The Effect of Green Product Attributes and Eco Label Information on Green Purchasing Decision
(A Study on Consumers of Rinso Anti – Stained Detergent)

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Abstract. This study aims to investigate the effect of green product attributes, and eco label information to green purchasing decision (a study on consumers of Rinso Anti Noda detergent). Purposive sampling method was applied for data collection to 114 samples. Data analysis used multiple regression analysis. The study result showed that green product attributes and ecolabel information partially have significant effect on green purchasing decision. Furthermore, green product attributes and Eco label information simultaneously has significant effect on green purchasing decision. These findings support the importance of the green marketing of green preen products since there is an increasing awareness on green environment among consumers and society in recent years.

Keywords: Green product attributes · Eco label information · Green purchasing decision

1 Introduction

Recently, companies that adopt green marketing strategies use packaging to show their green product attributes and eco label information as part of the promotion. Concerning with environmental degradation, consumer starts to change their preference towards green products. Some studies showed that green products can reduce environmental issues. This leads the consumers to purchase the products that less impact on the environment or eco-friendly products or green products [1, 2].

In addition, to increase the information of the green product, the companies often put eco-label information on the product's packaging. The eco-label awareness is concidered has a positive impact with the green products knowledge to consumers' purchase intention [3]. Furthermore eco-label is a useful instrument to attract consumers and to inform them about the effects of their purchasing decision to the environment.

This study will investigate the effect of green product attributes and eco-label information to green purchasing decision. The research object is Rinso Anti Noda detergent which is already obtained eco label type II (self declaration of environmental aspects of the product).

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2 Literature Review and Hypotheses

The concept of green marketing began to emerge in the 1980s [4], and associated with changes in attitudes and behavior of consumers as they pay more attention to environmental protection activities [5].

To satisfy consumer needs, green marketing concept is developed into a new marketing context and includes all activities designed to minimize damage to an environment as a result of producing and consuming goods. Therefore, green marketing focuses on efforts to design, promote, price and distribute products that do not harm the environment [6].

Green products are known as products related to ecology or environmentallly friendly products. Green products are designed to minimize environmental impacts during their products' life cycle, specifically to minimize the use of non-renewable resources, to avoid toxic materials and to use renewable resources according to the level of need [7]. Moreover, green products usually are produced through environmentally friendly technology that do not cause harm to the environment [8].

2.1 Green Product Attributes

Product attributes generally refer to dimensions of a product or a service. Consumers consider all products or services as a combination of attributes such as price, convenience, design and so forth [9]. Product attributes can be interpreted as components of raw materials, the production process including the packaging that complement the basic functions of the product.

D'Souza, Taghian, Lamb and R. [7] explained that the aspects of green products or environmentally friendly products include:

1) Product perception; where consumers see green products or environmentally friendly products as products that are not tested on animals and protect the environment.
2) Packaging; it presents certain elements and looks related to environmental care by customers.
3) Content composition; recycled materials can justify limited usage and lower overall usage claims, as well as minimal damage to the environment.

According to Rahman [10] consumers would like to make a purchase decision of green products because of their eco-friendly features that are less harmful to the environment and human health. Therefore this study suggests the following hypothesis:

H1: Green product attributes are considered have positive effect on Green purchasing decision of Rinso anti stained detergent.

2.2 Ecolabel Information

D'Souza, Taghian, Lamb and R. [7] explained that there is an increasing use of environmental labels in promotion to identify the green products. Sammer and Wüstenhagen [11] claim eco labels become an important tool for allocating information asymmetry

between sellers and buyers. According to Gill, Lawrence and Taylor [12], Ecolabel is an attempt to standardize and clearly communicate the environmental impact of a product to consumers.

Indonesia has developed two eco label classifications namely Eco label Type I and Type II. Eco label Type I is given to products that have received environmental labels or Ecolabels from the Ecolabel Certification Institute (independent claim group from third parties), one of which comes from Singapore. Meanwhile, type II ecolabel is given to products that have a self-declaration (claim) on environmental aspects of the product [13].

Relate to green purchasing decision, eco-label becomes an essential factor of green products to influence consumers' purchase decisions [14]. Testa et al. [15] claim that consumers with more knowledge on Eco labels are tend to buy green products. Loureiro and Lotade [16] identify that consumers especially in developed countries showed their willingness to pay higher premium for eco-labeled products. Thus, second hypothesis will investigate the effect of eco-label information on the green purchasing decision as follows:

H2: Ecolabel information is considered has a positive effect on green purchasing decisions of Rinso anti stained detergent.

2.3 Green Puschasing Decision

Green purchasing decision means adding environmental aspects to criteria such as price and efficiency when buying products [17]. Environmental protection is one of the main reasons for consumers to behave in an environmentally friendly manner in their purchasing decisions [18]. This study hypothesizes that green product attributes and eco-label information affects green purchasing decision and proposes the following hypothesis:

H3: Green product attributes and Ecolabel information are considered have a positive effect on green purchasing decision of Rinso anti stained detergent.

3 Methods

This type of research is a quantitative research to test theory by examining the relationship between variables [19]. This study also uses of survey techniques to obtain specific information quickly through questionnaire from the target group [20]. The construct of green product attributes adopt the concept developed by D'Souza t al [7] and ecolabel information adopts the concept developed by Mei, Ling and Piew [21]. Meanwhile, green purchasing decision adopts the concept developed by P. Kumar and Ghodeswar [22].

The population of this research is Rinso Anti Stain consumers whose numbers cannot be estimated during this pandemic. Thus the sample measurement using the formula (Eq. (1)) developed by Zikmund and Babin [23]:

$$n = \frac{Z^2 c.1.pq}{E^2} \tag{1}$$

With an estimated 95% confidence level (Zc.l, = 1.96), where the allowed sampling error (E) is not more than 4%, the estimated success proportion (p) is 95% and q = 1-p, the formula resuls a total sample size of 114.

The sampling technique used is a purposive sampling with sample criteria is respondents who have a minimum education level of high school and who have purchased and used Rinso anti-stained detergent. Rinso is a detergent product brand that is already obtained Ecolabel Type II or it already has made a self declaration (claim) on the environmental aspects of the product. It is chosen as research object because most of its variant products already have ecolabel type II and the brand is considered popular in Indonesia.

Data analysis includes validity and reliability tests as instrument tests and also classical assumption tests such normality test, Multicolinierity test and Heteroscedasticity test to ensure that multiple linear regressions analysis can be performed. Multiple linear regression analysis is used to create a model that describes the contribution of the predictor variables to the dependent variable [24]. Multiple regression analysis is also used to test the hypotheses.

4 Results and Discussion

4.1 Result

There were 12 items to measure three constructs and their reliability and validity. The following Table 1 illustrates items' validity of all variables.

Table 1. Item validity

Variable	Item	Pearson Correlation (r)	Sig.
X1 = Green product attributes	X11	0.732	0.000
	X12	0.652	0.000
	X13	0.660	0.000
	X14	0.801	0.000
	X15	0.682	0.000
	X16	0.668	0.000
X2 = Eco label information	X21	0.829	0.000
	X22	0.866	0.000
	X23	0.900	0.000
Y = Green purchasing decision	X41	0.690	0.000
	X42	0.541	0.000
	X43	0.700	0.000
	X44	0.765	0.000

Table 2. Reliability of variables

Variable	Item	Score of Cronbach's Alpha
X1 = Green product attributes	6	0.796
X2 = Eco label information	3	0.831
Y = Green purchasing decision	4	0.603

Table 3. The result of t-test

Hypothesis	Variable	t-score	t-table	Sig.	
H1	X1	7.557	1.658	0.000	Significant
H2	X2	3.794	1.658	0.000	significant

Validity test performed was items to total validity. The summary of the results of the validity test for all variables can be seen in Table 1. The results of the analysis shown that all items were valid because $r > 0.5$ and significant (0.000).

Table 2 summarizes the result of Cronbach's alphas for all variables. All scores of Cronbach's alpha were above 0.6, suggesting all the construct variables are statistically reliable.

Classical assumtion test has been conducted and the results of normality test showed that data were distributed normally while multicollinearity test resulted that all variables were free from multicollinearity problems (VIF scores were all less than 10). Heteroscedasticity test were conducted on scatter plot chart and the result shown that there were no clear pattern, therefore it assumed that there was no indication of heteroscedasticity problem and regression analysis could be conducted.

The regression model generated from the statistical analysis were as follow Eq. (2):

$$Y = 5.569 + 0.312X1 + 0.248X2 \quad (2)$$

This positive value of the constant and coefficient regressions meant that "Y (green purchasing decision) had positive value of 5.569 when values of X1 (green product attributes) and X2 (Eco label information) were zero. Furthermore the increase of X1 and X2 resulted on the increase of Y".

In testing the hypotheses, H_0 is rejected if the p-value (the significance) for the t-statistic is less than 0.05. The rejection of H_0 will cause the acceptance of H_a meaning the hypothesis is accepted. The result of t-test can be seen from the Table 3.

Table 3 shown that all hypotheses were significant because it had sig. < 0.05 and also t-score $>$ t-table, therefore H0 of each hypothesis was rejected Ha was accepted. This meant green product attributes have ppositive effect to green purchasing decision (H1) and also eco-label information has positive effect to green purchasing decision (H2). Hypothesis 3 was tested using F-test and the result was as follow:

Table 4. The result of F-test

Hypothesis	Variable	F-statistics	F-table	sig	
H3	X1&X2	88.511	3.08	0.000	Significant

From Table 4 the result shown that the p-value for the F-statistics is less than 0.05 (significant) meaning the H3 was accepted. Therefore green product attributes and eco-label information simultaneously had positive effect to green purchasing decision.

5 Discussion

The result of statistical analysis shown that green product attributes and eco-label information partially and simultaneously had positive impact on green purchasing decision. The regression model also showed that the increase of green product attributes and eco-label information would increase the green purchasing decision.

The study findings confirmed the acceptance of the hypothesis 1 (H1) from the result of t-test. This support thereseach conducted by Sharma and Foropon [25] who claim that consumers who like to do green purchase are influenced by product attributes for their purchase decision.

The 2nd hypothesis (H2) that states eco-label information is considered has a positive effect to green purchasing decision was accepted based on the result on Table 3. Eco-label information is considered very important from the fact that packaging of green products reach the level that catches consumers' attention to what is inside these products. Eco-label can create a positive impact on consumer intention to purchase when consumers are aware about eco label [26]. Furthermore, Yue and Campbell [27] found that 'green' labels encouraged consumers' willingness to pay for green products. Eco-label is considered the most important factor that influencing consumers' purchase of products, so the high price does not have a significant moderating effect on the relationship between the eco-label and purchase intention [28].

The 3rd hypothesis (H3) test result also showed a significant effect of green product attributes and eco-label information simultaneously to green purchasing decision. It appears that green packaging and eco-label are the best means to display product attributes, as these directly provide information, such as the production cycle, origin, and environmental footprint, in which consumers are more interested [29].

The limitation of this study concerns with methodology in which this study is based on data collected through questionnaires, and individual bias may exist. Another issue is resources constraint. Future research should be conducted which allows the researchers to use more comprehensive techniques. Future researchers could more focus on other specific kinds of the green products to understand the impact of green product attributes and eco label toward consumers' purchasing decisions of green products.

6 Conclusion

The study investigated how green products' attributes and Eco label information influence the green purchasing decision. The results obtained from the statistical analysis of

this study showed that green product attributes and eco-label information have positive effect on green purchasing decision.

The research results suggest that the companies should focus on green product attributes, and eco-label information since they affect consumer's purchasing decision. The company that use green marketing strategies must try to registrate its product to get eco label type I or type II. The design of the products should cause less environment damage and that is easily recyclable.

This study provided an analytical framework to investigate the effects of green product attributes and ecolabel information on green purchasing decision, thereby, it contributed to providing a base knowledge about the green attributes and eco-label of the product. The empirical evidence provided by this study would be useful for future researchs that investigating the critical factors affecting the the purchasing of the green products for environmental protection purpose in developing countries.

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