Green Behavior towards the Usage of Shopping Bags

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Abstract. The widespread use of plastic waste results in various environmental problems. Indonesia ranks second in the world for mismanaged plastic waste. APRINDO has agreed that retailers or wholesalers will no longer provide plastic bags to consumers for free but will instead charge a fee of Rp. 200. The government is implementing a plastic bag restriction policy and encouraging consumers to use shopping bags, which has the aim of reducing plastic waste. The primary objective of this study is to investigate the impact of attitude, subjective norms, and perceived behavioral control on individuals' engagement in green behavior. The present study was carried out on a sample of individuals in Indonesia who engage in shopping activities at retail or supermarket establishments. The inclusion criteria for participants were individuals aged 17 years and above, as well as individuals who possess prior expertise in using environmentallyfriendly products, as shopping bags. The empirical findings of this study demonstrate that attitude has a positive and statistically significant impact on green behavior. Similarly, subjective norms are found to have a positive and statistically significant influence on green behavior. Additionally, perceived behavioral control is observed to have a positive and statistically significant effect on green behavior.

Keywords: Attitude, subjective norms, perceived behavioral control, green behavior..

1 Introduction

The Sustainable Development Goals (SDGs) represent a novel framework for fostering sustainable development through the lens of human rights and equality, with the aim of advancing social, economic, and environmental progress. The SDGs consist of 17 goals and 169 targets for the welfare of the global community. Point 12 of these Sustainable Development Goals emphasizes the significance of responsible production and consumption in promoting sustainable development, it is imperative to acknowledge the significance of diminishing the ecological footprint through the alteration of food and resource production and consumption practices. Effective management of the shared use of natural resources and how to deal with hazardous waste and pollutants are important objectives to achieve this goal [1]. Environmental awareness has led many researchers to conduct studies related to sustainability and green consumer behavior. Various sustainability issues pose a threat to the world, such as global warming, water pollution, climate change, natural resource depletion, and overpopulation. Environmental problems are at the center of attention around the world

[2], such as with the use of plastic products that can lead to a variety of environmental problems. The top five plastic waste contributing countries in the world are China, Indonesia, Philippines, Vietnam, and Sri Lanka [3]. The Ministry of Environment and Forestry of Indonesia created Regulation No. 18/2008, a regulation related to waste management, with Articles 19 and 20 [4] containing specific focus on waste reduction and handling activities. Waste that is managed comes from households, agriculture, buildings, trade, offices, and industries. However, the waste problem cannot be resolved properly, resulting in a build-up of waste that ends up in landfills.

The government's plastic bag restriction policy originated from the emergence of plastic waste that has disturbed environmental conditions; therefore, the government collaborated with the Indonesian Retailers Association (APRINDO) to implement a plastic bag restriction policy with the aim to reduce plastic waste. Several retailers and shopping malls, such as Carrefour, Superindo, Transmart, Alfamart, and Indomaret, have adopted the practice of charging customers for plastic bags. The government, in collaboration with the National Consumer Protection Agency (BPKN), the Indonesian Consumer Foundation (YLKI), and the APRINDO, have reached a consensus that retailers should cease the provision of plastic bags at retail establishments for a nominal fee of Rp. 200,- (two hundred rupiahs). Shopping bags themselves contribute to environmental change to reduce plastic waste and the use of disposable shopping bags [5].

This research uses green behavior as a term to denote consumer behavior driven by environmental concerns and their efforts to reduce environmental damage. Green behavior is emerging as a new marketing discipline within the scope of consumer research [6]. Consumers who have green behavior can reduce environmental impact through increased environmental efficiency in their lifecycle and preparedness in anticipating the impact of global warming [7] and [8]. The Theory of Planned Behavior (TPB) model provides a framework for systematically studying factors that influence behavioral choices [9]. One study [10] suggests the use of the TPB model as a conceptual framework and a consideration of other variables to significantly explain green behavior. This study uses the TPB model to determine the relationships among attitude, subjective norms, and perceived behavioral control on green behavior. There is an inconsistent influence of attitude on green behavior. According to one study [11], attitude plays a substantial role in shaping individuals' green behavior. The assertion by [12] posits that attitude does not exert a substantial impact on pro-environmental behavior. This research is a development of research by [11] and [13]. The former study [11] investigates the impact of individuals' green attitude and subjective norms on their green behavior, in line with previous research conducted in this area. The latter study [13] investigates the influence of attitude and perceived behavioral control on individuals' green behavior. This study expands upon the aforementioned studies by investigating the impact of attitude, subjective norms, and perceived behavioral control on individuals' engagement in environmentally friendly behaviors. With the existence of these inconsistent results, this study fills the gap by identifying these variables in the context of consumers in Indonesia.

2 Literature Review

2.1 Theory of Planned Behavior (TPB)

The Theory of Planned Behavior (TPB) model puts in place a framework for systematically studying factors that influence behavioral choices [9]. Theory of Planned Behavior (TPB) is a theory that has a complete framework consisting of attitude, subjective norms, perceived behavioral control, and behavior [14]. The theory allows researchers to examine factors that can influence decisions in green behavior [15]; [16]; [17].

2.2 Attitude

As explained by [18], attitude consists of a number of feelings (affection) that lead a person to the acceptance or rejection of an object and its consideration as being agreeable or disagreeable, or good or bad. Attitude is an internal state that influences one's actions on certain objects, people, and events [19]. Attitude describes a feeling of judgement (liking or disliking) by a person, specifically regarding green behavior [20]; [21]; and [22]. According to [23], attitude refers to a person's relatively consistent evaluations, feelings, and tendencies towards an object. Attitude is a belief in behavior that arises from a person who represents the perceived outcomes or attributes of behavior [24]. Attitude is one of the good predictors of green behavior [25] and [26]. Research has shown that a person's attitude towards green behavior will indicate good or bad feelings about the act of using shopping bags. Attitude has a significant influence on green behavior [27]; [28]; and [29].

H1: Attitude has a positive effect on green behavior.

2.3 Subjective Norms

Subjective norms are normative beliefs that can generate perceived social pressure [30]. In other words, individual beliefs about the perceived desirability of various important matters can then provide individual motivation to meet the expectations of others [31]. Subjective norms are considered a key predictor of green purchasing [32]. The influence of subjective norms on green behavior is positively perceived [33]. According to the findings of previous studies [34] and [35], it has been established that subjective standards play a significant role in shaping consumers' inclination towards engaging in the purchase of organic food products. Subjective norms have a major impact on the purchasing behavior of environmentally-friendly products [36]. Multiple studies have presented empirical data indicating that adolescent consumers exhibit a higher propensity to take into account the viewpoints of their peers and parents when engaging in environmentally conscious actions [37] and [38]. Subjective norms exert a favorable impact on pro-environmental behavior [39].

H2: Subjective norms have a positive effect on green behavior.

2.4 Perceived Behavioral Control

Perceived behavioral control forms restraint in performing certain actions and measures individual perceptions of the ability to behave rationally [16] and [40]. Perceived behavioral control plays an important role in green purchasing behavior [12]. Perceived behavioral control emerges as the most robust indicator of pro-environmental behavior, as individuals are

more likely to engage in the purchase of environmentally-friendly products when they hold the belief that their actions yield favorable outcomes, as found in [41] and [42]. According to a study [43], it was found that perceived behavioral control exerts a favorable impact on individuals' engagement in green behavior. According to [44], individuals with a higher level of perceived behavioral control about barriers or constraints are more likely to experience greater ease in obtaining green items. According to the findings of [13], it has been observed that perceived behavioral control plays a substantial role in shaping individuals' green behavior. It has been observed that individuals have exhibited a high level of ease in engaging in environmentally-friendly behaviors.

H3: The perception of behavioral control is positively associated with the engagement in green behavior.

2.5 Research Framework



Fig 1. Research Framework

3 Methodology

This research used an explanatory approach. The explanatory approach is used to determine whether one or more variables explain the cause or effect of other variables [45]. This research used a quantitative approach. The research objective of the quantitative approach is to test a theory [45]. The sample for the study comprised individuals who engage in shopping activities at retail or supermarket establishments within the Indonesian context. The utilized sampling technique for this research was non-probability sampling with the sample selection method of purposive sampling. There were two criteria for the selection of respondents in this study. The

first was individuals aged 17 years and older. Respondents of these ages are considered to be individuals who have the ability to make their own decisions [46] and [47]. The second was individuals who had prior knowledge and expertise in using ecologically sustainable products, such as reusable shopping bags. The data collection process in this study involved the distribution of online electronic questionnaires to respondents through Google Forms. The questionnaire consisted of three sections. The first section contained screening questions. The second section contained questions about the characteristics of the respondents. The third section contained questions on items pertaining to the variables being used.

The research methodology employed in this study involves using a Structural Equation Model (SEM) as the primary data analysis approach. The usage of Structural Equation Modelling (SEM) enables the simultaneous examination of intricate study designs, analysis of latent variables, and consideration of measurement errors [48]. Two distinct methods exist for Structural Equation Modelling (SEM), which are Covariance-Based SEM (CB-SEM) and Partial Least Squares (PLS-SEM). The present study employed Partial Least Squares Structural Equation Modelling (PLS-SEM) using SmartPLS software version 3.3 to validate both the measurement model and the structural model.

Table 1. Convergent Validity				
Constructs	Indicator	Outer Loading	AVE	
Attitude	AT1	0.818	0.663	
	AT2	0.836		
	AT3	0.829		
	AT4	0.774		
Subjective Norms	SN1	0.909	0.797	
	SN2	0.879		
	SN3	0.854		
	SN4	0.926		
Perceived Behavioral Control	PBC1	0.906	0.785	
	PBC2	0.914		
	PBC3	0.838		
	PBC4	0.883		
Green Behavior	GB1	0.887	0.795	
	GB2	0.879		
	GB3	0.892		
	GB4	0.915		
	GB5	0.924		
	GB6	0.853		

4 Results and Discussion

All values of outer loading met the standard ≥ 0.70 and AVE values were ≥ 0.50 . This means that all the indicators used in this study have good convergent validity, because the high outer loading values in a construct suggest that the related indicators have much in common, and that in response, the structure also has much in common.

Table 2. Fornell-Larcker Discriminant Validity					
Construct	Attitude Su		Perceived Behavioral Control	Green l Behavior	
Attitude	0.814				
Subjective Norms	0.726	0.893			
Perceived Behavioral Control	0.703	0.853	0.886		
Green Behavior	0.757	0.859		0.892	

According to the Fornell-Larcker correlation matrix, the diagonal elements in a given column should have greater values within the same construct in comparison to other constructs. This study demonstrates that all the examined constructs possess strong discriminant validity.

Table 3. Internal Consistency Reliability					
Constructs	Composite Reliability	Cronbach's Alpha	Conclusion		
Attitude	0.887	0.831	Reliable		
Subjective Norms	0.940	0.915	Reliable		
Perceived Behavioral 0.936		0.908	Reliable		
Control					
Green Behavior	0.959	0.948	Reliable		

Because the Cronbach's Alpha and Composite Reliability values are ≥ 0.70 , it can be said that all constructs have good reliability.

Table 4. Path Analysis and Hypothesis Testing						
Hypothesis	Original	Sample	Standard	t-statistic	p-value	Conclusion
	Samples	Mean	Deviation		-	
Attitude \rightarrow	0.214	0.215	0.060	3.549	0.000	Accepted
Green						
Behavior						
Subjective	0.374	0.366	0.098	3.804	0.000	Accepted
Norms \rightarrow						-
Green						
Behavior						
Perceived	0.387	0.392	0.110	3.522	0.000	Accepted
Behavioral						-
Control \rightarrow						
Green						
Behavior						

Table 4 shows the value of the path coefficients representing the significance level of the hypothesis tests. Three hypotheses were formulated for this study. All hypotheses are stated to be supported and have p-values < 0.05.



Fig 2. Structural Model

Hypothesis 1 shows a positive relationship direction for, and a significant influence of, the attitude variable on green behavior. These findings illustrate that people have an awareness of the importance of using their own shopping bags when shopping with the aim of preserving the environment, which encourages them to have green behaviors. The empirical evidence for the proposition that attitude is a strong predictor of environmentally-friendly activity is reinforced by investigations carried out in several studies [44]; [49]; and [50]. One study [44] demonstrated that attitude serves as a robust indicator of environmentally-friendly behavior. This notable discovery can be attributed to the observation that individuals tend to keep expenses low when it comes to food consumption, while also ensuring that the dining environment meets satisfactory standards. Another study [51] also provided evidence that consumers who have a positive attitude towards environmentally-friendly packaging products tend to buy these products.

Hypothesis 2 shows a positive and significant effect of the subjective norms variable on green behavior. These findings provide the explanation that respondents follow the advice of someone who is considered important to them, such as family, friends, and colleagues, in choosing to use shopping bags when shopping. These results show that consumers possess awareness regarding the importance of using shopping bags as a substitute for plastic bags, thus encouraging consumers to take action to bring their shopping bags when shopping. These results are supported by previous research [34]; [35]; and [2].

Hypothesis 3 shows a positive relationship direction and a significant effect of the perceived behavioral control variable on green behavior. These findings indicate that a person who perceives to have more control in the usage of a shopping bag when shopping is more likely to use a shopping bag. This means that people have control in relation to the ease of obtaining shopping bags, the availability of shopping bags, and the money to buy them. The results of the present study are supported by a prior research [52], which establishes a favorable association between perceived behavioral control and environmentally-friendly behavior among people from the Generation Y demographic residing in the City of Denpasar. Several studies support that the variable of perceived behavioral control is a dominant construct in influencing green behavior [43] and [53]. These results are in accordance with [54], which

provides the evidence that individuals who perceive to have more control about organic food purchasing behavior are more likely to purchase organic food. It has been stated [44] that product availability, effort or cost, and time influence environmentally-friendly behavior. Another study [13] in the context of Nigerian consumers showed that those who possess behavioral control will adopt green behavior.

5 Conclusion

The objective of this research is to examine the relationships among attitude, subjective norms, and perceived behavioral control on green behavior. The findings show that all hypotheses are accepted. This study shows that attitude has a positive and significant influence on green behavior. For the contribution to theory, this study contributes to the existing literature and empirical research regarding the comprehension and mitigation of the link between consumer attitude and behavior in the domain of green consumption. In addition to gaining a better understanding of how attitudes and behaviors are related, this study also contributes by exploring the impact of various factors on green behavior. This study includes more variables that can become predictors of green consumer behavior. For the practical contribution, the results of this study become an advice to professionals and government authorities to establish regulations that ban the use of plastic bags and encourage individuals to bring their own reusable shopping bags when purchasing goods. The aim of this approach is to tackle the growing problem of plastic waste, which is currently a major concern. This research has limitations. First, this research used the model from TPB, which consists of attitude, subjective norms, and perceived behavioral control, to examine the influence on green behavior. Future research can use other models or variables that may influence green behavior. Second, the model in this study was used to examine the determinants of green behavior; future research can examine the consequences of green behavior.

References

[1] Sdgs.bappenas.go.id: Kementerian PPN/Bappenas Apa itu SDGs?. Retrieved from https://sdgs.bappenas.go.id/ (2023)

[2] Fazeli S.A.H. et al.: Studying the effect of planned behavior theory and perceived value through the tendency to purchase on customers purchase behavior towards green products (International Journal of Applied Research in Management and Economics, 1(2), pp. 71-85 (2018)

[3] Jambeck J.R. et al.: Plastic waste inputs from land into the ocean. Science, 347(6223), 768-771 (2015)

[4] Jdih.menlhk.co.id: Peraturan Menteri Lingkungan Hidup dan Kehutanan Republik Indonesia. Retrieved from https://peraturan.bpk.go.id/Home/Details/163463/permen-lhk-no-16-tahun-2020 (2020)

[5] Nasional.kompas.com: Bawa tas belanja sendiri. Retrieved from https://nasional.kompas.com/read/2011/03/07/08271770/bawa.tas.sendiri.saat.belanja?page=al 1 (2021)

[6] Rahman M S et al.: Factors affecting consumers' green purchase behavior towards energy saving lights in Bangladesh: The mediating role of green purchase intention. Business and Management, 12(3) (2020)

[7] Ahmed W. and Zhang Q.: Green purchase intention: Effects of electronic service quality and customer green psychology. Journal of Cleaner Production, 122053. (2020)

[8] Larios-Gomez E.: Green purchase behavior: A study regarding Mexican millennial consumers. FACE: Revista de la Facultad de Ciencias Economomicas y Empresariales, 19(2) (2020)

[9] Ajzen I and Driver B.L.: Prediction of leisure participation from behavioral, normative, and control belief: An application of the theory of planned behavior. Leisure sciences, 13 (3), pp.185-204 (1991)

[10] Kumar, B.: Theory of planned behaviour approach to understand the purchasing behaviour for environmentally sustainable products (No. WP2012-12-08). Indian Institute of Management Ahmedabad, Research and Publication Department (2012)

[11] Schuuring E.: The attitude-behaviour relationship of green consumer behaviour: The influence of altruism and egoism (2018)

[12] Moser A.K.: Thinking green, buying green? Drivers of pro-environmental purchasing behavior. Journal of consumer marketing (2015)

[13] Ogiemwonyi O. et al.: Green product as a means of expressing green behaviour: A crosscultural empirical evidence from Malaysia and Nigeria. Environmental Technology and Innovation, 20, 101055 (2020)

[14] Ajzen, I.: The theory of planned behavior. Organizational behavior and human decision processes, 50(2), 179-211 (1991)

[15] Chan K.: Mass communication and pro-environmental behaviour: waste recycling in Hongkong. Journal of environmental management, 52(4),pp. 317-325 (1998)

[16] Ramayah T. et al.: Sustaining the environment through recycling: An empirical study Journal of environmental management, 102, pp.141-147 (2012)

[17[Teng, Y. M., Wu, K. S., & Liu, H. H.: Integrating altruism and the theory of planned behavior to predict patronage intention of a green hotel. Journal of Hospitality & Tourism Research, 39(3), 299-315 (2015)

[18] Fishbein M. and Ajzen I.: Belief, Attitude, Intention, and Behavior: An introduction to theory and research, Addison-Wesley, Reading, MA (1975)

[19] Ajzen I.: Perceived behavioral control, self-efficacy, locus of control, and the theory of planned behavior 1. Journal of applied social psychology, 32(4), pp.665-683 (2002)

[20] Wu L. and Chen J.L.: An extension of trust and TAM model with TPB in the initial adoption of on-line tax: an empirical study. International journal of human-computer studies, 62(6), pp.784-808 (2005)

[21] Shen Y.P.: Consumption intentions toward green restaurants: Application of theory of planned behavior and altruism. International Journal of management, Economics and Social Sciences (IJMESS), 6(3), 121-143 (2017)

[22] Liao Y.K. et al.: Examining the moderating effects of green marketing and green psychological benefits on customers' green attitude, value and purchase intention. Sustainability, 12(18), 7461 (2020)

[23] Kotler P. and Amstrong G.: Principle of marketing Seventh Edition. United Kingdom: Pearson Education Limited (2018)

[24] Conner M. and Armitage C.J.: Extending the theory of planned behavior: A review and avenues for further research. Journal of applied social psychology, 28(15), pp.1429-1464 (1998)

[25] Bamberg S. and Moser G.: Twenty years after Hines, Hungerford, and Tomera: A new meta-analysis of psycho-social determinants of pro-environmental behaviour. Journal of environmental psychology, 27(1), pp.14-25 (2007)

[26] Nguyen T.N. et al.: Young consumers' green purchase behaviour in an emerging market. Journal of strategic marketing, 26(7), pp.583-600 (2018)

[27] Pino G. et al.: Determinants of regular and occasional consumers' intentions to buy organic food. Journal of consumer affairs, 46(1), pp.157-169 (2012)

[28] Hauser M. et al.: The impact of food-related values on food purchase behavior and the mediating role of attitudes: A swiss study. Psychology and Marketing, 30(9), pp.765-778 (2013)

[29] Zhou Y. et al.: The moderating role of human values in planned behavior: the case of Chinese consumers' intention to buy organic food. Journal of consumer marketing (2013)

[30] Ajzen I. and Fishbein M.: Attitudes and the attitude-behavior relation: Reasoned and automatic process. European review of social psychology, 32 (4), pp.665-683 (2000)

[31] Manstead A.S. and Parker D.: Evaluating and extending the theory of planned behaviour European review of social psychology, 6(1), 69-95 (1995)

[32] Strizhakova Y. and Coulter R.A.: The "green" side of materialism in emerging BRIC and developed markets: The moderating role of global cultural identity. International journal of research in marketing, 30(1),pp.69-82 (2013)

[33] Jansson J. et al.: Green consumer behavior: Determinants of curtailment and ecoinnovation adoption. Journal of consumer marketing (2010)

[34] Basha M.B. et al.: Consumers attitude towards organic food. Procedia Economics and Finance, 31, pp.444-452 (2015)

[35] Thogersen J. et al.: How stable is the value basis for organic food consumption in China? Journal of cleaner production, 134, pp.214-224 (2016)

[36] Thogersen J.: Social norms and cooperation in real-life social dilemmas. Journal of economic psychology, 29(4), pp.458-472 (2008)

[37] Swaim J.A. et al.: Influences on student intention and behavior toward environmental sustainability. Journal of Business Ethics,124(3), pp.465-484 (2014)

[38] Lee K.: 2010 The green purchase behavior of Hong Kong young consumers: The role of peer influence, local environmental involvement, and concrete environmental knowledge Journal of international consumer marketing, 23(1), pp.21-44 (2010)

[39] Biel A. and Thogersen J.: Activation of Social Norms in Social Dilemmas: A review of the Evidemce amd Reflections on the Implications for Environmental Behaviour. Journal of Economic Psychology, 28, pp.93-112 (2007)

[40] Xu, X., Wang, S., & Yu, Y.: Consumer's intention to purchase green furniture: Do health consciousness and environmental awareness matter?. Science of the Total Environment, 704, 135275 (2020)

[41] Roberts, J.A.: Green consumers in the 1990s: Profile and implications for advertising. *Journal of business research*, *36*(3), 217-231 (1996)

[42] Straughan, R. D., & Roberts, J. A.: Environmental segmentation alternatives: a look at green consumer behavior in the new millennium. Journal of consumer marketing, 16(6), 558-575 (1999)

[43] Chaudhary, R., & Bisai, S.: Factors influencing green purchase behavior of millennials in India. Management of Environmental Quality: An International Journal, 29(5), 798-812 (2018)

[44] Tanner, C., & Wölfing Kast, S.: Promoting sustainable consumption: Determinants of green purchases by Swiss consumers. Psychology & marketing, 20(10), 883-902 (2003)

[45] Cooper, D. R., & Schindler, P.S.: Business research methods. Twelfth Edition (Florida: McGraw-Hill (2014)

[46] Wong, J. Y., Wong, H. S., & Wong, W. P. M.: Green products purchase intention: A study of Sibu Sarawak. e-BANGI, 17(1), 62-79 (2020)

[47] Uddin, S. F., & Khan, M. N.: Green purchasing behaviour of young Indian consumers: An exploratory study. Global Business Review, 17(6), 1469-1479 (2016)

[48] Hair Jr. J.F. et al.: A primer on partial least squares structural equation modeling (PLS-SEM) (Sage Publications) (2014)

[49] Ballantyne, R., & Packer, J.: Promoting environmentally sustainable attitudes and behaviour through free-choice learning experiences: what is the state of the game?. Environmental Education Research, 11(3), 281-295 (2005)

[50] Wells, V. K., Ponting, C. A., & Peattie, K.: Behaviour and climate change: Consumer perceptions of responsibility. Journal of Marketing Management, 27(7-8), 808-833 (2011)

[51] Prakash, G., & Pathak, P.: Intention to buy eco-friendly packaged products among young consumers of India: A study on developing nation. Journal of cleaner production, 141, 385-393 (2017)

[52] Suryandari, N. K. D., Suprapti, N. W. S., & Sukaatmadja, I. P. G.: Aplikasi Theory of Planned Behavior dalam menjelaskan perilaku ekologis generasi Y di Kota Denpasar. Jurnal Manajemen, Strategi Bisnis dan Kewirausahaan, 10(1), 31-41 (2016)

[53] Kumar, G. A.: Framing a model for green buying behavior of Indian consumers: From the lenses of the theory of planned behavior. Journal of Cleaner Production, 295, 126487 (2021)

[54] Ashraf, M. A., Joarder, M. H. R., & Ratan, S. R. A.: Consumers' anti-consumption behavior toward organic food purchase: An analysis using SEM. British Food Journal, 121(1), 104-122 (2019)