

The Attributes of Eco-Labels: The Sustainability of Customer Green Behavior

Doni Purnama Alamsyah^{1*}, Norfaridatul Akmaliah Othman², Wen-Yaw Danny Chung³, Mulyani⁴, Nik Rahila Wan Ibrahim⁵, Yogi Udjaja⁶

^{1,4,6} Bina Nusantara University, Indonesia

^{2,5} Universiti Teknikal Malaysia Melaka, Malaysia

³ Chung-Yuan Christian University, Taiwan

* Corresponding Mail: doni.syah@binus.ac.id

Article Info

Volume 83

Page Number: 24569 – 24581

Publication Issue:

May - June 2020

Abstract

An Eco-label is an attribute associated with environmentally friendly products. The marketers use it widely in providing the value of products offered. Based on the phenomenon, this study aims to review the impact of eco-labels on customer behavior that relates to green awareness, green trust, environmental knowledge, and perceived quality. This study is conducted in Indonesia, particularly in West Java, with 100 supermarket customers as research respondents. Data from the respondents is obtained through questionnaires quantitatively, and data is analyzed through SmartPLS in examining the correlation values. The research result shows that an eco-label is an attribute to a green product, and it has a correlation and positive impact on green awareness, green trust, environmental knowledge, and perceived quality from customers. The attribute of an eco-label provides a more significant impact on the green value of green awareness and green trust compared to natural values. Research findings can provide input to the marketer in taking green marketing policies through the attribute of an eco-label. For the government, it is as essential information in understanding a customer's knowledge for the attribute of eco-labels.

Keywords: Eco-Label, Green Awareness, Green Trust, Environmental Knowledge, Perceived Quality

Article History

Article Received: 11 May 2020

Revised: 19 May 2020

Accepted: 29 May 2020

Publication: 12 June 2020

I. Introduction

A green product is a product that is produced environmentally-friendly and healthy for consumption. It usually has a longer shelf life because it does not use hazardous chemicals [1]. Green products use attributes that differentiate them from conventional products, like eco-labels [2]. Marketers on products perceive the attributes as more valuable than those products because the products are environmentally-friendly [3]. Nowadays, marketers use marketing strategies through the attributes of eco-labels to attract customers' attention [2]. Customers are

increasingly selective in choosing products to consume, and customer awareness of environmentally-friendly products has also increased [4]. The improvement of customer awareness of green products is - likely due to several conditions that occur today, starting from the intention to a healthy lifestyle [5], becoming a vegetarian, and awareness of environmental pollution to the effects of global warming issues [6]. Customer's attention to the environment is increasing, and it encourages a healthy lifestyle through several movements, including "green consumerism"[7]. The movement leads to customer care for the environment, which started

to spread throughout the world, but it has not been significant in Indonesia. Because green products in Indonesia have just entered the stage of introduction [8], many studies evaluated the performance of green products; one of which is through the eco-label attribute [9]–[12].

In previous studies, it has shown that the attributes of eco-labels can influence customer behavior, such as green awareness and green trust from customers for environmentally-friendly products [3], [13], [14]. Green awareness relates to the level of customer awareness of green products. However, they only consume environmentally-friendly products but do not recommend it to others [15]. The level of customer awareness for environmentally-friendly products varied, and it depends on previous customer experiences. One of the experiences that determine the level of green awareness is the attribute of eco-labels [13]. The label on green products can indirectly educate the customer on value differences. The customer believes that an eco-label is the best way to introduce environmentally-friendly products [3]. A good example is a halal label, which provides confidence among Muslims to consume the product [10].

Green marketing strategy uses eco-labels that become an essential part for marketers; it appears from the emergence of a variety of eco-labels [16]. However, not all eco-labels are in line with the government's recommendations; for example, labels on food products should have the label "Organic Indonesia," while other labels currently offered are fresh, natural, or no pesticides [17]. The number of fake eco-labels will undoubtedly have a negative impact on green awareness of the customer, and the trust in a label, as well as the concerns for environmentally-friendly products. So, understanding the truth of eco-label attributes becomes an essential part of marketing that uses it in a green marketing strategy [18]. Beside green awareness, it has been known that the impact of eco-label attributes to customer green trust [19]. Previous studies state that customer trusts in green products are influenced by the authenticity of the product chosen [20]. The authenticity of a product seems to begin with the submission of product attributes, which is an eco-label. So, it is apparent that the attribute of an eco-label is a vital part that can influence customer green trust. It is simply

stated that green trust relates to customer trust in green products.

Green products are increasingly trending today; it is offered in various types such as organic vegetables or organic fertilizer [21]. Green products have real value compared to conventional products. They are commonly known as perceived quality, where customer considers the various advantages of green products when they choose it [22]. The perceived quality of green products allows customers to view them for their quality, rather than assume that their price will be higher than their non-green counterparts. [23]. Customers look at green products as natural products because it is healthy when it is consumed. In the previous study, it was explained that the attribute of eco-label was an effort by producers to increase the value of green products, and eco-labels provide a positive outlook on customer perceived quality [20]. The characteristic of green products is known as natural values. It provides opportunities for customers to be more understanding of green products [24]. It is stated in a term known as customer environmental knowledge [25] in which a customer understands, and they care about the environment to produce environmentally-friendly products. The previous studies have revealed that the attribute of an eco-label has an impact on customer's perceived quality, which is increasing customer awareness in understanding the environmentally-friendly products so that the environmental knowledge from the customer is increased [3].

The essence of the phenomenon lies in sources from the attribute of eco-label with an effort to improve the green behavior of customers through green values and natural values. The purpose of the eco-label attribute has the virtue of maintaining the sustainability of green products and the environment. Based on the phenomenon of green behavior, the research is conducted to analyze the impact of eco-label attributes on customer behavior from two sides, namely the green value on green awareness and green trust, and also the natural value on perceived quality and environmental knowledge.

I. LITERATURE REVIEW

The Attribute of Eco-Label

An eco-label is one of the product attributes which is attached to green products while assuming that the product has a natural value in its creation, and it is friendly to the environment [26]. Marketers give the attribute of eco-label to give more value to the product, which is green value and natural value [13]. The values on eco-label provide attraction to customer interest, thus providing opportunities for the customer's decision to choose products [26]. It is simply stated that an eco-label is an attribute on products that have excellent performance in the environment [14]. The performance of an eco-label relates to the content, and the impact on the environment is more favorable compared to the conventional products [3]. It seems clear that an eco-label has a high level of performance in the environment, some of them are completely friendly to the environment, and the rest of them are rare. This level of environmental friendliness depends on the marketer's goal in providing eco-label attributes [26]. There is a type of eco-label that is the label given by the first party, namely the company, the label given by the second party, namely retailer, the label given by the third party, namely the institution, and the label given by a reputable third party namely, the government.

Meanwhile, the type of eco-label is not fully understood by customers, so they see all eco-labels have the same value. The attribute of eco-label can be simplified with two criteria, which provide self-declaration claims and independent third-party claims [3]. The first criteria are usually done by sellers such as retail with the various of eco-label variables such as fresh, organic, free-pesticide, or natural. However, the label is not guaranteed to be the truth of green products, because it is not through a certification process. Nevertheless, eco-labels of "Organic Indonesia" [17], is issued by certified institutions such as food products in retail.

Customers get several values with the attribute of eco-label, including the knowledge of environmentally-friendly products, making it easier to choose a healthy product [3]. A remembered customer has already looked positively at eco-label products, which was

available at that time. The previous studies have found the different values of customers on eco-labels in each country; however, they have the same final view, which is a more friendly label [26]. In the understanding of eco-labels from the customer's point of view, the value of the following characters can be done, namely the attention to eco-label, understanding of the meaning of eco-labels, trusting eco-labels and eco-label users [13]. The attribute of eco-labels has many values on customer behavior, which relates to green values and natural values. Green values can be assessed from green awareness behavior and green trust [27], where this behavior promotes customer care and trust in environmentally-friendly products whereas natural value is assessed from the behavior of the customer's point of view regarding the environmental knowledge and perceived quality [23]. This opinion emphasizes the customer's knowledge of the content of environmentally-friendly products. The primary value of eco-label attributes on the product provides opportunities for the sustainability of green products and the environment [13]. Based on the primary value of eco-label, it continues to be developed by companies through the implementation of a green marketing strategy.

Green Values from Awareness and Trust of Customers

Concerning urban planning, there is an implementation of green values that aim comprehensively at new greenways to grow [28]. Green values are inseparable from prevising and promoting for the sustainability of life in the world, through searching and implementation of behaviors that lead to environmental sustainability [4]. The theory explains that green values promote sustainable green behavior. Green values can be examined from behavior which relates to environmentally-friendly products, namely green awareness, and green trust. Green awareness is customer attraction on green products, thus giving the value to the selection of recommendations from customers only on environmentally-friendly products [8]. In theory, green awareness is stated to be an expression of the customer's attention that if consuming green products means contributing excellent value to the environment

[29]. Green awareness behavior can be assessed from several actions, including the efforts made, understanding of labels, understanding of slogans, understanding of symbols, understanding of brands, and attention to green products [30], [31]. A Customer's attention to product attributes influences the level of customer attraction on environmentally-friendly products. As explained in previous studies, the attribute of eco-labels has an impact on customer awareness of green behavior [13].

Besides green awareness, part of the green value that can be assessed from customer behavior is the level of green trust [20]. Trust itself is the level of confidence in something and depends on the expectations; it relates to green trust means the expectations of products that provide green value [27]. Surely, green trust from customers can be assessed from several behaviors, and customers have confidence in green products if they fulfill the following requirements, which are reliability, dependability, trustworthiness, expectations, environmental improvement, and safety [32], [33]. The study of green trust is known that the attribute of eco-label can influence it because eco-label provides green value for products [3]. It can be seen from previous studies that the attribute of an eco-label has an impact on green behavior, which are green awareness and green trust. Reviewing the study of the literature review, then the research hypothesis design is presented as follows.

Hypothesis 1 Attribute of eco-label can influence customer green awareness.

Hypothesis 2 Attribute of eco-label can influence customer green trust.

Natural Values of Environmental Knowledge and Perceived Quality

The product created by companies can be categorized into two values, namely natural values and conventional values [34]. Natural values are related to the product's value, which is produced naturally without any artificial or chemical substances [35]. Sometimes natural values are equated with cultural values that focus on the two natural values of a product [36]. It is assumed that the product's value is related to customer behavior, including environmental knowledge and customer perceived quality [4], [37].

Customers positively assess the products that will be purchased, especially to environmentally-friendly products, which are judged on the side of natural values that relates to the creation of natural products without chemicals [38]. Customer knowledge of the environment is reflected from the environmental knowledge they have, and it means that the higher the customer's environmental knowledge, the better in understanding natural values [39]. Environmental knowledge is a customer's knowledge generally about activities that have an impact on environmental sustainability [40]. This theory explains the level of customer's knowledge of the environment. The impact of this knowledge is customer behavior on the environment, which is marked by the attention of environmentally-friendly products to protect environmental sustainability [40]. It seems clear that environmental knowledge provides opportunities to customers for environmentally-friendly products. Furthermore, it can be seen that several indicators can measure the level of environmental knowledge, such as knowledge of no testing on animals in creating products, the original content of products, the impact on environmental sustainability, the knowledge of organic products, the knowledge of the impact of products at the ozone layers, the knowledge of biodegradability, the knowledge of petrol, and the knowledge of environmentally-friendly product materials [4], [41].

A Customer's knowledge of environmentally-friendly products is getting better, as it is indicated by the level of customer perceived quality for natural values in green products [23]. Customer perceived quality is part of customer perceived value, and the previous theory explains that perceived quality is related to customer ratings of product performance [42]. The intended product in this study is green, so the customer perceived quality is related to the performance of environmentally-friendly products [43]. There are several things considered by customers in assessing the level of natural products. Customer views the level of originality, green image, green label, product variant, product durability, color, taste, product appearance, price measures and freshness of environmentally-friendly products [44]. Based on the previous studies, it is known

that the attribute of eco-label is a strategy that has a positive impact on perceived quality [3]. It is the same with environmental knowledge, where it can be influenced by the attribute of eco-label [3], [19]. This finding is undoubtedly in line with the goal of eco-label in giving customer's knowledge about the value of environmentally-friendly products. Based on the literature review, the next research hypothesis design was related to the following of eco-label attributes and natural values.

Hypothesis 3 Attribute of eco-label can influence the environmental knowledge of customers.

Hypothesis 4 Attribute of eco-label can influence the perceived quality of customers.

II. METHODOLOGY

Variables and Measurements

The research focused on reviewing several variables, such as the attribute of eco-label, green awareness, green trust, environmental knowledge, and perceived quality. The indicators build each variable stated in a questionnaire, and the answer was determined with a Likert scale of one to five. Based on each variable and its indicators, this study used a survey method with the experimental study to supermarket customers in West Java. The number of respondents in the Supermarket is 100, and it was filtered for only those who knew about the green product because the supermarkets in Indonesia has many variants of green products.

Hypotheses Model Test

This study examined the impact of an eco-label attribute to green customer behavior. In examining the study, it was conducted through a hypothesis test that had designed before, which was in line with the purpose of the study and literature review (Figure 1). Data from the Research was analyzed through SmartPLS, so research model testing was through the stage of the Inner and Outer Model test. Furthermore, the hypothesis test design was stated through the research model in Figure 1.

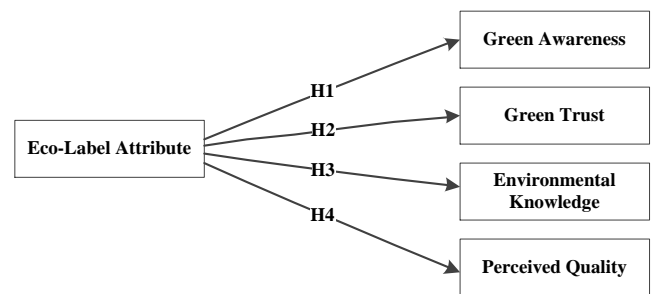


Fig. 1: Hypotheses Model Test

III. RESULTS AND DISCUSSIONS

Result of Model Test

The first research results related to the research was a model test through the Inner and Outer Model, and the model test was carried out based on data from 100 respondents. The selected respondents are respondents who knew and had experience in green products in a Supermarket. They are customers at Supermarket in West Java, particularly in Bandung City. The Supermarket has many green product variables that can be chosen by customers.

The first test is the Inner Model, where it uses the measurements through Coefficient Determination or T-statistics values. Based on data in Table 1, all of T-statistics values 2.141 are known, and it explains the acceptance of the Coefficient parameter. The second test is the Outer Model, where it used the measurements through the value of Convergent Validity, Composite Reliability, Average Variance Extracted, and Discriminant Validity. Based on the values in Table 1, it is known that the Loading Factor values of all instruments above 0.30, which explains the fulfillment of Convergent Validity. Then, the Composite Reliability value knows above 0.7, where it explains the fulfillment of the evaluation requirements, as well as the value of the Average Variance Extracted whose value is above 0.5. The final measurement for the value of Discriminant Validity, where it can determine through Cronbach's Alpha with the assumption that the value must be above 0.70. Based on all measurements of the value of Convergent Validity, Composite Reliability, Average Variance Extracted, and Discriminant Validity seem to fulfill the requirements. Examining the results of the Inner and Outer Test Models can

explain that the models are valid and reliable because it has fulfilled the requirements of the Fit Model.

Table 1: Inner and Outer Model Test

Variables	Instruments	Loading Factors	Cronbach's Alpha	Composite Reliability	AVE	T-Statistics
Eco-Label	Recognize	0,900	0,905	0,933	0,778	20,219
	Use	0,870				17,664
	Understand	0,903				23,546
	Trust	0,853				16,697
Green Awareness	Effort	0,848	0,918	0,936	0,446	16,196
	Label	0,873				15,664
	Slogan	0,889				15,614
	Symbol	0,875				13,009
	Brand	0,786				10,002
	Concerns	0,781				8,729
Green Trust	Reliable	0,788	0,849	0,889	0,711	7,055
	Dependable	0,754				6,276
	Trustworthy	0,813				9,230
	Expectations	0,825				7,991
	Environmental Improvement	0,726				8,387
	Safer	0,623				4,137
Environmental Knowledge	No Animal Testing	0,653	0,825	0,865	0,575	3,776
	Natural Ingredient	0,708				2,247
	Sustainable Forest	0,524				3,752
	Organic Product	0,744				2,221
	Ozone Friendly	0,677				2,141
	Biodegradability	0,680				3,777
	Unleaded Petrol	0,637				3,221
	Minimum Materials	0,699				2,389
Perceived Quality	Origin	0,780	0,935	0,944	0,586	4,252
	Brand	0,821				4,971
	Label	0,738				3,857
	Variety	0,860				5,336
	Firmness	0,711				2,510
	Color	0,824				4,689
	Flavor	0,283				3,980
	Aroma	0,772				4,536
	Damage	0,728				3,560
	Size	0,760				3,997
	Price	0,683				3,292
	Freshness	0,701				3,743

The next research results are the research hypothesis test results based on the hypothesis design in a literature review. The summary of the hypothesis test results are attached in Table 2, where all of the relationships stated to be significant, which has a t-values is above 1.69. The summary of a hypothesis shows that the attribute of eco-label on environmentally-friendly products has a significant impact on customer

behavior. The impact is related to green values, namely customer green awareness (H1) and green trust (H), and also for customer behavior, related to natural values, which is customer environmental knowledge (H3) and perceived quality (H4). Based on the hypothesis test results, the research model illustrated in Figure 2, with the correlation value among variables, is known to be positive or supportive.

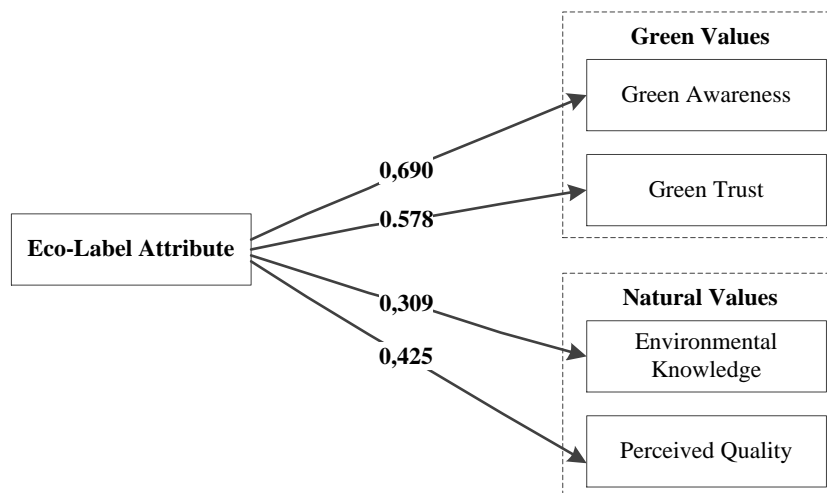


Fig. 2: Correlation Value of Eco-Label Attribute

Table 2: t-values of Hypotheses Test

No.	Hypotheses	t-value
H1	Eco-Label Attribute → Green Awareness	12,868
H2	Eco-Label Attribute → Green Trust	8,401
H3	Eco-Label Attribute → Environmental Knowledge	3,118
H4	Eco-Label Attribute → Perceived Quality	6,195

Green Values of Green Awareness and Green Trust of Customers

The result significantly indicates that the attribute of eco-label on green products has an impact on customer green awareness and green trust. Based on the illustration in Figure 2, it can be explained that the correlation value of the eco-label attribute gives the improvement in green awareness, which is higher than 0.690; compared to a green trust of a customer, which is only 0.578. It means that information from eco-label products has a higher chance of changing customer awareness of environmentally-friendly products, and they are compared to the level of customer trust. However, both are closely related. The findings of this study are in line with previous research, which explains that green awareness is a level of customer care based on the attribute of eco-label education [3], [13]. Meanwhile, it also stated that in assessing the level of customer trust needed the support of attribute products, such as eco-label [18], [45]. The essence of research findings completes the previous research, and it emphasizes the study of green customer behavior related to green awareness and green trust, which is influenced by the attribute of eco-label.

In customer green awareness, some measurements make up factors such as effort, label, slogan, symbol, brand, and concerns. Currently, in Indonesia, in getting a green product has its efforts because green products are not sold in all marketing channels [33]. For example, organic products are only sold in Supermarkets, and it is not sold in the common market. Green products usually give different packaging, and there are eco-labels such as “Organic Indonesia” as green values. So far, customer awareness of green products is said to be useful if a customer tries to buy green products that already have eco-labels. Besides, environmentally-friendly products usually have a slogan that is commonly known as health-food [46]. The slogan becomes a symbol that is indirectly embedded in customer’s minds, making the value of green products better than conventional products. The slogan becomes essential as part of product value; it has an impact on customer care for products, especially for environmentally-friendly products. Each green product offered by the company is undoubtedly varied; product variants and distributor variables mark it. It means that the creator of environmentally-friendly products sourced from

various brands. Sometimes, customers are more sensitive in choosing products, especially in green products [18]. Customers begin to choose products based on the marketer's image; it means that a company's image has a role in influencing the level of customer care indirectly. However, specifically for green products, all customers generally choose it because it has its own goals indirectly other than health, but the goal is for environmental care [4]. Customers are starting to realize the impact of product management on the environment. The problem statement stated in this study is the ability of the following indicators, such as effort, label, slogan, symbol, brand, and concerns, in supporting the creation of customer green awareness.

Marketers develop the attributes of eco-label in many ways, such as labels which sourced from someone's own company or labeled sourced from other companies or labels sourced from the quality of organizations [3]. The final goal of eco-label is undoubtedly to provide value, where customers can trust one of them through green values. Customers themselves have criteria in trusting products, especially for green products, which are based on reliability, dependability, trustworthiness, expectations, environmental improvement, and safety. The value of reliability is related to the level of green product reliability, where customers have expectations that green products are more natural than standard products. Besides, green products are considered dependable; it causes some customers to only have green products for health reasons. The view of reliability and dependability of green products starts from the value of green products, which is delivered by marketers; one of them is through the attribute of eco-label. The value of eco-label must be trusted, and it is in line with customers' expectations so that the level of customer green trust fulfilled. Also, customers believe that by choosing green products, they are part of efforts to conserve the environment and the efforts to save the earth [46]. These beliefs appear because of the views on green values of environmentally-friendly products that are safe to consume, and it is safe for the environment. Eventually, it is known that the attribute of eco-label can fulfill the criteria of customer green trust.

Green values assessed from green customer behavior, which is green awareness and green trust, start from the attribute of an eco-label. This finding provides information for marketers to be careful about using attributes of green products, and it is related to green customer behavior. Based on the research findings, it becomes an input for marketers to use eco-labels, which is issued by reputable organizations; and it becomes a customer's care and trust for green products. Customer care and trust for green products are caused by the expectations of green values, namely the survival of customers and the environment as part of green customers. This study assumes that the attribute of eco-label is part of a green marketing strategy that has an indirect impact on achieving customer green values.

Natural Values of Environmental Knowledge and Perceived Quality of Customers

Environmentally friendly products have different characteristics, are natural values that can explain as natural products without chemicals inside. Customers assess green products based on information on products and experiences after they use the product. This assessment can know from customer environmental knowledge and perceived quality of customers, which is based on the research results shown in Figure 2. It is known that it is related to the implementation of eco-label attributes. Environmental knowledge is the customer's knowledge of the environment because of having products for consumption. The attribute of eco-label is a part that can add positive aspects from environmental knowledge; it is marked by a correlation value of 0.309. Also, based on research findings, there was a relationship between the implementation of eco-label attributes on the perceived value of customers with a correlation value of 0.425. This part of the study explains that green marketing strategy delivered by the implementation of eco-label attributes for green products can add natural values to products. This finding is undoubtedly in line with the findings of previous studies. It completed precisely to previous research that there is an impact of eco-labels in providing the positive values on the increasing of environmental knowledge and perceived quality of customers, especially on green products [3], [45], [47]. The

positive value meant is related to the natural value of environmentally-friendly products. In other words, green marketing strategies through the attribute of eco-label has an indirect impact in forming the natural values of a product.

Natural values develop well when customers have environmental knowledge [45]. It is known that environmental knowledge assessed from several criteria, which is knowledge of non-animal testing products, natural ingredients, sustainable forest, organic products, ozone friendly, biodegradability, unleaded petrol, and minimum materials. Customers assume that green products are produced without chemicals, so they have natural ingredients. Although using additional ingredients such as fertilizer in vegetables, but the fertilizer is sourced from nature [33]. Therefore, the impact of the production of environmentally-friendly products is safe for the environment, and it supports sustainable forests. Environmental friendly products are also known as organic products; customers usually choose organic products like vegetables or fruits. In principle, customer environmental knowledge leads to the knowledge of understanding green products and their impact on the environment. Some other knowledge from customers is relating to the environment, and it is assessed from the knowledge of sustainability of biodegradability. Customers understand that the impact of chemicals or pollution is hazardous for environments such as the ozone layer on earth or nutrient levels in soil, which can disturb the living things on earth in a long time. So, customers are very concerned about the use of fuel, and they try to reduce it to support environmental sustainability. Some assessments form customer environmental knowledge has the critical meaning relates to the concept of natural value, because customers who care about the environment have more natural living expectations by consuming natural products. The expectations of customer environmental knowledge can start indeed through the implementation of eco-label attributes that provide knowledge to customers of the characteristics of green products.

The value of green products that are known by customers [48], some assessments for green products have valued the quality by customers such as origin, brand, label, variety, firmness,

color, flavor, aroma, damage, size, price, and freshness. Finally, perceived quality forms the natural values of green products, obviously, with the support of the eco-label implementation of the products. In the perceived value of a customer, customers surely assess that green products are the original products created by companies without manipulation that change the authenticity of the products [49]. Vegetable products are marked by there is no chemicals such as pesticides in producing it, so the product content is following the original. Because there are different handlers for green products, we need to differentiate the product attributes. The intended attribute is eco-label, and it issued by the organization, which is responsible for product quality. In Indonesia, green products for food have official labels such as "Organic Indonesia" [33]. The image of the label is considered by customers so that customers' knowledge of the characteristics of green products is better than a conventional one. Customers assume that green products have many choices, it is not only in vegetable food, but there are other foods which are included in environmentally-friendly products. However, all variables of green products confirm their authenticity through eco-labels. Customers are aware that green products have some striking differences from standard products, including on color, taste, aroma, size, and even vegetable products assessed by the level of product damage. The assessment is in principle on the one goal expected by customers that green products are natural and fresher products. The essence of customer perceived quality over green products is the expectation of natural values of products that can be consumed by customers. Customers' expectations will be fulfilled, absolutely, with the support of the implementation of eco-label attributes as the necessary information that distinguishes green products from standard products. In line with the results, there was an impact of eco-label on products to increase the perceived value of customers for green products.

Model of Eco-Label Attribute

The findings of this study are based on the essence of several previous discussions, which explains the existence of a good model of eco-label attributes relates to green customer behavior.

Analysis of the study results found that eco-labels can influence two sides of values that considered “customers,” namely green and natural values. Green values are related to the sustainability of green products and the environment, while natural values relate to the process and the content of green products. Green awareness and green trust of customers are part of green values, where eco-labels have more impact on changing to green awareness. Whereas in natural values, the implementation of eco-label attributes dominates more influencing the perceived value of customers. The model of eco-label attributes is related to two values of green customer behavior, namely green and natural values. This model provides information for marketers in considering the implementation of green marketing by focusing on green customer behavior.

IV. CONCLUSIONS

This research focuses on examining the impact of an eco-label attribute on customer behavior, which is green awareness, green trust, environmental knowledge, and perceived quality—the aim of this research is the development of environmentally-friendly products and the effort of sustainable green products to the environment. The research finding shows that the implementation of eco-label attributes can impact green awareness, green trust, environmental knowledge, and perceived quality. It seems that the influence of eco-label products is more significant on green values, namely green awareness and green trust from customers. So, it is recommended that a company control green customer behavior, and it needs to pay attention to an attribute of eco-label because it truly gives education on the improvement of customer knowledge. The essence of research findings needs to pay attention to an attribute of eco-label in the effort of sustainability of a green product because of its impact on green customer behavior. Information in the Research can use by stakeholders, where there is a study of green behavior through the attribute product with the ultimate purpose is sustainability. This study has a limitation, in which it does not examine other variables that are possible to influence green values. So, it suggested furthering research in deepening factors included in green values for

environmentally-friendly products. Furthermore, it is also worth examining the attribute of eco-label through the neuro research method because of the importance of eco-label in influencing green customer behavior.

Acknowledgment

This study is part of International Collaboration Research between Bina Nusantara University, Universiti Teknikal Malaysia Melaka, and Chung-Yuan Christian University. Also, this work supported by Research and Technology Transfer Office, Bina Nusantara University, as a part of Bina Nusantara University’s International Research Grant entitled “*The Antecedent of Green Awareness: Studies on Green Customer Behavior*” with contract number: No.026/VR.RTT/IV/2020 and contract date: 6 April 2020

REFERENCES

- [1] D. Syarifuddin and D. P. Alamsyah, “Green Perceived Value for Environmentally Friendly Products: Green Awareness Improvement,” *J. Ekon. Pembang.*, vol. 18, no. 2, pp. 245–255, 2017.
- [2] Z. Cai, Y. Xie, and F. X. Aguilar, “Eco-label credibility and retailer effects on green product purchasing intentions,” *For. Policy Econ.*, vol. 80, no. October 2016, pp. 200–208, 2017.
- [3] N. R. N. A. Rashid, “Awareness of Eco-label in Malaysia’s Green Marketing Initiative,” *Int. J. Bus. Manag.*, vol. 4, no. 8, pp. 132–141, 2009.
- [4] N. M. Suki, N. M. Suki, and N. S. Azman, “Impacts of Corporate Social Responsibility on the Links Between Green Marketing Awareness and Consumer Purchase Intentions,” *Procedia Econ. Financ.*, vol. 37, no. 16, pp. 262–268, 2016.
- [5] E. Currin, “Businesses Going Green: An Analysis of the Factors that Motivate Firms to Adopt Environmentally Friendly Practices,” *J. Bridg.*, vol. 6, no. Spring, pp. 35–50, 2012.
- [6] A. Davies, A. J. Titterington, and C. Cochrane, “Who buys organic food? A profile of the purchasers of organic food in Northern Ireland,” *Br. Food J.*, vol. 97, no.

- 10, pp. 17–23, 1995.
- [7] L. Bouten and S. Hoozée, “On the interplay between environmental reporting and management accounting change,” *Manag. Account. Res.*, vol. 24, no. 4, pp. 333–348, 2013.
- [8] D. P. Alamsyah, N. A. Othman, and H. A. A. Mohammed, “The awareness of environmentally friendly products: The impact of green advertising and green brand image,” *Manag. Sci. Lett.*, vol. 10, pp. 1961–1968, 2020.
- [9] G. D. Jacobsen, “Do energy prices influence investment in energy efficiency? Evidence from energy star appliances,” *J. Environ. Econ. Manage.*, vol. 74, pp. 94–106, 2015.
- [10] D. P. Alamsyah, D. Syarifuddin, and H. A. A. Mohammed, “Green Customer Behavior on Eco-Friendly Products: Innovation Approach,” *J. Din. Manaj.*, vol. 9, no. 2, pp. 159–169, 2018.
- [11] C. Y. Ling, “Consumers’ purchase intention of green products: an investigation of the drivers and moderating variable,” pp. 14503–14509, 2013.
- [12] J. Ottman, “Moving Sustainability Forward: A Road Map for Consumer Marketers,” *New Rules Green Mark.*, no. June, pp. 1–17, 2011.
- [13] D. P. Alamsyah, O. I. B. Hariyanto, and H. Rohaeni, “Customer Green Awareness and Eco-Label for Organic Products,” in *International Conference on Organizational Innovation (ICOI)*, 2019, vol. 100, pp. 64–68, doi: 10.2991/icoi-19.2019.12.
- [14] F. Fuerst and C. Shimizu, “Green luxury goods? The economics of eco-labels in the Japanese housing market,” *J. Jpn. Int. Econ.*, vol. 39, pp. 108–122, 2016.
- [15] D. P. Alamsyah and H. A. A. Mohammed, “Antecedents of Green Awareness for Eco-Friendly Products,” *ASEAN Mark. J.*, vol. 10, no. 2, pp. 109–126, 2019.
- [16] M. H. A. Rahim, R. Z. J. A. Zukni, F. Ahmad, and N. Lyndon, “Green advertising and environmentally responsible consumer behavior: The level of awareness and perception of Malaysian youth,” *Asian Soc. Sci.*, vol. 8, no. 5, pp. 46–54, 2012, doi: 10.5539/ass.v8n5p46.
- [17] O. I. B. Hariyanto and D. P. Alamsyah, “The Relationship Of Environmental Knowledge And Green Purchase Intention,” *Int. J. Eng. Adv. Technol.*, vol. 8, no. 5, pp. 142–144, 2019.
- [18] L. Atkinson and S. Rosenthal, “Signaling the green sell: The influence of eco-label source, argument specificity, and product involvement on consumer trust,” *J. Advert.*, vol. 43, no. 1, pp. 33–45, 2014.
- [19] M. Rizwan, U. Mahmood, H. Siddiqui, and A. Tahir, “An Empirical Study about Green Purchase Intentions,” *J. Sociol. Res.*, vol. 5, no. 1, pp. 290–305, 2014.
- [20] Y. Chen and C. Chang, “Enhance Green Purchase Intentions. The Roles of Green Perceived Value, Green Perceived Risk, and Green Trust,” *Manag. Decis.*, vol. 50, no. 3, pp. 502–520, 2012.
- [21] F. F. Wirth, J. L. Stanton, and J. B. Wiley, “The Relative Importance of Search versus Credence Product Attributes: Organic and Locally Grown,” *Agric. Resour. Econ. Rev.*, vol. 1, no. April, pp. 48–62, 2011.
- [22] C.-F. Wei, B. C. Y. Lee, T.-C. Kou, and C.-K. Wu, “Green Marketing: The Roles of Appeal Type and Price Level,” *Adv. Manag. Appl. Econ.*, vol. 4, no. 5, pp. 63–83, 2014.
- [23] S.-I. Wu and Y.-J. Chen, “The Impact of Green Marketing and Perceived Innovation on Purchase Intention for Green Products,” *Int. J. Mark. Stud.*, vol. 6, no. 5, pp. 81–101, 2014.
- [24] D. C. Pinto, W. M. Nique, S. Añaña, and M. M. Herter, “Green consumer values: how do personal values influence environmentally responsible water consumption?,” *Int. J. Consum. Stud.*, vol. 35, no. 2010, pp. 122–131, 2011.
- [25] D. P. Alamsyah, T. Suhartini, Y. Rahayu, I. Setyawati, and O. I. B. Hariyanto, “Green advertising, green brand image and green awareness for environmental products,” *IOP Conf. Ser. Mater. Sci. Eng.*, vol. 434, no. 1, p. 012160, 2018.
- [26] G. S. Atănăsoaie, “Eco-Label and its Role in the Development of Organic Products

- Market,” *Econ. Transdiscipl. Cogn.*, vol. 16, no. 1, pp. 122–130, 2013.
- [27] Y. S. Chen, “The drivers of green brand equity: Green brand image, green satisfaction, and green trust,” *J. Bus. Ethics*, vol. 93, no. 2, pp. 307–319, 2010.
- [28] H. Littke, “Planning the green walkable city: Conceptualizing values and conflicts for urban green space strategies in Stockholm,” *Sustain.*, vol. 7, no. 8, pp. 11306–11320, 2015.
- [29] D. Y. Rahmi, Y. Rozalia, D. N. Chan, Q. Anira, and R. P. Lita, “Green Brand Image Relation Model, Green Awareness, Green Advertisement, and Ecological Knowledge as Competitive Advantage in Improving Green Purchase Intention and Green Purchase Behavior on Creative Industry Products,” *J. Econ. Bus. Account. Ventur.*, vol. 20, no. 2, 2017.
- [30] M. Rizwan, M. Tariq, R. Hassan, and A. Sultan, “A Comparative Analysis of the Factors Effecting the Employee Motivation and Employee Performance in Pakistan,” *Int. J. Hum. Resour. Stud.*, vol. 4, no. 3, p. 35, 2014.
- [31] N. M. Suki, “Green awareness effects on consumers’ purchasing decision: Some insights from Malaysia,” *Int. J. Asia-Pacific Stud.*, vol. 9, no. 2, pp. 49–63, 2013.
- [32] Y. Chen, “Towards green trust,” vol. 51, no. 1, pp. 63–82, 2013.
- [33] D. P. Alamsyah, A. Trijumansyah, and O. I. B. Hariyanto, “Mediating of Store Image on Customer Trust for Organic Vegetables,” *Mimb. J. Sos. dan Pembang.*, vol. 33, no. 1, pp. 132–141, 2017.
- [34] A. Biswas and M. Roy, “Leveraging factors for sustained green consumption behavior based on consumption value perceptions: Testing the structural model,” *J. Clean. Prod.*, vol. 95, pp. 332–340, 2015.
- [35] V. Dao, I. Langella, and J. Carbo, “From green to sustainability: Information Technology and an integrated sustainability framework,” *J. Strateg. Inf. Syst.*, vol. 20, no. 1, pp. 63–79, 2011.
- [36] B. G. Norton, “Conserving Natural Value,” *Environ. Ethics*, vol. 18, no. 2, pp. 209–214, 1996.
- [37] M. R. Shaharudin, J. Pani, S. Mansor, and S. Elias, “Factors Affecting Purchase Intention of Organic Food in Malaysia’s Kedah State,” *Cross-Cultural Commun.*, vol. 6, no. 2, pp. 105–116, 2010.
- [38] M. Grimmer and T. Bingham, “Company environmental performance and consumer purchase intentions,” *J. Bus. Res.*, vol. 66, no. 10, pp. 1945–1953, 2013.
- [39] Y. C. Huang, M. Yang, and Y. C. Wang, “Effects of green brand on green purchase intention,” *Mark. Intell. Plan.*, vol. 32, no. 3, pp. 250–268, 2014.
- [40] A. Safari, R. Salehzadeh, R. Panahi, and S. Abolghasemian, “Multiple pathways linking environmental knowledge and awareness to employees’ green behavior,” *Corp. Gov. Int. J. Bus. Soc.*, vol. 18, no. 1, pp. 81–103, Feb. 2018.
- [41] N. R. N. A. Rashid, S. A. Khalid, and N. I. A. Rahman, “Environmental Corporate Social Responsibility (ECSR): Exploring its Influence on Customer Loyalty,” *Procedia Econ. Financ.*, vol. 31, no. 15, pp. 705–713, 2015.
- [42] V. A. Zeithaml, “Quality-Price-No Questionnaires,” *The Journal of Marketing*, vol. 52, no. 3, pp. 2–22, 1988.
- [43] S. Ariffin, J. M. Yusof, L. Putit, and M. I. A. Shah, “Factors Influencing Perceived Quality and Repurchase Intention Towards Green Products,” *Procedia Econ. Financ.*, vol. 37, no. 16, pp. 391–396, 2016.
- [44] L. Martínez-Carrasco *et al.*, “Modelling perceived quality of tomato by structural equation analysis,” *Br. Food J.*, vol. 114, no. 10, pp. 1414–1431, 2012.
- [45] K. M. R. Taufique, A. Vocino, and M. J. Polonsky, “The influence of eco-label knowledge and trust on pro-environmental consumer behaviour in an emerging market,” *J. Strateg. Mark.*, vol. 25, no. 7, pp. 511–529, 2017.
- [46] T. Roman, I. Bostan, A. Manolică, and I. Mitrica, “Profile of green consumers in Romania in light of sustainability challenges and opportunities,” *Sustain.*, vol. 7, no. 6, pp. 6394–6411, 2015.
- [47] M. L. Loureiro, J. J. McCluskey, and R. C. Mittelhammer, “Will consumers pay a

- premium for eco-labeled apples,” *J. Consum. Aff.*, vol. 36, no. 2, pp. 203–219, 2002.
- [48] R. A. M. Shamah, “Innovation within green service supply chains for a value creation,” *J. Model. Manag.*, vol. 7, no. 3, pp. 357–374, 2012.
- [49] H.-S. Chen, “A Study of Antecedents of Customer Repurchase Behaviors in Chain Store Supermarkets,” *J. Int. Manag. Stud.*, vol. 6, no. 3, pp. 1–11, 2011.