Consumer Behavior Model for Green Product Consumption: Determinant and Impact of Green Satisfaction on Green Loyalty

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Abstract

The issue of environmental damage requires public awareness and efforts to contribute to keep the environment healthy and sustainable. This awareness began to grow with more and more producers offering environmentally friendly products, including energy-saving products. The problem is that the product has not been widely accepted by the public. This study aims to analyze what factors influence satisfaction and loyalty of users of environmentally friendly goods by using consumer behavior models. The respondents of the study were 223 people who filled out the online questionnaire consisting of three parts namely demography, the level of consumption of environmentally friendly goods, and the experience of using environmentally friendly goods. Measurement of research variables using a 5-point likert scale. Testing the research model uses the Structural Equation Model (SEM) with five latent variables, namely environmental concern, personal norms, and social influences as exogenous variables, green satisfaction, and green loyalty. The results of the Confirmatory Factor Analysis show that the measurement model is quite good based on the values of Cronbach Alpha, Average Variance Extracted (AVE), and Composite Reliability (CR) that are greater than the threshold of 0.6. Hypothesis testing uses a modified standardized model with a value of □2 / df = 2.691; RSMEA = 0.094, IFI = 0.964, TLI = 0.955, and CFI = 0.964. Three out of the four hypotheses proved to be significant, namely environmental concern and social influence which significantly influence green satisfaction, and green satisfaction affects green loyalty. This consumer behavior analysis model can be used as a basis in developing a public education program to increase consumer awareness of environmentally friendly goods and the role of social networks in changing consumer behavior to start using environmentally friendly goods

Keywords: Green product, green satisfaction, green loyalty, consumer behavior model

Introduction

Economic progress and development often with negative impacts on the environment such as global warming, depletion of natural resources, or acid rain (Joshi & Rahman, 2016). Environmental damage is a big problem in the world (Kautish & Sharma, 2018). To reduce environmental degradation, countries throughout the world have begun to encourage environmental protection and sustainable development (Huang & Kung, 2011). Environmental problems also encourage consumers to be more proactive and open to green consumption (Akturan, 2018). Daily consumption behavior will be an adequate starting point if someone wants to contribute to environmental protection (Moser, 2015). People today are increasingly interested in buying green products, consuming products responsibly, and being involved in environmental protection and resource conservation activities (Dabija, Bejan & Grant, 2018). The development of green production and green consumption has now become a global trend (Chen, Lin & Weng, 2015). Consumers and producers increasingly pay attention to environmental care and concern (Teoh & Gaur, 2018). The company also designs and produces more environmentally friendly products to take advantage of the green consumerism trend (Chaudhary, 2018). Consumers are becoming increasingly aware of the availability of environmentally friendly products and some are even willing to pay more for it (Lin, Lobo & Leckie, 2017).

Chang & Fong (2010) states that previous research has given much attention to product quality, company image, customer satisfaction, and customer loyalty, but none has explored green innovation or environmental management aspects. Why consumers care or don't care about the environment related to consumption behavior of environmentally friendly products is the central theme of this research. Various internal and external factors need to be further investigated to find out the usage behavior of environmentally friendly products. The influence of socio-cultural factors on sustainable community consumption is a problem that has not received much research

attention (Joshi & Rahman, 2016). Understanding how consumer characteristics and social factors influence green product buying behavior is an important research topic on green consumer behavior (Wang, 2014). Communities in developed and developing countries are encouraged to find ways to weaken and possibly reverse the negative effects of excessive consumption by promoting pro-environmental behavior (Felix & Braunsberger, 2016). The purpose of this research is to examine and analyze the influence of individual and social factors on the behavior of using environmentally friendly products in Indonesia.

2. Research Methodology

2.1 Theoretical Framework and Hypothesis

Environmentally friendly marketing activities (green marketing) include the development, differentiation, pricing, and promoting products and services that satisfy customer needs without harming the environment (Chen & Chang, 2012). Consumer behavior is a major cause of environmental problems and people are trying to solve the problem by consuming green products (Teoh & Gaur, 2018). The definitive green product or eco-product is "products with (perceived) environmentally friendly and / or socially responsible characteristics" (Salazar, Oerlemans & Biezen, 2013). Consuming green products is a form of concern for the environment in a real way. The definition of environmental concern is "the degree to which people are aware of problems regarding the environment and support efforts to solve them and to show willingness to contribute personally to their solutions." (Dunlap & Jones, 2002; Hu, Parsa & Self, 2010; Chaudhary, 2018). According to Polonsky, Kilbourne & Vocino (2014), concern for the environment will decrease if materialistic values increase. Consumers with a higher level of environmental awareness are more willing to practice green consumption (Wu & Chen, 2014).

Individual or personal factors are the determining factors in the behavior of the use of green products, one of which is the personal norm analyzed in this study. Personnel norms reflect moral obligations and ethical motives related to the purchase of environmentally friendly products (Moser, 2015). The construction of human values plays an important role in shaping environmental and behavioral awareness towards sustainable consumption (Kautish & Sharma, 2018). Other factors studied were external factors, namely social influence, which was defined as "change in individual's thoughts, feelings, attitudes, or behaviors that results from interaction with another individual or a group" (Rashotte, 2007). According to Wang (2014), social influence refers to how other people influence someone's decision, including in this study, it affects the use of environmentally friendly products. The use of environmentally friendly products does not necessarily cause user satisfaction or loyalty because as a product, consumers still depend on various other factors that influence their consumption behavior. Green satisfaction shows consumers' feelings that their consumption has fulfilled their needs, goals, desires about environmental problems, and the use of these products is pleasing. "(Chang & Fong, 2010).

Based on the description above, the hypothesis is formulated as follows:

H1: Environmental concern has an affect on green satisfaction
H2: Personal norm has an affect on green satisfaction
H3: Social influence has an affect on green satisfaction
H4: Green satisfaction influence green loyalty

2.2 Data Collection and Measurement

The method of data retrieval uses a survey with a questionnaire distributed online in January 2019. Measurement of variables in the questionnaire uses a 5-point likert scale. Latent variables or unobserved variables studied are environmental concerns, personal norms, social influences, green satisfaction, and green loyalty. Points of measurement for environmental concern adopted from Hu et al. (2010) and Chaudhary (2018). The three items of measurement are: (1) I am very concerned about the environment, (2) I would be willing to help protect the environment, (3) Major social changes are necessary to protect the natural environment, (4) The anti-pollution laws should be enforced more strongly. The three items of Personal Norm measurement are adapted from Moser (2015) and Chaudhary (2018), namely: (1) I feel an obligation to save environment where possible, (2) I should do what I can to conserve natural resources, (3) I feel a strong personal obligation to use eco-friendly packaged products.

In addition to the first two variables which show more internal factors, this study uses one other determinant which is an external factor, namely social influence. The measurement of variables adopts the items from Teoh & Gaur (2018), namely: (1) I learned so much about eco-friendly products from my friends and family, (2) Most members of my family will expect me to buy eco -friendly product, (3) I will follow the advice that I should buy eco-friendly products, (4) My friends recommend me that I should buy an eco-friendly product.

The two endogenous variables in the structural equation model are green satisfaction and green loyalty. Green Satisfaction was measured by four items adapted from Chen & Chang (2013) and Wu et al. (2018), namely (1) I am satisfied with my decision to purchase an eco-friendly product, (2) I think I have the right thing to use an eco-friendly product, (3) I feel that using an eco-friendly product can contribute to environmental protection and

sustainable development, (4) It is worthwhile to use eco-friendly products. Green loyalty variables use three points from Wu (2018), namely: (1) I will spread positive word-of-mouth about eco-friendly products, (2) I will keep using eco-friendly products in the near future, (3)) Even if the close friend of another product, my preference for eco-friendly products would not change.

Testing the research model using the Structural Equation Model which consists of two stages, namely measurement model analysis and structural model analysis. Measurement model testing uses Confirmatory Factor Analysis (CFA) by calculating Average Variance Extracted (AVE) and Composite Reliability (CR). Before testing the hypothesis, the empirical model is evaluated for the compatibility of the model first by using several Goodness of fit parameters such as CMIN / DF. GFI, CFI, IFI, or RMSEA.

3. Result and Discussion

Based on the respondents' data used in the study, it was presented that in the age range between 18 and 54 years, there were 63.36% who were between the ages of 18-30 years; there are three green products namely electronic items, food and drinks and automotive that mostly been consumed by respondent, the experience of using a green product between 1-5 years is around 60.54%. This shows that young people have started consuming environmentally friendly products. Table 1 below shows an overview of the characteristics of respondents.

Table 1 Descriptive Statistic

Characteristics	Items	Percentage
Age	18-30	63,68%
	31-40	12,56%
	> 40	23,77%
Gender	Male	58,74%
	Female	41,26%
Green products	Electronic items	30,90%
	Food and drinks	40.30%
	Automotive	26.00%
	Other Products	2.69%
Experience in using green products	Never	17.50%
	1-5 years	60.54%
	6-10 years	17.04%
	11- 15 years	4.48%
	> 15 years	0.44%
Marital status	Married	52,9%
	Not Married	47,1

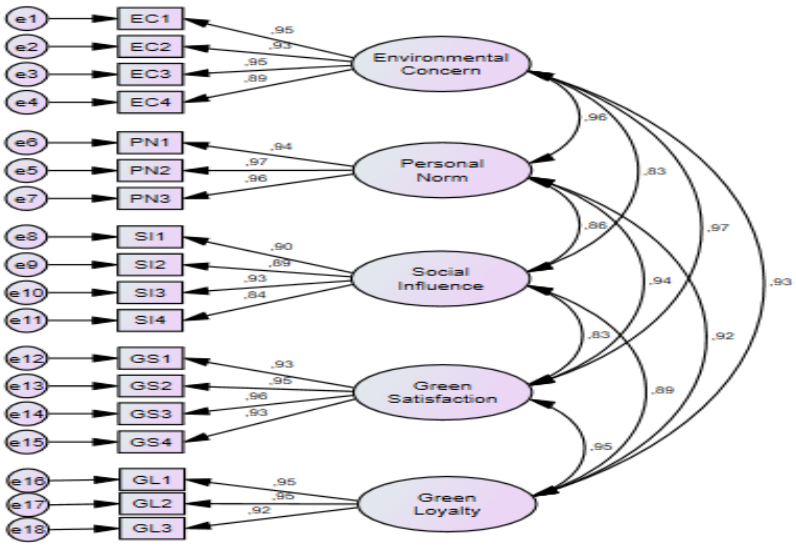

Figure 1. Measurement model

Based on the results of the Confirmatory Factor Analysis, it shows that the measurement model has good reliability and validity of measurement, this can be seen from the value of loading factors, cronbach alpha, Average Variance Extracted, and Composite Reliability. Reliability (CR) that are greater than the threshold of 0.6 (Hair, Black, Babin & Anderson (2014). Analysis of the measurement model using confirmation analysis is presented in Figure 1 and Table 2.

Table 2. Result of Confirmatory Factor Analysis (CFA)

Latent Variable	Item	Mean	Standard Deviation	Loading Factor	Cronbach A	AVE	CR
Environmental Concern	EC1	4.17	1.254	0.950	0.961	0.865	0.962
	EC2	3.89	1.171	0.927			
	EC3	4.10	1.242	0.954			
	EC4	4.12	1.233	0.888			
Personal Norm	PN1	3.96	1.218	0.939	0.969	0.914	0.970
	PN2	4.00	1.199	0.971			
	PN3	3.90	1.181	0.958			
Social Influence	SI1	3.58	1.175	0.903	0.940	0.792	0.938
	SI2	3.44	1.176	0.892			
	SI3	3.69	1.155	0.927			
	SI4	3.47	1.188	0.836			
Green Satisfaction	GS1	3.78	1.162	0.929	0.968	0.887	0.969
	GS2	3.95	1.207	0.953			
	GS3	3.98	1.221	0.957			
	GS4	3.88	1.195	0.927			
Green Loyalty	GL1	3.75	1.173	0.954	0.959	0.884	0.958
	GL2	3.85	1.168	0.948			
	GL3	3.64	1.154	0.918			

Structural Model and Hypothesis Test

The second stage in testing empirical models is structural model analysis which is used as a basis for testing hypotheses. The structural model in a standardized form is presented in Figure 2.

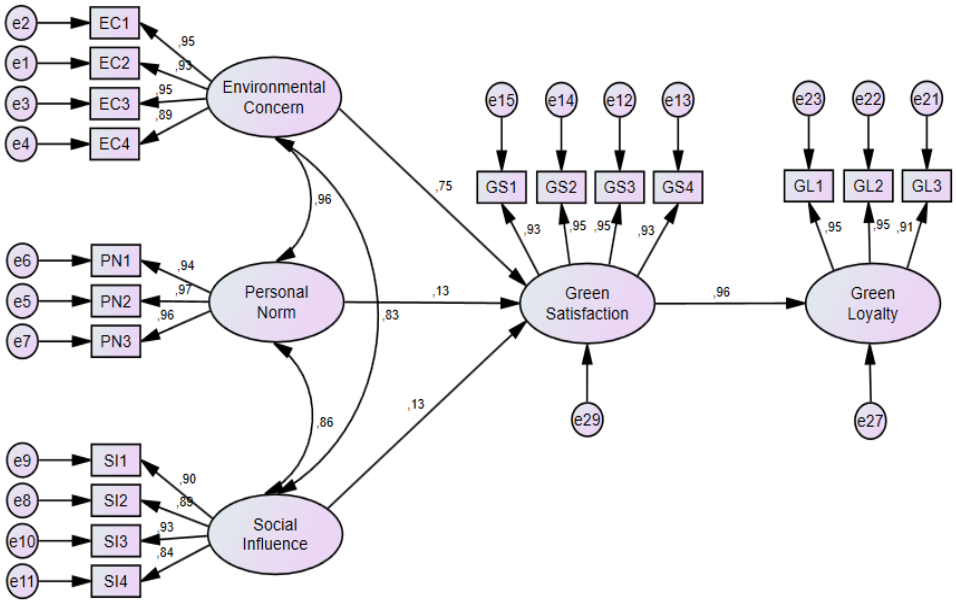

Figure 2. Standardized Empirical Model

Table 2. GoF measures for research model

	GoF Measures	GoF values		Threshold(*)
		Origin	Modified	
1.	CMIN/DF	3.822	2.961	2:1 or 3:1
2.	GFI	0.796	0.855	0.90
3.	NFI	0.928	0.947	0.90
4.	RFI	0.914	0.933	0.90
5.	IFI	0.946	0.964	0.90
6.	TLI	0.935	0.955	0.90
7.	CFI	0.945	0.964	0.90
8.	RMSEA	0.113	0.094	0.06

Note (*) Davcik et al. (2014)

The empirical model generally has a good model match because 6 of the 8 GoF parameters in the Table 2 above are better than the threshold mentioned by Davcik et al. (2014). The results of the hypothesis test are presented in Table 3 below.

Table 3. Result of hypothesis testing

Hypothesis			Estimate	S.E.	C.R.	P	Result
Green Satisfaction	<---	Environmental Concern	0,799	0,107	7,472	***	Supported
Green Satisfaction	<---	Personal Norm	0,126	0,107	1,181	0,238	Rejected
Green Satisfaction	<---	Social Influence	0,142	0,052	2,754	0,006	Supported
Green Loyalty	<---	Green Satisfaction	0,87	0,037	23,33	***	Supported

Referring to Table 3, Environmental concern has a positive significant effect on green satisfaction, this means that the more awareness or concern for the environment will increase the level of satisfaction with the environment. This finding is also in line with the results of Yu Shan Chen's research (Chen, *et al* 2015). Social influence also has a positive significant effect on green satisfaction, this means that the greater the social influence of family, friends and social environment will increase awareness of the use of environmentally friendly products. This finding is in accordance with the results of Helen A. Salazar's research (Salazar, *et.al*. 2013). Consumers who are more concerned about the environment are generally more familiar with the various green products available, will take the initiative to search for green products and will contribute to the consumption of green products (Teoh & Gaur, 2018).

Personal norms do not significantly influence green satisfaction, this shows that personal awareness of the obligation to save and maintain the environment is still relatively low. This finding is contrary to research (Chaudhary, 2018) and (Moser, 2005).

Green satisfaction has a significant positive effect on green loyalty. This shows that the higher the level of satisfaction with environmentally friendly products will increase loyalty to the use of environmentally friendly products. This research is in line with the results of the study (Lin, et.al., 2017)

4. Conclusion

Environmental concern and social influence have a positive effect on green satisfaction, while personal norms have no proven effect on green satisfaction. The higher environmental concern and social influence will increase green satisfaction. The influence of environmental concern is greater than the influence of social influence on green satisfaction. Green satisfaction then influences green loyalty with a positive relationship direction, namely the higher green satisfaction, the higher green loyalty. With consumers' increasing environmental awareness and their rising needs for green products, more and more companies would like to position their brands as being green when competing with their rivals (Lin *et al.*, 2017).

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