

The antecedent model of green awareness customer

Doni Purnama Alamsyah^{a*}, Rudy Aryanto^a, Iston Dwija Utama^a, Lita Sari Marita^b and Norfaridatul Akmaliah Othman^c

^a*Binus University, Indonesia*

^b*Universitas Bina Sarana Informatika, Indonesia*

^c*Universiti Teknikal Malaysia Melaka, Malaysia*

CHRONICLE

Article history:

Received: March 12, 2020

Received in revised format:

March 27 2020

Accepted: March 29, 2020

Available online:

April 3, 2020

Keywords:

Environmental Knowledge

Eco-Label

Perceived Quality

Green Awareness

ABSTRACT

This study aims to review the correlation of environmental knowledge, eco-label, and perceived quality of green awareness customers with environmentally friendly products. Research method is based on a survey on 100 customers of a supermarket who are familiar with environmentally friendly products. The analysis technique conducted uses linear regression with smart tools of SPSS for testing the hypotheses of the paper. The research finding demonstrates that environmental knowledge, eco-label, and perceived quality had positive correlations with green awareness customers. Out of all the factors that influence green awareness, eco-label of the customer maintains the most determining impact on green awareness improvement. Research finding emphasizes that antecedent of green awareness includes environmental knowledge, eco-label, and perceived quality. The results are useful information for stakeholders since they may use green marketing strategy and government in decision making to the green products.

© 2020 by the authors; licensee Growing Science, Canada

1. Introduction

Nowadays, customers start to use environmentally friendly products, and they assess the product to be consumed in the long term (Chen, 2010). They even recommend an environmentally friendly products to family and friends (Wei et al., 2014). The level of customer care that causes it to the environment is more improving (Grimmer & Bingham, 2013). They understand the effect of environmental damage that is caused by chemical substances like air pollution on the ozone layer on the atmosphere or other effects of chemical substances on human health. Behavior that leads to environmentally friendly products is called green awareness (Mourad et al., 2012). Green awareness changes the customer's point of view that seems from consumption patterns only on environmentally friendly products, which are commonly called green consumerism (Bouten & Hoozée, 2013). However, constructing green awareness customers is not easy, particularly in developing countries like Indonesia, where environmentally friendly products are on the early stage. Some studies explain that environmentally friendly products in supermarkets have not been a significant choice for the customer (Alamsyah et al., 2018). The motivation is caused by many factors like less knowledge for the benefit of environmentally friendly products (Hariyanto & Alamsyah, 2019). In the previous studies, it has stated that green awareness is customer behavior who cares about the environment; some factors can control such as environmental knowledge (Hariyanto & Alamsyah, 2019), product attribute through eco-label (Rizwan, Mahmood, et al., 2014), and perceived quality for environmentally friendly products (Wu & Chen, 2014). This finding explains that there are still many possibilities to improve customer behavior on environmentally friendly products.

* Corresponding author.

E-mail address: doni.purnama.alamsyah@gmail.com (D. P. Alamsyah)

One of the environmentally friendly products found is organic vegetables (Alamsyah et al., 2017), organic vegetable products are a product processed without chemical substances, so it has different characteristics from conventional vegetables (Wirth et al., 2011). It is only known by a customer who is common to consume environmentally friendly products; so that customer's knowledge for environmentally friendly products is very needed relating to customer's choice in conducting product purchasing (Hariyanto & Alamsyah, 2019). Environmental knowledge needs to support the improvement of green awareness customers to environmentally friendly products finally (Suki et al., 2016). Environmental friendly products such as organic vegetables have truly different characteristics; they are from different product attributes called eco-label (Alamsyah et al., 2019). Eco-label relates to product label that indicates the content of environmentally friendly products, because of the production process is not using chemical substances (Atănăsoaie, 2013). Customer is compassionate relating to product selection, and they sometimes look for product packaging and product's price. Finally, eco-label becomes the attributes of an environmentally friendly product that gives meaning to customer care (Rashid, 2009). It explains that green awareness is customer behavior, which can be influenced by eco-label to a product. Product attributes on environmentally friendly products provide the considered value by customer (Atănăsoaie, 2013). It is the same with the price and product quality because many considering factors by the customer in selecting a product. Finally, product value is assumed to be high that becomes a customer's choice. Product value relates to perceived quality, is quality's view of the product considered to be distinguished by customer (Ranjbarian et al., 2012). In previous studies, it stated that a customer assesses green products through perceived quality, and it has an impact on the behavior of green awareness customers (Wu & Chen, 2014). Studying from research phenomenon for environmentally friendly products is related to green awareness, so this study focuses on reviewing determining factors from green awareness through environmental knowledge, eco-label, and perceived quality. The design of research finding on the best model can improve green awareness customers to environmentally friendly products.

2. Literature Reviews

2.1 Environmental Knowledge

Environmental knowledge is assessed by a customer associated with a product (Gadenne et al., 2009), in this case, the intended product on environmentally friendly products. Considering that every selected product by a customer has been through the research process is based on customer's knowledge from the past. The study has explained that environmental knowledge plays an essential role in customer behavior, such as supporting green awareness customers (Gadenne et al., 2009). Customers have genuinely known this role; in this case, it is the company. It seems from a company's strategy that leads to a green marketing strategy (Wei et al., 2014). Many factors can create environmental knowledge, such as no animal testing, natural ingredients, sustainable forest, organic product, ozone friendly, biodegradability, unleaded petrol, and minimum materials (Alamsyah & Syarifuddin, 2017; Rashid et al., 2015; Suki et al., 2016). Those measurements are used to focus on assessing customer's knowledge for environmentally friendly products generally.

2.2 Eco-Label

Every product has an attribute; it is the same with an environmentally friendly product. A unique label, and it is only on a green product called eco-label (Chobotová, 2013). Those labels mark that these products are created without chemical substances, and they are friendly to consume, and friendly for the environment (Atănăsoaie, 2013). Many labels gave to an environmentally friendly product. It aims to provide added value to the product. However, those labels are not purely friendly to the environment; in Indonesia, there is an only label "Organik Indonesia" that is pursued officially by the government for the pure of eco-label to environmentally friendly products (Alamsyah et al., 2019). The customers often are disturbed by many labels; they assume that all of the labels to environmentally friendly products are the same. They are undoubtedly different, and the distinction is on the level of friendliness of the product created (Rashid, 2009). The importance of eco-label in an attribute of environmentally friendly products can finally control to green awareness customer (Alamsyah et al., 2019). The previous studies have explained that the measurement of eco-label can be assessed by some cases; including recognition, utilization, comprehension, and trust (Alamsyah et al., 2019). Those measurements are considered to be simple, and it is suitable if it is measured commonly from environmentally friendly products, that in principle they are related to label assessed by customer.

2.3 Perceived Quality

Today, a customer chooses a product with many considerations; the development of product selection is no longer due to price, but it depends on the value content inside of product (Palihawadana et al., 2016). Customers will select a product, and face two sides, which are profit and loss, that will be obtained (Rizwan et al., 2014). In the end, the customer selection depends on whether or not the profit value is considered to be bigger than the loss value faced. The intended benefit value is perceived quality, where perceived quality is a point of view of product quality assessed by a customer, and it can give more satisfaction (Beneke et al., 2013). Many studies are related to perceived quality, and its correlation is related to customer behavior, specifically for green awareness customers (Rahmi et al., 2017). Since the level of customer care depends on more benefit value accepted by the customer (Alamsyah & Mohammed, 2019). Related to perceived quality, it seems to review from some cases including product originality, product image, label, variety, firmness, color, flavor, taste, damage, size, price, and freshness (Martínez-Carrasco et al., 2012). Some of the measurements for perceived quality seem to focus on the environmentally

friendly products with a sample of organic vegetables; however, all of those measurements can represent the assessment of environmentally friendly products.

2.4 Green Awareness

Customer care is more increasing to the environment recently (Alamsyah et al., 2019) because of the more increasing of the disturbing cases to an environment such as air pollution from a vehicle, chemical fertilizer on vegetable products, and factory waste. Customer care is marked by the pattern of consumption on environmentally friendly products, which is known as “green consumerism” (Ko et al., 2013). There are some supporting factors such as green awareness customer that is customer care to environmentally friendly products until it recommends the pattern of a healthy lifestyle to others. Green awareness, is also known with customer’s knowledge for product performance to the environment (Suki et al., 2016). This performance relates to positive and negative impacts on the environment. One of the environmentally friendly products that have excellent performing is organic vegetables (Alamsyah & Mohammed, 2019) because the creation process does not impact severely on the environment, and it is healthy to consume. Attribute from environmentally friendly products has an impact on the creation of green awareness customers finally (Rashid, 2009). The previous studies have conducted, and it focuses on green awareness, where it has known some measurements to assess the level of green awareness customer which is the effort conducted by customer in getting green product, customer’s knowledge for label of green product, slogan understood by customer, unique symbol of green product, company’s image for environment, and the level of attention to environment (Rizwan et al., 2014; Suki, 2013). Green awareness is the final objective that will achieve in this study, where reviews from previous research founded some factors that can control it. Environmental knowledge, eco-label, and perceived quality are part of green marketing strategy (Visser et al., 2015); actually, it has a relation to green customer behavior (Alamsyah et al., 2018). The essence of the research phenomenon leads to hypothesis design, and here is the hypotheses stated in this study.

- H1. Environmental knowledge has a positive correlation with green awareness customers.
- H2. Eco-label has a positive correlation with green awareness customers.
- H3. Perceived quality has a positive correlation with green awareness customers.

3. Research Methods

3.1 Sample and Variables

This study focused on environmentally friendly products, so the analysis unit used was customer, who had been familiar with the green product. Research sampling took 100 customers who had been at the Supermarket in West Java Province, Indonesia. It considered that this research included in experimental research, and Supermarket had many green product selections. Data obtained from respondents through a questionnaire that its value had determined, which were “1” for very disagree and “5”, for very agree. There was a variable measured to find a model like environmental knowledge, eco-label, perceived quality, and green awareness.

3.2 Research Model

Data from the respondent was processed afterward to find the research model. Analysis was conducted through linear regression with the tool of SPSS. The research model seemed in Fig. 1 where there are three hypotheses (H1, H2, H3) that would test to emphasize research results.

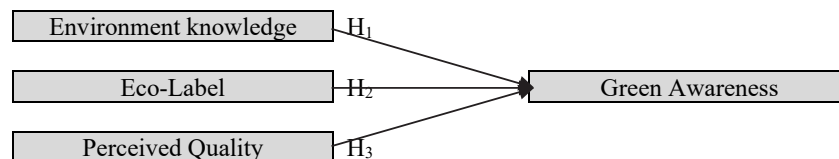


Fig. 1. Research Model

Before analyzing the result of the research model, research instruments conducted tests through validity and reliability test for the research hypothesis test through t_{table} for reviewing the significance value.

5 Results and Discussion

5.1 Results

These research objectives are to study some variables, which are environmental knowledge, eco-label, perceived quality, and green awareness — those variables are measured through some indicators listed to the customer through a questionnaire. The research result found 100 data, and before it was processed and analyzed, we conducted validity and reliability test for research instruments. The results of the validity and reliability tests are presented in Table 1 until Table 4.

Table 1

Instrument Tests for Environmental Knowledge (Cronbach's Alpha = 0.905)

Instruments	Pearson Correlation	Instruments	Pearson Correlation
No Animal Testing	0.682	Ozone Friendly	0.652
Natural Ingredient	0.675	Biodegradability	0.688
Sustainable Forest	0.604	Unleaded Petrol	0.646
Organic Product	0.737	Minimum Materials	0.678

Table 2

Instrument Tests for Eco-Label (Cronbach's Alpha = 0.825)

Instruments	Pearson Correlation	Instruments	Pearson Correlation
Recognition	0.897	Understanding	0.896
Use	0.868	Trust	0.863

Table 3

Instrument Tests for Perceived Quality (Cronbach's Alpha = 0.935)

Instruments	Pearson Correlation	Instruments	Pearson Correlation	Instruments	Pearson Correlation
Origin	0.785	Firmness	0.726	Damage	0.723
Brand	0.820	Color	0.815	Size	0.760
Label	0.736	Flavor	0.785	Price	0.685
Variety	0.859	Aroma	0.763	Freshness	0.709

Table 4

Instrument Tests for Green Awareness (Cronbach's Alpha = 0.924)

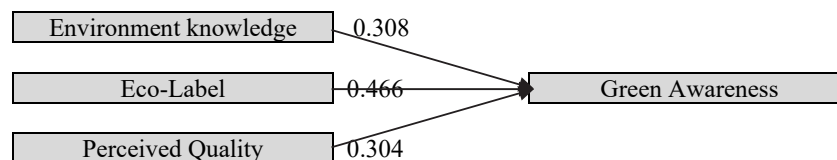
Instruments	Pearson Correlation	Instruments	Pearson Correlation	Instruments	Pearson Correlation
Effort	0.863	Slogan	0.882	Brand	0.803
Label	0.868	Symbol	0.887	Concerns	0.816

Based on information from Table 1 to Table 4, it seems that all of the values from Pearson Correlation for the requirements of validity test are fulfilled (>0.5), and Cronbach's Alpha as the requirement of reliability test is fulfilled (>0.7). So, it can be continued for the next analysis to assess the determining factors of green awareness. The hypothesis test results are presented in Table 5, where all of the tested results stated to be fulfilled (support) since the value of the t-value is above 1.69. The research result in the antecedent model presented in Fig. 2.

Table 5

Hypotheses Tests

Hypotheses	t-value
Environmental Knowledge → Green Awareness	4.767
Perceived Quality → Green Awareness	4.431
Eco-Label → Green Awareness	6.583

**Fig. 2.** Correlation Values

5.2 Relationship of Environmental Knowledge and Green Awareness

The first finding in this research is the study about the relationship between environmental knowledge on green awareness. Based on the result in Fig. 2, it has known that environmental knowledge has a positive correlation (0.308) on green awareness customer behavior. In environmental knowledge, there are some known measurements such as no animal testing, natural ingredient, sustainable forest, organic product, ozone friendly, biodegradability, unleaded petrol, and minimum materials. Those measurements seem to be understood by the customer, so that it gives impact the creation of green awareness. However, it needs to be studied in depth the analysis of all factors contained in environmental knowledge, considering the need to know what dominant factors cause the form of environmental knowledge. It will give a more chance for the creation of green awareness directly. Customer knowledge is something that can be controlled by a customer. It seems from a company's behavior that it starts to study customer behavior through environmental knowledge evaluation. Finally, environmental knowledge possessed by a customer can control green awareness. This finding has similarities with previous researches, and it seems that it confirms previous studies (Gadenne et al., 2009; Rahmi et al., 2017; Suki et al., 2016). However, the difference is variable measurement and research location. However, it can be continued, by considering the way of measuring customer behavior to environmentally friendly products to keep changing customer behavior.

5.3 Relationship between Eco-Label and Green Awareness

The second research finding related to the relationship of eco-label to green awareness is shown Fig. 2, where eco-label has a positive correlation with green awareness (0.466). The essence of the findings explains the importance of product attributes on customer behavior for environmentally friendly products. The correlation values of all relationships among variables indicate that eco-label has the most closely related relationship compared with environmental knowledge and perceived quality. Eco-label is a product attribute that attaches to environmentally friendly products, and it is different from environmental knowledge and perceived quality according to customer's point of view. So, it can be stated that product attribute is the critical thing that can change customer behavior to environmentally friendly products. Customer prefers visual in the form of products or label so it can influence their point of view to products. The finding for the relationship of eco-label and green awareness is in line with previous research (Alamsyah et al., 2019; Alamsyah & Mohammed, 2019; Rashid, 2009). This finding tends to complete previous research since the study focuses on environmentally friendly products and customer behavior.

5.4 Relationship of Perceived Quality and Green Awareness

Green awareness that becomes a part of customer behavior is suitable with research result controlled by perceived quality. It seems from the result in Fig. 2, that perceived quality had a positive correlation (0.304) with green awareness. It is the same case with other factors in this research, which are environmental knowledge and eco-label have to impact to changing positively to green awareness. Other parts of this finding are in line with previous research, where it has known that perceived quality is customer behavior, which plays an essential role in influencing green awareness. In perceived quality, there is a measurement related to environmentally friendly products; it relates to origin, brand, label, variety, firmness, color, flavor, taste, damage, size, price, and freshness. All of those measurements are precisely related to characteristics which form environmentally friendly products that are commonly called by a customer, and the result is known to give the impact on the creation of perceived quality, it can also help influence green awareness customer. The essence of some research findings is that all of the factors could give impact to green awareness, and factor the most impacted is product attribute on eco-label. With the recommendation that are influencing green awareness customers, there is a determining factor with a sequence of priority started with studying eco-label of product, considering environmental knowledge and perceived quality of customer. This priority sequence provides critical information that needs to be considered by stakeholders. The result of this research gives useful information through the antecedent model of green awareness for stakeholders, first, for a company in considering green marketing strategy with adopting customer behavior to environmentally friendly products. Second, the government in can provide a policy of environmentally friendly products, in the order, to develop such products in Indonesia. The last, Indonesian society may comprehend environmentally friendly products as part of must-have requirements.

6. Conclusions

This research has focused on the effects of factors influencing green awareness customers to environmentally friendly products; namely environmental knowledge, eco-label, and perceived quality. From all of the antecedent factors, eco-label has maintained the most significant effect on green awareness compared to environmental knowledge and perceived quality. The finding emphasizes the importance level of product attribute through eco-label on green awareness customer. However, the impact from all of the antecedents for green awareness was not perfect; it explained that there were still other determinant factors that could influence green awareness. So, it is clear there is a limitation of this research, and it is suggested for further research to study from the level of green trust and green attitude of the customer. It has known that these factors also play significant role in influencing customer behavior to environmentally friendly products. This research provides a finding related to the antecedent model of green awareness, and it has undoubtedly input information for stakeholders like company and government about green customer behavior. Furthermore, it expected that the development of research on environmentally friendly products is better in the order to give benefits to humans and the environment in the world.

Acknowledgment

The study of green awareness on green products was realized with the support of several parties such as Binus University, Universitas Bina Sarana Informatika, and Universiti Teknikal Malaysia Melaka. The authors would like to thank for the financial and non-financial supports on accomplishment of this research.

References

- Alamsyah, D. P., Suhartini, T., Rahayu, Y., Setyawati, I., & Hariyanto, O. I. B. (2018). Green advertising, green brand image and green awareness for environmental products. *IOP Conference Series: Materials Science and Engineering*, 434(1), 012160.
- Alamsyah, D. P., & Syarifuddin, D. (2017). Store image: Mediator of social responsibility and customer perceived value to customer trust for organic products. *IOP Conference Series: Materials Science and Engineering*, 288(1), 012045.
- Alamsyah, D. P., Hariyanto, O. I. B., & Rohaeni, H. (2019). Customer green awareness and eco-label for organic products. *International Conference on Organizational Innovation (ICOI)*, 100, 64–68.
- Alamsyah, D. P., & Mohammed, H. A. A. (2019). Antecedents of green awareness for Eco-Friendly Products. *ASEAN*

- Marketing Journal*, 10(2), 109–126.
- Alamsyah, D. P., Syarifuddin, D., & Mohammed, H. A. A. (2018). Green customer behavior on eco-friendly products: Innovation approach. *Jurnal Dinamika Manajemen*, 9(2), 159–169.
- Alamsyah, D. P., Trijumansyah, A., & Hariyanto, O. I. B. (2017). Mediating of store image on customer trust for organic vegetables. *Mimbar: Jurnal Sosial Dan Pembangunan*, 33(1), 132–141.
- Atănaşoae, G. S. (2013). Eco-Label and its role in the development of organic products market. *Economy Transdisciplinarity Cognition*, 16(1), 122–130.
- Beneke, J., Flynn, R., Greig, T., & Mukaiwa, M. (2013). The influence of perceived product quality, relative price and risk on customer value and willingness to buy: A study of private label merchandise. *Journal of Product and Brand Management*, 22(3), 218–228.
- Bouten, L., & Hoozée, S. (2013). On the interplay between environmental reporting and management accounting change. *Management Accounting Research*, 24(4), 333–348.
- Chen, Y. S. (2010). The drivers of green brand equity: Green brand image, green satisfaction, and green trust. *Journal of Business Ethics*, 93(2), 307–319.
- Chobotová, V. (2013). The role of market-based instruments for biodiversity conservation in Central and Eastern Europe. *Ecological Economics*, 95, 41–50.
- Gadanne, D. L., Kennedy, J., & McKeiver, C. (2009). An empirical study of environmental awareness and practices in SMEs. *Journal of Business Ethics*, 84(1), 45–63.
- Grimmer, M., & Bingham, T. (2013). Company environmental performance and consumer purchase intentions. *Journal of Business Research*, 66(10), 1945–1953.
- Hariyanto, O. I. B., & Alamsyah, D. P. (2019). The Relationship Of Environmental Knowledge And Green Purchase Intention. *International Journal of Engineering and Advanced Technology*, 8(5), 142–144.
- Ko, E., Hwang, Y. K., & Kim, E. Y. (2013). Green marketing' functions in building corporate image in the retail setting. *Journal of Business Research*, 66(10), 1709–1715.
- Martínez-Carrasco, L., Brugarolas, M., Martínez-Poveda, A., Ruiz, J. J., & García-Martínez, S. (2012). Modelling perceived quality of tomato by structural equation analysis. *British Food Journal*, 114(10), 1414–1431.
- Mourad, M., Serag, Y., Ahmed, E., & Ahmed, Y. S. E. (2012). Perception of green brand in an emerging innovative market. *European Journal of Innovation Management*, 15(4), 514–537.
- Palihawadana, D., Oghazi, P., & Liu, Y. (2016). Effects of ethical ideologies and perceptions of CSR on consumer behavior. *Journal of Business Research*, 69(11), 4964–4969.
- Rahmi, D. Y., Rozalia, Y., Chan, D. N., Anira, Q., & Lita, R. P. (2017). 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. *Journal of Economics, Business & Accountancy Ventura*, 20(2).
- Ranjbarian, B., Sanayei, A., Kaboli, M. R., & Hadadian, A. (2012). An analysis of brand image, perceived quality, customer satisfaction and re-purchase intention in Iranian department stores. *International Journal of Business and Management*, 7(6), 40–48.
- Rashid, N. R. N. A. (2009). Awareness of Eco-label in Malaysia's Green Marketing Initiative. *International Journal of Business and Management*, 4(8), P132.
- Rashid, N. R. N. A., Khalid, S. A., & Rahman, N. I. A. (2015). Environmental corporate social responsibility (ECSR): Exploring its influence on customer loyalty. *Procedia Economics and Finance*, 31(15), 705–713.
- Rizwan, M., Mahmood, U., Siddiqui, H., & Tahir, A. (2014). An empirical study about green purchase intentions. *Journal of Sociological Research*, 5(1), 290–305. <https://doi.org/10.5296/>
- Rizwan, M., Tariq, M., Hassan, R., & Sultan, A. (2014). A comparative analysis of the factors effecting the employee motivation and employee performance in Pakistan. *International Journal of Human Resource Studies*, 4(3), 35.
- Suki, N. M. (2013). Green awareness effects on consumers' purchasing decision: Some insights from Malaysia. *International Journal of Asia-Pacific Studies*, 9(2), 49–63.
- Suki, N. M., Suki, N. M., & Azman, N. S. (2016). Impacts of Corporate Social Responsibility on the Links Between Green Marketing Awareness and Consumer Purchase Intentions. *Procedia Economics and Finance*, 37(16), 262–268.
- Visser, M., Gattol, V., & van der Helm, R. (2015). Communicating sustainable shoes to mainstream consumers: The impact of advertisement design on buying intention. *Sustainability (Switzerland)*, 7(7), 8420–8436.
- Wei, C.-F., Lee, B. C. Y., Kou, T.-C., & Wu, C.-K. (2014). Green Marketing: The Roles of Appeal Type and Price Level. *Advances in Management & Applied Economics*, 4(5), 63–83.
- Wirth, F. F., Stanton, J. L., & Wiley, J. B. (2011). *The Relative Importance of Search versus Credence Product Attributes : Organic and Locally Grown*. 1(April), 48–62.
- Wu, S.-I., & Chen, Y.-J. (2014). The Impact of Green Marketing and Perceived Innovation on Purchase Intention for Green Products. *International Journal of Marketing Studies*, 6(5), 81–101.

