of the statements related to attitude, subjective norms, perceived behavioral control, intention and behavior towards BYOB; the second part explored personal information such as gender, age, educational qualification, job, marital status, number of family members and income.

Statistics of 536 observations in the research show that the number of respondents about BYOB is mostly female (accounting for 71.6%); in which a large number of people are in the age group from 20 to 29 (accounting for 38.81%), followed by people from 30 to 39 years old (accounting for 27.05%); Most of the respondents have university and college degrees (accounting for 63.25%); the occupation is mainly state employee (accounting for 32.84%); The most common marital status of the respondents was married with 249 votes (accounting for 46.46%); the majority of family members are about 2 to 4 people (accounting for 68.47%), followed by about over 4 people (accounting for 23.88%); income is mostly about 10-20 million/month (accounting for 34.33%).

Table 1: Respondents' characteristics

Characteristics	***N***	***%***
Gender	536	100.00
Male	151	28.2
Female	384	71.6
Age	536	100.00
Under 20	56	10.45
From 20 to 29	208	38.81
From 30 to 39	145	27.05
From 40 to 49	48	8.96
From 50 to 59	64	11.94
Over 60	15	2.80
Educational qualification	536	100.00
High School Graduation	114	21.27
College/University Graduation	339	63.25
Master/PhD graduation	47	8.77
Others	36	6.72
Job	536	100.00
Student	98	18.28
Business staff	114	21.27
State employee	176	32.84
Housewife	79	14.74
Freelancer	69	12.87
Marital status	536	100.00
Single	235	43.84
Married	249	46.46
Divorce	36	6.72
Other	16	2.99
Number of family members	536	100.00
1	41	7.65
From 2 to 4	367	68.47
Upper 4	128	23.88
Income	536	100.00
Under 6 million VND	77	14.37
From 6 million – 10 million VND	139	25.93
From 10 million – 20 million VND	184	34.33
From 20 million – 30 million VND	65	12.13

From 30 million – 40 million VND	41	7.65
Upper 40 million VND	30	5.60

3.2. Measures

Behavior (BE). The three-item scale by Arı and Yılmaz (2017) was used for behavior [23]. Each item of the scale was rated from 1 (strongly disagree) to 5 (strongly agree), and a sample item from the scale was "If plastic bags given at cash registers were not free, I would use fewer plastic bags." The Cronbach's α value was 0.916.

Intention (IN). For assessing intention, we adapted from Alam et al. (2019) with three-item scale [24]. Each item of the scale was rated from 1 (strongly disagree) to 5 (strongly agree), and a sample item from the scale was "I will buy fabric bag products to use when shopping." The Cronbach's α value was 0.841.

Attitude (AT). We used Lam and Chen's (2006) three-item measure to measure attitude [25]. Each item of the scale was rated from 1 (strongly disagree) to 5 (strongly agree), and a sample item from the scale was "I like to take advantage of shopping situations to get free plastic bags." The Cronbach's α value was 0.797.

Subjective norms (SN). The three-item scale by Alam et al. (2019) was used to measure subjective norms [24]. Each item of the scale was rated from 1 (strongly disagree) to 5 (strongly agree), and a sample item from the scale was "The people who influence my behavior think that I should bring a cloth bag when I go shopping." The Cronbach's α value was 0.858.

Perceived behavioral control (PBC). We used the four-item measure by Alam et al. (2019) to assess perceived behavioral control [24]. Each item of the scale was rated from 1 (strongly disagree) to 5 (strongly agree), and a sample item from the scale was "I will use cloth bag when I go shopping although friends advise me not to use it due to inconvenience." The results of analyzing the reliability Cronbach's Alpha shows that item-total correlation coefficient of PBC2 is less than 0.3, so PBC2 removed from the PBC scale. The Cronbach's α value was 0.821.

IV. RESULTS

4.1. Exploratory Factor Analysis (EFA)

In order to group the initial observed variables into the significant ones, and at the same time discover the latent structure between the research concepts, the authors conducted an exploratory factor analysis (EFA) with five factors: behavior, intention, attitude, subjective norms and perceived behavioral control. The KMO coefficient calculated from the survey sample is 0.755, greater than 0.5, which shows that the sample size is suitable for factor analysis. To determine the main factors, the authors use the factor extraction method based on eigenvalue values. The factors that have an eigenvalue value greater than 1 can be kept in the analytical model. Using Kaiser criterion, the eigenvalue = 1.140 greater than 1 is consistent with all 5 factors, explaining 77.499 percent of variance.

Table 2. Results of EFA

	Component				
	1	2	3	4	5
BE1	0.910				
BE3	0.908				
BE2	0.887				
SN2		0.902			
SN3		0.897			
SN1		0.843			
IN2			0.867		
IN1			0.855		
IN3			0.765		
PBC1				0.914	
PBC3				0.841	
PBC4				0.815	

AT1					0.845
AT3					0.838
AT2					0.825

4.2. Means, Standard Deviations and Zero-Order Correlations

Table 3 presents the means, standard deviations, and zero-order correlations. As shown in the table 3, attitude, subject norms, perceived behavioral control were significantly related to intention of the farmers (r = 0.276, 0.100 and 0.170 respectively, p < 0.01). In addition, intention had a significant relationship with behavior (r = 0.451 respectively, p <0.01).

Table 3: Means, Standard Deviations and Zero-Order Correlations

	Mean	Std. Deviation	AB	SN	PBC	IN	BE
AT	4.1623	0.72886	1				
SN	3.5224	0.82253	0.014	1			
PBC	3.7718	0.77389	0.117**	-0.053	1		
IN	3.8172	0.71633	0.276**	0.100*	0.170**	1	
BE	4.0871	0.85202	0.044	0.067	0.023	0.451**	1

4.3. Confirmatory factor analysis

In the next step, the authors performed a confirmation factor analysis (CFA). The CFA results show a good fit: $\chi 2$ = 133.652, df = 80, p = 0.000, CMIN/df = 1.671 (between 1 and 3) [26], CFI = 0.987 > 0.9, SRMR = 0.034 < 0.08, RMSEA = 0.035 < 0.06, PClose = 0.991 > 0.05 [27]. In addition, the standardized regression weight of all items is higher than 0.5 (λ> 0.5). Consequently, the convergence value is determined at all scales.

4.4. Structural equation modeling

The overall fit statistics of the model without the control variables illustrated an acceptable level of fit: $\chi 2$ = 6.439, df = 3, p = 0.000, CMIN/df = 2.146 (between 1 and 3) (Kettinger et al., 1995), CFI = 0.982 > 0.9, SRMR = 0.031 < 0.08, RMSEA = 0.046 < 0.06, PClose = 0.469 > 0.05 (Hu & Bentler, 1999). So, the research model was used to test the hypothesized relationships (see Figure 2).

Fig 2. The results of structural analyses

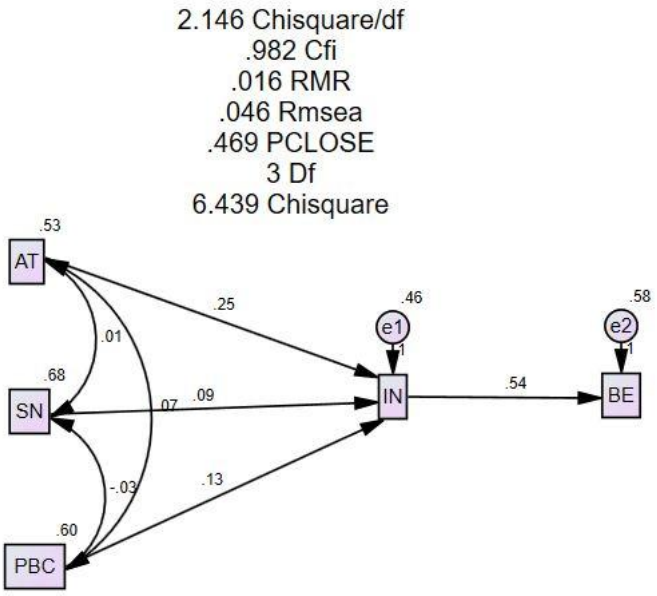


Table 4 shows that all hypothesized paths are statistically significant, but the significant level is different. In particular, intention has significant effect on behavior towards BYOB (β = 0.536; p-value < 0.001) (H1 is supported). Attitude and perceived behavioral control have relative relationships with intention towards BYOB (β = 0.253 and 0.134 respectively; p-value < 0.001) (H2 and H4 are supported). Meanwhile, subjective norms have a slight relationship with intention towards BYOB (β = 0.090; p-value < 0.01) (H3 is supported).

Table 4: The results of the path analysis among variables with standardized regression weights

			Estimate	S.E.	C.R.	P
IN	<---	AT	0.253	0.040	6.249	***
IN	<---	SN	0.090	0.036	2.533	.011
IN	<---	PBC	0.134	0.038	3.517	***
BE	<---	IN	0.536	0.046	11.681	***

V. DISCUSSION AND CONCLUSION

5.1. Discussion

Research results showed that attitude had a positive relationship with intention towards BYOB. The consumer's attitude will determine intention towards BYOB. This result is in agreement with the research of Chang & Chou (2018), Ekasari & Zaini (2020) and Muposhi (2018) [28, 29, 30].

Subjective norms have positive relationship with intention towards BYOB. Subjective norms of the consumers that will determine intentions towards BYOB are also the conclusions of Ekasari & Zaini (2020) [29].

Perceived behavioral control has a positive relationship with intention towards BYOB. The consumer's perceived behavioral control determines intention towards BYOB. This argument is also proven in the study of Chang & Chou (2018) and Ekasari & Zaini (2020) [28, 29].

Intention has a positive relationship with behavior towards BYOB of customers. Muposhi (2018) also confirmed this relationship in a study in South Africa [30].

5.2. Conclusion

BYOB affects a country's environment. Therefore, state management agencies in Vietnam need to come up with policies to affect the attitude, subjective norms and perceived behavioral control, in order to influence the intentions and behavior towards BYOB.

The policies include raising awareness of the environmental harm of plastic bags through television programs, talks, and competitions held regularly in localities. In addition, the kindergarten and primary school curriculum also needs to update the content related to environmental sustainability through limiting and eliminating the use of plastic bags when shopping. Early childhood education will help consumers to be conscious not only of their own intentions

and behavior, but also to actively remind relatives, friends and colleagues to change their habits of using plastic bags when shopping.

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