

## ECO-CONSCIOUS CHOICES: EXAMINING THE EFFECTS OF GREEN MARKETING AND PRODUCT DESIGN ON CONSUMER INTENTIONS TO PURCHASE SUSTAINABLE PRODUCTS

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### ABSTRACT

This research aims to analyze green marketing and green product design on green purchase intention. This research uses a quantitative approach using primary data through an online questionnaire. The research population and sample are all consumers who use Green Wash brand detergent products spread across 3 (three) ASEAN countries, namely Indonesia, Malaysia and Thailand, with the unit of analysis being household consumers who were observed in April - June 2023, where samples were taken using a purposive technique. sampling with the number of samples used in the research being 100 respondents. The research was carried out using research data quality testing methods, research hypothesis testing and multiple linear regression testing using the SPSS Ver program. 26. The test results show that green marketing and green products have no effect on green purchase intention.

**Keywords:** green marketing, green product design, green purchase intention,

### INTRODUCTION

Environmental management has become a major concern for small and medium enterprises (Sugandini, et al; 2018). Based on the results of a survey from the World Wide Fund for Nature (WWF) and Nielsen in 2021, it was found that around 63 percent of consumers in Indonesia are willing to buy environmentally friendly products even at higher prices. These results reflect increased consumer awareness of sustainable products and show that the domestic market is ready to accept products produced with sustainability in mind. The survey was conducted on 916 respondents in several major Indonesian cities, including Jakarta, Medan, Surabaya, Denpasar, and Makassar, representing upper-middle-class consumers with an age range between 15 to 45 years. The focus of this research is on consumers in this age group who live in Jakarta (Hartanto, et al; 2023)

Hartanto, et al (2023) suggest that consumers feel that consumption of environmentally friendly products can help reduce and protect the environment from increasing damage today. Thus, these findings indicate that consumers' awareness of green products is increasing, and they are increasingly ready to adopt sustainable products. The phenomenon of *green marketing behavior* has changed as a new model of environmentally friendly marketing strategies. The idea of eco-friendly marketing has emerged as a competitive tendency to seize and win the attention of customers in the market (Jaiswal, Kant: 2018).

Many industries have included green product design as an environmentally friendly product. Compared to other products, the green product design business continues to

experience increased consumer interest in the world market. The company has adopted a green marketing strategy as a set of marketing tools and elements, which allows companies to serve the intended market without damaging the environment (Gelderman, et al; 2021) and this certainly aims to stimulate consumer desires/intentions to buy environmentally friendly products (green purchase intention) in the future. Consumer oriented

Green purchase intention has a tendency to buy a product with environmentally friendly product design characteristics and realize the benefits of caring about environmental conditions and starting to find out about the environment, so that green knowledge indirectly affects one's buying interest (Winda, Ketut; 2020).

Organizations and consumers must have responsibility towards environmental issues and by purchasing green products they participate in this process in the future. Other studies state that a person's motivation in this case is that concern for the environment does make some environmentally sensitive consumers tend towards buying environmentally friendly products so that they have a positive and significant impact (Onurlubas; 2018). Further research states environmental concern refers to the level of emotional involvement that people feel towards environmental problems so that it reflects the intention to buy environmentally friendly products to protect the earth (Winda, Ketut; 2020).

Currently, there are various kinds of green products or environmentally friendly products on the market along with the increasing level of public awareness and concern for the environment. One of the industrial products that is beneficial to consumers but on the other hand a source of pollution for the environment is detergent (Ginting and Ekawati, 2016). Excessive use of detergents can cause an increase in the environmental burden from pollution due to waste that enters directly into water sources and takes place continuously.

Detergent is one of the needs that are needed by many people for washing clothes, so the need for detergent products is quite high, including for people in Indonesia. However, along with these needs, the community also needs to pay attention to how the impact and consequences of these needs on the environment.

One of the green products launched by PT Herba Penawar Alwahida Indonesia, which later became known as HPAI, was the detergent "Green Wash" where the detergent "Green Wash" has the advantage of being safe for the environment because the raw materials are eco-friendly, low foam, clean laundry with only a little rinse water (water saving) and free from phosphate content and contains biodegradable so that detergent waste can decompose well in the soil and can help save aquatic life.

This study aims to investigate and analyze the influence of green marketing and green product design which are predicted to be able to encourage green purchase intention on Green Wash products.

## LITERATURE REVIEW

### Green Purchase Intention

Green Purchase Intention is defined as the possibility and desire of a consumer who is interested in environmentally friendly issues and is aware to choose products that are more environmentally friendly compared to conventional products now which most in the production process tend to override the impact of influences on the environment (Ali and Ahmad; 2016).

Green Purchase Intention is conceptualized as the possibility and willingness of a person to give preference to products that have eco-friendly features over other traditional products in their purchase consideration. According to research studies by Beckford et al., (2010) and Chen (2012), Green Purchase Intention is a significant predictor of green buying behavior,

meaning that purchase intention positively influences the probability of a customer's decision that he or she will buy a green product. . Chan and Lau (2002) conducted a cross-cultural research study in China and America, where consumers in Shanghai and Los Angeles were surveyed, concluding that the asymmetric influence of green purchase intent on green purchasing behavior warrants further attention.

### Green Marketing

The American Marketing Association (AMA) defines green marketing as activities to market products in an environmentally friendly way, including modifying products, changing production processes, changing packaging and even changing promotional methods (Hawkins, et al: 2020).

Arseculeratne and Yazdanifard (2013) stated that the concept of green marketing includes certain characteristics such as marketing products that are safe for the environment, developing and marketing products that can minimize harm to the environment, producing, promoting, and packaging products in an appropriate way so as to protect the environment.

The purpose of green marketing is not only to see profit as the company's main goal but also to have additional concern for the environment. Mintu and Lozada (1993) define green marketing as "the application of marketing tools to facilitate change that provides organizational satisfaction and individual goals in maintaining, protecting, and conserving the physical environment".

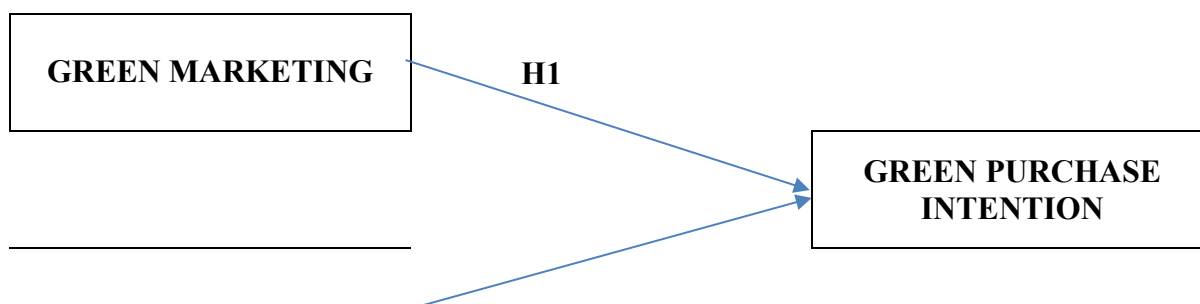
### Green Product Design

Eco-friendly products are usually products that can help protect the environment and reduce the impact of existing damage. According to Teng & Wang (2015), green products are products that are not harmful to humans and the environment, do not waste resources, do not produce excessive waste, and do not cause damage to animal ecosystems. Johannes & Ilunitedra (2015) stated that green products or environmentally friendly products are made to reduce the adverse effects that can allow environmental damage in the life cycle. The use of environmentally friendly products can reduce the use of raw materials that are not easily renewable and can avoid the use of materials that contain toxins.

According to Shamdasami et al., (in Sumarsono and Giyatno, 2012), green products or also known as ecological products or environmental friendly products are products that contain components that are safe, non-toxic, recyclable, and use environmentally friendly packaging to reduce the negative impact of product consumption on the environment.

The conceptual framework in this study is:

**Figure 1 Conceptual Framework**



<b>GREEN PRODUCT DESIGN</b>
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**H2****RESEARCH METHODS**

The research was conducted using quantitative methods which are causality relationships (causality) between independent variables that affect the dependent variable, where the dependent variable is the cause of the action of green purchase intention activities which are then used as measurements as the influence of various independent variables consisting of aspects of green marketing, and green product design.

This study used primary data through an online questionnaire. The population and research samples are all consumers who use Green Wash brand detergent products spread across 3 (three) ASEAN countries, namely Indonesia, Malaysia and Thailand with the analysis unit being household consumers who are observed in April – June 2023, where sampling uses purposive sampling techniques with the number of samples used in the study of 100 respondents. The study was conducted using research data quality test methods, research hypothesis tests and multiple linear regression tests using the SPSS Ver. 26 program.

**RESULTS AND DISCUSSION****Research Results**

The data in the questionnaire is ordinal data which is then converted into interval data using the successive interval method because multiple linear regression requires a minimum interval scale. Here are the research results for this study:

**Normality Test****Table 1. Normality Test**

<b>One-Sample Kolmogorov-Smirnov Test</b>			
		Unstandardized Residual	
N		100	
Normal Parameters <sup>a,b</sup>	Mean	.0000000	
	Std. Deviation	2.66370385	
Most Extreme Differences	Absolute	.074	
	Positive	.064	
	Negative	-.074	
Test Statistic		.074	
Asymp. Sig. (2-tailed) <sup>c</sup>		.200d	
Monte Carlo Sig. (2-tailed) <sup>e</sup>	Say.	.197	
	99% Confidence Interval	Lower Bound	.186
		Upper Bound	.207
a. Test distribution is Normal.			
b. Calculated from data.			
c. Lilliefors Significance Correction.			

d. This is a lower bound of the true significance.
e. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 2000000.

source: data processed by SPSS

The results of the Kolmogorov-Smirnov normality test with an SPSS Asymp.Sig (2-tailed) value of 0.200 indicate that the tested data follow a normal distribution. In the context of the KS normality test, a significance value (Asymp.Sig) greater than the commonly used significance level (usually 0.05) indicates that the data are likely to follow a normal distribution.

### Heterokedacity Test

**Table 2. Heterokedacity Test**

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.416	1.469		.964	.337
	GreenMarketing	-.012	.062	-.021	-.200	.842
	GreenProdDesign	.044	.047	.097	.938	.351

a. Dependent Variable: Abs\_RES

source: data processed by SPSS

The heterokedacity test of this study used the glacier test. In table 2 written sig values of 0.842 and 0.351, these values indicate the significance of heteroscedasticity. In the context of heteroscedasticity tests, the significance level generally used is 0.05. If the value of the "Coefficient Sig" is greater than 0.05, as in this case (0.842 and 0.351), then you can conclude that there is no significant evidence of heteroscedasticity in the data. In other words, your data has homoscedasticity, i.e. its residual variance is relatively constant.

### Autocorrelation Test

**Table 3. Autocorrelation Test**

Model Summary <sup>b</sup>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.087 <sup>a</sup>	.008	-.013	2.69102	1.866

a. Predictors: (Constant), GreenProdDesign, GreenMarketing

b. Dependent Variable: GreenPuchsInten

source: data processed by SPSS

Based on the output table "Model Summary" in table 3, it is known that the Durbin-Watson value (d) is 1.866. Next we will compare this value with the value of durbin watson's table at 5% significance with the formula  $(K : N)$ . The number of independent variables is 2 or "k" = 2, while the number of samples or "N" = 100, then  $(K ; N)$ — (2 , 100). This figure is then looked at in the distribution of values of the durbin watson table. Then found value dL is 1.634 and dU is 1.715. The value (d) in this study of 1.866 is greater than the upper limit of dU of 1.715 and less than  $(4-dU)$   $4-1.715 = 2.285$ . Based on the terms of decision making of the durbin Watson test, it can be concluded that there are no problems or symptoms of autocorrelation.

### Multicollinearity Test

**Table 4. Multicollinearity Test**

Coefficients <sup>a</sup>								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig..	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	20.256	2.726		7.431	.000		
	GreenMarketing	.047	.115	.043	.413	.681	.959	1.042
	GreenProdDesign	-.072	.088	-.085	-.822	.413	.959	1.042

a. Dependent Variable: GreenPuchslnten

source: data processed by SPSS

Based on table 4, in the Collinearity Statistics section, it is known that the Tolerance value for the variables Green Marketing (X1) and Green Product Design (X2) is 0.959 greater than 0.10. Meanwhile, the VIF value is  $1.042 < 10.00$ . So referring to the basis of decision making in the multicollinearity test, it can be concluded that there is no multicollinearity in the regression model.

Based on the normality test, heterokedacity, autocorrelation, multicollinearity stated that there was no problem in the processed data, thus proceeded to the model test using multiple linear regression.

### Multiple Linear Regression Test

**Table 5 Test Coefficients**

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Say.
		B	Std. Error	Beta		
1	(Constant)	20.256	2.726		7.431	.000
	GreenMarketing	.047	.115	.043	.413	.681
	GreenProdDesign	-.072	.088	-.085	-.822	.413

a. Dependent Variable: GreenPuchsInten
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source: data processed by SPSS

Based on the data from table 5, the equation model

Multiple regression obtained as follows:

$$Y = 20.256 + 0.047X_1 - 0.072X_2$$

Y = Green Purchase Intention

X<sub>1</sub> = Green Marketing

X<sub>2</sub> = Green Product Design

Based on the above equation it can be interpreted that:

1. A constant of 20.256 indicates that all independent variables are constant, so the value of Green Purchase Intention is 20.256.
2. The regression coefficient of the Green Marketing variable (X<sub>1</sub>) shows a positive value of 0.047. It is concluded that there is an influence of Green Marketing (X<sub>1</sub>) on Green Purchase Intention (Y). In other words, the value shows that if Green Marketing increases by 1 unit, then Green Purchase Intention will increase by 0.047 and vice versa, if Green Marketing decreases by one unit, Green Purchase Intention will decrease by 0.047.
3. The regression coefficient of the Green Product Design variable (X<sub>1</sub>) shows a negative value of 0.072. It is concluded that there is an influence of Green Product Design (X<sub>1</sub>) on Green Purchase Intention (Y). In other words, the value shows that if Green Marketing increases by 1 unit, then Green Purchase Intention will decrease by 0.047 and vice versa, if Green Marketing decreases by one unit, Green Purchase Intention will increase by 0.047.

### Partial Significant Test (Statistical Test T)

Based on table 5, it is concluded that:

1. The Green Marketing variable (X<sub>1</sub>) shows a calculated T value of 0.413 with a significance of 0.681 and the table T ( $\alpha = 0.05$ ;  $df = 97$ ) is 1.9847. The significance value (0.681) is greater than the significance level of  $\alpha$  (0.05). This indicates that there is no statistical significance between the variables Green Marketing and Green Purchase Intention at the level of  $\alpha = 0.05$ . Since  $T_{\text{counts}} < T_{\text{table}}$  which is  $0.413 < 1.9847$ , this shows that the Green Marketing variable (X<sub>1</sub>) has no partial effect on Green Purchase Intention (Y). Based on these results, we can conclude that the Green Marketing variable (X<sub>1</sub>) does not have a significant influence on Green Purchase Intention at the significance level  $\alpha = 0.05$ . In other words, there is no statistical evidence to support a significant relationship between Green Marketing and Green Purchase Intention in this analysis.
2. The Green Product Design variable (X<sub>2</sub>) shows a calculated T value of 0.822 with a significance of 0.681 and the table T ( $\alpha = 0.05$ ;  $df = 97$ ) is 1.9847. The significance value (0.413) is greater than the significance level of  $\alpha$  (0.05). This indicates that there is no statistical significance between the variables Green Product Design and Green Purchase Intention at the level of  $\alpha = 0.05$ . Since  $T_{\text{counts}} < T_{\text{table}}$  which is  $0.822 < 1.9847$ , this shows that the variable Green Product Design (X<sub>2</sub>) has no partial effect on Green Purchase Intention (Y). Based on these results, we can conclude that the Product Design variable (X<sub>2</sub>) does not have a significant influence on Green Purchase Intention (Y) at the

significance level  $\alpha = 0.05$ . In other words, there is no statistical evidence to support a significant relationship between Green Marketing and Green Purchase Intention in this analysis.

### Simultan Significant Test (Statistical Test F)

**Table 6 Simultaneously Test**

ANOVAa						
Model		Sum of Squares	df	Mean Square	F	Say.
1	Regression	5.351	2	2.675	.369	.692b
	Residual	702.436	97	7.242		
	Total	707.787	99			
a. Dependent Variable: GreenPuchsInten						
b. Predictors: (Constant), GreenProdDesign, GreenMarketing						

source: data processed by SPSS

Based on table 6, the calculated F value can be obtained, which is 0.369. While the resulting significance value is 0.692. A low F count (0.369) indicates that the variables tested did not make a significant contribution in explaining the variation in the data.

Significance (0.692) is a p-value that measures the significance level of the F test. In this context, the significance value (0.692) is greater than the generally used significance level, i.e.  $\alpha = 0.05$ . This indicates that there is no significant influence between the variables Green Marketing (X1), Green Product Design (X2), and Green Purchase Intention (Y).

Based on these results, it can be concluded that there is no significant effect between the variables Green Marketing (X1), Green Product Design (X2), and Green Purchase Intention (Y) at the level of significance  $\alpha = 0.05$ . In the context of statistical analysis, this suggests that the variables or models tested do not contribute significantly together in explaining variations in the data.

### Research Discussion

Based on the results of the research that has been described, it can be concluded that partially, Green Marketing and Green Product Design do not have a significant influence on Green Purchase Intention. This means that marketing efforts related to environmental sustainability (Green Marketing) and environmentally friendly product design (Green Product Design) do not directly affect the purchase intention of environmentally friendly products (Green Purchase Intention).

The results of this study are in line with the views of experts who state that the influence of Green Marketing and Green Product Design on Green Purchase Intention is indirect.

According to Junaedi (2005), environmental awareness is the most dominant factor influencing the purchase intention of environmentally friendly products. In addition, other



factors that can also affect the purchase intention of environmentally friendly products include:

- Perception of product quality
- Perception of product prices
- Perception of ease of obtaining products
- Brand equity
- Brand trust

The results of this study are also in line with the results of previous research conducted by Madjidan (2022). The study found that Green Marketing and Green Product Design did not have a significant influence on Green Purchase Intention.

The results showed the absence of statistical evidence that supported a partially significant relationship between Green Marketing, Green Product Design and Green Purchase. The following is a discussion of research based on the results presented:

1. **There is no partial significant influence** between Green Marketing, Green Product Design on Green Purchase. These results show that individually, Green Marketing does not have a significant influence on Green Purchase Intention. This can be interpreted that marketing efforts related to environmental sustainability (Green Marketing) do not directly affect the purchase intention of environmentally friendly products (Green Purchase Intention). This can be caused by other factors that are more dominant in influencing purchase intent.
2. **There Is No Significant Shared Influence.** In addition, the results that show the absence of significant influence together from Green Marketing (X1), Green Product Design (X2), and Green Purchase Intention (Y) at the significance level  $\alpha = 0.05$ , confirm that in this analysis, these three variables do not contribute together in explaining variations in environmentally friendly product purchase data.

These results show that in the context of statistical analysis, Green Marketing and Green Product Design, in combination with Green Purchase Intention, do not have a significant influence in driving purchase intent of environmentally friendly products. In this case, other factors or additional variables may be more influential in influencing the purchase intention of environmentally friendly products.

## CONCLUSION

In the current research states that there is no partial or simultaneous influence between the variables of Green Marketing, Green Product Design on Green Purchase. The results of this study are expected to provide important insights for companies looking to improve sustainable product marketing, that a more holistic approach may be needed to influence consumer purchase intent in this context.

The implications of this study, context and consumer demographics must be considered when creating sustainable marketing strategies. Green marketing can be responded to in different ways by each market and customer group.

In addition, more research is needed to better understand the factors that influence consumers' decisions to buy eco-friendly products.

Variations in the methods used, sample sizes used, and demographics of respondents are some of the limitations of this study. This can affect the generalization of the results. In addition, research results may be influenced by changes in consumer preferences over time. Other limitations may include changes in marketing strategy and increased environmental awareness, each of which can affect consumer responses.

By understanding these results, implications and limitations, manufacturers and researchers can create better sustainable marketing strategies and better understand how consumers choose eco-friendly products.

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