

Exploring the Attitude Towards Sustainability on the Adoption of Green Products

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Abstract. This decade, sustainability issues have become a concern, marked by the presence of green products. In line with the problem phenomenon, the aim of this research is to examine the factors that support an attitude toward sustainability. There are three latent variables studied: consumer beliefs, subjective norms, and green awareness. This research employs a survey to gather knowledge about eco-friendly products that rely on renewable energy. Questionnaires distributed to respondents via online to collect quantitative data, then tabulated, screened, and processed using the SmartPLS tool. Data testing uses the Structural Equation Model approach, with two tests (PLS Algorithm and Bootstrapping). The model test results show that beliefs, subjective norms, and green awareness perceived by respondents have a positive relationship with attitudes toward sustainability. However, customer beliefs are not significant in influencing increasing attitudes towards sustainability. The research revealed a novel finding green awareness is not recommended as a mediation for subjective norms, but rather a goal achievement that is equivalent to an attitude towards sustainability. The study of consumer behavior towards eco-friendly products reveals the importance of understanding an attitude towards sustainability in promoting sustainable issues worldwide.

1 Introduction

Indonesia is currently making sustainable issues an important problem, marked by the presence of renewable energy products and environmentally friendly products [1]. The Indonesian government has a big goal of increasing the proportion of renewable energy in the country's energy mix to 23% by 2025 [2]. As well as increasing environmentally friendly products from the electronics industry or food ingredients, known as green products [3]. On the renewable energy issue, the construction of solar, wind and geothermal power plants are some of the efforts that have been made to support this goal [4]. Additionally, to encourage investment in the renewable energy sector, tax incentives and green financing have also been introduced [1]. Regarding environmentally friendly products, regulations regarding green products with eco-labels have emerged which give attention to healthier products [5]. To deal with sustainability issues and efforts to overcome climate change and ensure environmental

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sustainability, it is important to examine consumers' attitudes towards sustainability towards environmentally friendly products [1].

Attitudes towards sustainability are important regarding the sustainability of environmentally friendly products [6]. Studies on consumer behavior regarding green products can be seen from consumer perceptions of green products [7]. It is known that attitude towards sustainability has a positive relationship with consumer green awareness [8]. Green awareness related to consumer perceptions of green products includes consumer awareness and understanding of environmental problems that arise during the production, distribution, use and disposal of products [9]. This includes knowledge of the environmental impact of various products and efforts to select products with a lower carbon footprint, using environmentally friendly raw materials, and made with sustainable production practices [1]. In terms of developing sustainable business practices, green awareness and attitudes towards sustainability are a complex but important relationship. Today consumers assess and choose goods and services increasingly influenced by awareness of environmental issues and responsible consumption [8]. Evaluating business practices that are environmentally, socially and economically beneficial is part of the sustainability perspective. Green awareness considers the impact on the environment, thereby increasing positive consumer behavior regarding sustainability issue practices [9]. There are other factors that can explain consumers' attitudes towards sustainability, namely beliefs and subjective norms.

Consumer beliefs are psychology that explains how consumer behavior towards products that are considered environmentally friendly influences their attitudes towards them [10]. This behavior is based on the idea that consumers' beliefs or beliefs in the features of green products influence their attitudes toward those products, which in turn influence their intentions and actions to purchase those products. Consumer trust can increase awareness and understanding of environmental issues related to products [11]. It further encourages consumers to choose products that have a lower impact on the environment, use environmentally friendly raw materials, and are made with sustainable practices [12]. Consumer beliefs also influence consumer attitudes towards companies, social responsibility, and encourage behavior towards sustainability [10]. Awareness of sustainability can also be seen from consumers' self-confidence; this is also known as subjective norms [13]. Subjective norm is a term that refers to social influences or other people's perspectives that a person considers important in regulating their behavior [14]. In the context of sustainability, subjective norms play an important role in shaping customer attitudes and behavior towards green goods such as environmental awareness [15]. Encouraging acceptance and adoption of more environmentally responsible behavior, helping to increase environmental awareness and showing the importance of subjective norms [16]. In the end, it is known the impact of subjective norms related to the environment on social factors and group influence in shaping consumer behavior regarding environmental and sustainability issues.

In line with the problem phenomenon studied, there appears to be a relationship between beliefs and subjective norms on consumer green awareness. On the other hand, it is known that there is support from beliefs and subjective norms in attitudes towards sustainability. Examining the problem phenomenon and efforts to support the issue of sustainability, this research aims to examine factors that can support attitudes towards sustainability through a study of consumer beliefs, subjective norms and green awareness of consumers. The research position explains a model that can support attitudes towards sustainability, so that the research output is able to provide appropriate recommendations in dealing with sustainability issues through the study of consumer behavior.

2 Literature Review

2.1 Consumer Beliefs

Consumer beliefs theory explains how consumer behavior is influenced by their beliefs about a product or service [17]. This theory covers various aspects of beliefs that influence consumer decision making, such as beliefs about product benefits, beliefs about risks, and social norms that influence preferences and purchase intentions [18]. Belief theory in consumer behavior is basically the same as consumer trust theory which explains the commitment of consumers to the products and companies, they evaluate [19]. Consumer beliefs are related to a bond of trust in consuming environmentally friendly products. Consumers form beliefs about what to expect from environmentally friendly products [19, 20]. The belief that green products can help preserve the environment can encourage them to buy these products [21]. In general, it is known that the measures commonly used to explain consumer beliefs include environmental problems, social problems, sustainable development, keep nature, adopt to nature and social sustainability [22].

2.2 Subjective Norm

The Theory of Planned Behavior is a basic social psychology theory about subjective norms [13]. In general, subjective norms are social influences or people's views that individuals consider important in determining their attitudes and behavior towards a decision or action [14]. Specifically, this theory states that a person's attitude towards a behavior is influenced by the views of other people and their opinion about whether the behavior is positive or negative [23]. In connection with environmentally friendly products, it can be concluded that subjective norms refer to the way someone sees whether it is important for them to use environmentally friendly products, they tend to have subjective norms that support them in using environmentally friendly products [24]. Subjective norms function as strong predictors because they encourage people to follow or adapt their behavior to norms that they consider correct, including views on the impact of environmentally friendly products on sustainability issues [13]. Understanding subjective norms allows companies to create better marketing and communication strategies to influence customer attitudes and behavior, especially in the case of products that involve sustainability values [15]. On environmental issues, subjective norms are assessed from several measures including eco-friendly products, green health products, energy consuming products, use more low-polluting products, will approve green products, and should be doing use eco-friendly [25].

2.3 Green Awareness

Consumer green awareness is said to be a framework that describes the level of knowledge, understanding and concern of individuals or groups towards environmental issues, especially those related to the use of natural resources, environmental conservation and the impact of human activities or products on the environment [7, 26, 27]. Green awareness theory emphasizes steps towards changing individual and organizational habits towards more sustainable practices [28]. There are several factors that support consumers' views on the environment and personal values about sustainability. Consumers who have high green awareness tend to choose and use environmentally friendly products and support environmental conservation initiatives [26]. Increasing green awareness can be achieved through the beliefs and principles held by consumers that support environmentally responsible business practices [29]. The role of subjective norms in helping change individual and organizational attitudes towards more environmentally responsible practices [7]. As well as providing opportunities for consumer behavior that cares about the environment, and supporting public policies that support sustainable business practices [30]. Assessing green

awareness can be determined from several indicators including the effort given, familiarity with sustainability labels, knowledge of sustainability slogans, awareness of environmentally friendly symbols and concern for sustainability issues [7, 26].

2.4 Attitudes Towards Sustainability

Attitudes towards sustainability is the attitude of consumers regarding decisions to consume products that pay attention to the impact on the environment and the continuation of a healthy life [3]. This theory shows that one's attitude towards the environment is important to pay attention to for sustainability [8]. The behavior that emerges is related to consumption patterns and references to environmental sustainability [31]. Awareness of the environment ultimately provides encouragement to oneself and one's environment to pay attention to the survival of the world [32]. This behavior is visible in investments in renewable energy, the development of sustainable public policies, increased interest in green products, and changes in business practices to reduce carbon emissions and promote social justice [33]. The need for the use of goods and services is increasing nowadays, so it is important to improve attitudes towards sustainability so that there is a balance between human needs and environmental sustainability. Future environmental conditions depend on current consumer and company behavior, so the issue of sustainability needs to be considered from two sides [34]. These developments demonstrate changes in the way people, companies and governments view global challenges, and show how important it is to incorporate sustainability principles into everyday actions and decisions [35]. Attitudes towards sustainability can be known and evaluated through several assessment indicators including more aware, more concerned, willing to safeguard, effort to use, practice 3R (reuse, reduce, recycle), refuse packaging and reduce energy [3].

2.5 Research Review and Hypothesis

This research focuses on environmentally friendly products with a study of consumer behavior. The final goal of the evaluation research is attitudes towards sustainability, where it is known that several variables can influence them, including green awareness, consumer beliefs and subjective norms. This was revealed in special green product research explaining that consumer belief is consumer confidence in products that are considered capable of preserving the environment [36], thereby providing opportunities for increasing consumer green awareness [37]. Another study explains the impact of consumer trust in green products in increasing awareness of paying attention to the environment [29]. In line with previous research, there appears to be a positive relationship between consumer beliefs and increased green awareness. Other research that supports increasing green awareness is subjective norm behavior, where it is known that a good predictor of consumer green awareness is subjective norm assessment [38]. Apart from that, it is emphasized that there is the influence of subjective norms on environmentally friendly products which consumers believe in their awareness of behaving in an environmentally friendly manner. Subjective norms directly support consumers' green awareness [16]. Based on the analysis of previous research, a draft hypothesis is presented as follows.

Hypothesis 1 (H1) Beliefs have positive relationship with green awareness of customer.

Hypothesis 2 (H2) Subjective norm have positive relationship with green awareness of customer.

The next study explains the relationship between beliefs and subjective norms on attitudes toward sustainability. In a special study on sustainability issues, it was stated that consumer behavior towards the environment depends on the level of beliefs they have [21]. Moreover, belief in green products supports a more environmentally friendly lifestyle [3]. On the other

hand, it is stated that consumer beliefs through subjective norms have good support for attitudes towards sustainability because the beliefs they have have a positive view of the sustainability of life from beliefs about environmentally friendly products [39]. Other research explains the important meaning of subjective norms in behavior that supports environmental sustainability [40]. In general, it has been explained that there is a relationship between beliefs and subjective norms on attitudes toward sustainability, so the next series of research hypotheses is presented.

- Hypothesis 3 (H3) Beliefs have positive relationship with attitudes towards sustainability.
- Hypothesis 4 (H4) Subjective norm have positive relationship with attitudes towards sustainability.

Green awareness is consumer awareness of the importance of environmental sustainability, so many previous research studies describe its impact on attitudes towards sustainability [41]. Convey that awareness is the main value in measuring consumer green behavior [8]. Previous study confirms the meaning of green awareness in supporting behavior that leads to sustainable life [26]. It is known that there is support for the relationship between green awareness and attitudes towards sustainability, in line with previous research studies. Next is presented the last hypothesis along with the hypothesis model (Fig. 1).

- Hypothesis 5 (H5) Green awareness of customer have positive relationship with attitudes towards sustainability.

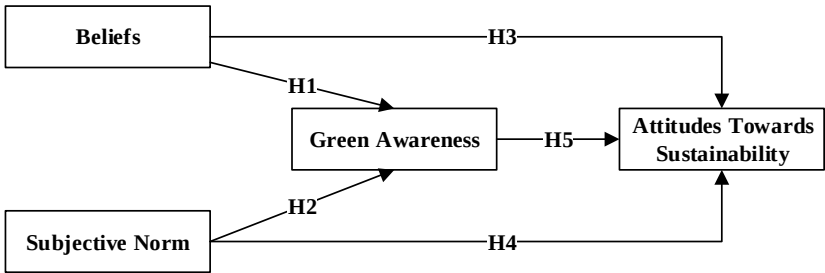


Fig. 1. Research Model Development.

3 Methods

This research focuses on consumer behavior towards environmentally friendly products as an effort to deal with sustainability issues. There are several variables studied, including consumer beliefs, subjective norms, green awareness and attitudes towards sustainability. Each variable is measured in accordance with the theory developed. For consumer beliefs and subjective norms, there are six measures respectively. Meanwhile, green awareness was assessed using five measures, and attitudes towards sustainability were assessed using seven measures. The measurement is asked to consumers using a quantitative approach, which means that the answers from respondents have been determined to have quantitative value.

The research method used is a survey, namely a survey of consumers who have experience with environmentally friendly products. Only consumers selected in the city of Bandung (Indonesia) were selected as the research sample. There were 166 consumers as respondents whose data was collected via an online questionnaire. Data collection from respondents is only through questionnaires with predetermined quantitative answers. Each question corresponds to the research measurement of each variable, where the answer uses a Likert Scale approach. The answers are graded, where the answer is 1 for the statement "strongly disagree" to the answer 5 for the statement "strongly agree". The data from the questionnaire underwent data tabulation and data cleaning stages, to avoid imperfect data before processing. Next, the data is processed using the SmartPLS tool. Considering that this

research uses path analysis techniques in line with the design of the research hypothesis (Fig. 1). The test was carried out twice, namely the PLS Algorithm and Bootstrapping Process to determine the correlation value, validity and reliability of the results, as well as the hypothesis results [42, 43]. This research was carried out quantitatively, so the research hypothesis test used a comparison of P-Value values. The analysis was carried out in line with the research hypothesis design.

4 Result and Discussion

The research results and discussion were presented at the same time, while the discussion was presented in line with the previous research hypothesis design (Fig. 1). The study was carried out with the main aim of evaluating attitudes towards sustainability from consumers who are familiar with environmentally friendly products. There are other variables studied including consumer beliefs, subjective norms and green awareness. This study does not examine the biographies of respondents, because this is not the aim of the research. The study focuses on testing a model that can examine and evaluate the achievements of attitudes towards sustainability.

The research results based on the PLS Algorithm test are shown in Fig. 2 and Table 1. It is explained that the research measurement instruments developed are acceptable, it is known that all the values in Table 1 (Validity and Reliability) all the measuring values, namely Cronbach's Alpha, rho_A, Composite Reliability and AVE have values above 0.700, even though there is only 1 value from AVE with a value of 0.642 but it is not a problem because most of the values are acceptable. This explains that the research model has appropriate measuring tools for all indicators. The model testing results appear in Fig. 2 where all variable relationships support positively for attitudes towards sustainability. The second test was carried out through a Bootstrapping process where the results appear in Table 2 and Table 3. In Table 2 it is known that all outer loading values have a P-Value below 0.050, which explains that all outer model instruments support it. In Table 3, the results of the hypothesis test are known, of the five hypotheses, only hypotheses three (H3) were rejected. This means that the research model built supports the goal of increasing attitudes towards sustainability. This research evaluates environmentally friendly products known as green products. Consumer behavior towards green products is supported by green awareness, consumer beliefs and subjective norms.

Further research analysis and discussion are presented separately in line with the research hypothesis. Although there are five hypotheses, in the discussion only two are discussed related to the relationship of subjective norms and green awareness and the study of antecedents of attitudes towards sustainability.

Table 1. Instruments Result for Validity and Reliability.

Instruments	Cronbach's Alpha	rho_A	Composite Reliability	AVE
Attitudes Towards Sustainability	0.896	0.927	0.923	0.642
Beliefs	0.919	0.919	0.937	0.712
Green Awareness	0.900	0.909	0.926	0.714
Subjective Norm	0.926	0.928	0.942	0.729

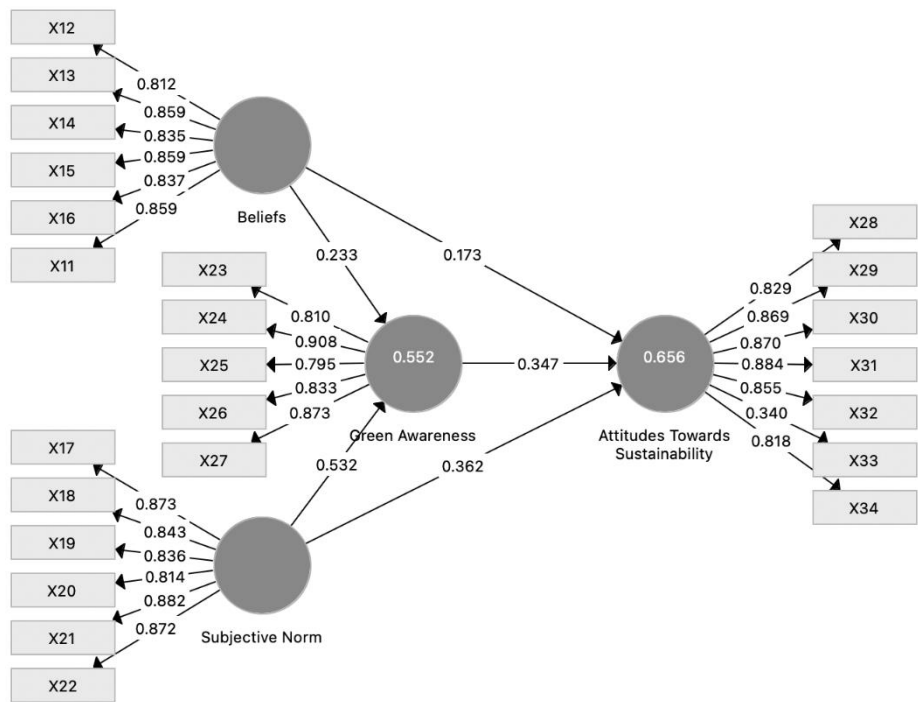


Fig. 2. Model Test.

Table 2. Instruments Result for Outer Loading Values.

Instruments	STDEV	T Statistics	P-Values
X11 <- Beliefs	0.033	26.095	0.000
X12 <- Beliefs	0.034	23.670	0.000
X13 <- Beliefs	0.039	21.768	0.000
X14 <- Beliefs	0.040	20.927	0.000
X15 <- Beliefs	0.029	29.201	0.000
X16 <- Beliefs	0.038	21.903	0.000
X17 <- Subjective Norm	0.032	27.459	0.000
X18 <- Subjective Norm	0.033	25.633	0.000
X19 <- Subjective Norm	0.032	26.434	0.000
X20 <- Subjective Norm	0.040	20.320	0.000
X21 <- Subjective Norm	0.030	28.955	0.000
X22 <- Subjective Norm	0.032	27.057	0.000
X23 <- Green Awareness	0.038	21.463	0.000
X24 <- Green Awareness	0.017	54.511	0.000
X25 <- Green Awareness	0.048	16.508	0.000
X26 <- Green Awareness	0.045	18.452	0.000
X27 <- Green Awareness	0.023	38.675	0.000
X28 <- Attitudes Towards Sustainability	0.035	23.804	0.000
X29 <- Attitudes Towards Sustainability	0.023	37.348	0.000
X30 <- Attitudes Towards Sustainability	0.036	24.335	0.000
X31 <- Attitudes Towards Sustainability	0.029	30.934	0.000
X32 <- Attitudes Towards Sustainability	0.038	22.372	0.000
X33 <- Attitudes Towards Sustainability	0.073	4.658	0.000
X34 <- Attitudes Towards Sustainability	0.041	19.808	0.000

Table 3. Hypothesis Result.

Hypothesis		T Statistics	P-Values
Beliefs -> Green Awareness	H1	2.118	0.034
Subjective Norm -> Green Awareness	H2	5.115	0.000
Beliefs -> Attitudes Towards Sustainability	H3	1.618	0.106
Subjective Norm -> Attitudes Towards Sustainability	H4	2.567	0.010
Green Awareness -> Attitudes Towards Sustainability	H5	4.480	0.000

4.1 The Relationship of Subjective Norm and Green Awareness

Consumers are increasingly aware of the negative effects of conventional products on the environment. Currently, consumers who have good green awareness prefer environmentally friendly products because of problems such as plastic pollution, climate change and the decline in biodiversity. Companies that pay attention to the environment today offer more environmentally friendly products, such as organic products, environmentally friendly packaging, and products that use recycled materials, as demand for green products increases. Green awareness has had an impact on consumer behavior and their lifestyle. Consumers are starting to choose products that can be recycled, have minimal packaging. Green awareness supports behavior that cares about environmental sustainability. The research results explain that consumers' green awareness can be influenced by two factors, first subjective norms and second consumer beliefs. Test results in Fig. 2 it is known that the subjective norm value (0.532) is positively related to green awareness, which can explain the ability of subjective norms to control green awareness. On the other hand, it is also known that there is a positive relationship from consumer beliefs to increasing green awareness (0.233). If studied more clearly, the relationship between subjective norms is closer, meaning that in increasing consumer green awareness of environmentally friendly products, it is necessary to prioritize the subjective norm side of consumers.

The test results have been justified through research hypothesis testing (Table 3), it is known that H1 and H2 can be accepted with a P-Value value below 0.050. The research findings are in line with previous research studies which explain the positive impact of subjective norms on green awareness as well as positive support from consumer beliefs [37, 39]. Research findings generally explain that there are factors that contribute to each other causing consumers to become more aware of green products (green awareness). It is hoped that increasing green awareness will encourage a more sustainable economy. The importance of environmental awareness is ultimately able to support the government's movement on sustainability issues.

4.2 The Antecedent of Attitudes Towards Sustainability

The concept of sustainability has many benefits for people and society, so studies on attitudes towards sustainability are of concern. Behavior towards sustainability is related to awareness of reducing pollution, saving natural resources, and preserving the environment. From an economic perspective, sustainability practices can reduce costs, create new green jobs, and increase company competitiveness through a better reputation. The attitude perspective towards sustainability shows how a person sees the importance of balancing the needs of the current generation with the ability to meet the needs of future generations without destroying the environment or depleting natural resources. There are several behaviors that can be studied, especially those related to green awareness, consumer beliefs and subjective norms. The research results show that attitude towards sustainability can be directly influenced by green awareness and subjective norms. This is known by the initial correlation between green awareness and attitudes towards sustainability of 0.347, meaning

that the better the consumer's green awareness of environmentally friendly products, the better they support sustainability issues. Furthermore, it is known that there is a positive relationship between subjective norms directly on attitudes towards sustainability with a correlation value of 0.362. If we examine it more deeply, the relationship between subjective norms is closer than that of green awareness. This means that subjective norms have a role in attitudes towards sustainability. In previous research studies, it was found that subjective norms have a more important role in green awareness with a closer correlation. This means that the existence of green awareness is not recommended as a mediation for subjective norms, but rather a goal achievement that is equivalent to an attitude towards sustainability.

The next findings presented relate to consumer beliefs which are not able to directly increase attitudes towards sustainability. It is known from the correlation value which is quite small (0.173). The results of the hypothesis test confirm that H3 is rejected, where the P-Value value is above 0.050, which is different from H4 and H5 with the conclusion supported. From the findings of this research, it can be concluded that there are antecedent variables that are able to increase attitudes towards sustainability, including subjective norms and green awareness. In terms of green awareness, there are supporting antecedent variables, namely subjective norms and consumer beliefs. The research findings are in line with previous research studies which confirm the impact of subjective norms [40] and green awareness on attitudes towards sustainability [41].

Subjective norms play an important role in influencing individual behavior towards sustainable practices in the context of sustainability issues. Subjective norm behavior encourages people to behave in a certain way because they want to get approval from people, they consider important. This behavior can influence the way a person views and treats environmental problems. Studies on consumer behavior regarding environmentally friendly products provide an important picture of sustainable issues.

5 Conclusion and Recommendation

The sustainability issue has become a global concern, this can be seen from the presence of renewable energy and green products. Consumer behavior regarding sustainability is a concern considering that the impact of the success of a sustainable issue depends on the readiness of humans as users. The research results explain that attitudes towards sustainability can be controlled by consumers' green awareness and subjective norms regarding environmentally friendly products as well. The need for support from consumer perceptions and knowledge of environmentally friendly products in dealing with sustainability issues. Consumers' green awareness is known to be directly influenced by beliefs and subjective norms. The research findings explain that green awareness is unable to mediate the relationship between subjective norms and attitudes towards sustainability. On the other hand, it recommends green awareness as another main goal in achieving sustainability issues. Support from consumer perceptions in assessing environmentally friendly products through subjective norms is very useful. So, it can increase the impact of consumer green awareness on attitudes towards sustainability.

This research is research into consumer behavior regarding environmentally friendly products, which was carried out to support sustainability issues. There are limitations to research in that it does not examine other norms that can support consumers' green awareness of environmentally friendly products. So, the next study is expected to examine personal norms, social norms and cultural norms, which have a relationship with sustainability issues.

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administration, and Resources. **Norfaridatul Akmaliah Othman**, Conceptualization, Formal Analysis, Supervision, and Writing—original draft.

References

1. K.H. Dewi, D.R. Sari, A. Latifa, Sustainability of climate change issues in Indonesia: the voices of women's NGOs, in Proceedings of IOP Conference Series: Earth and Environmental Science, Yogyakarta, Indonesia, April 23–24 (2022). <https://doi.org/10.1088/1755-1315/1105/1/012005>
2. Marsdenia, R.H.S. Koestoer, A sustainability reporting issue: a comparative review between Indonesia and Nordic Country. *Int. J. of Prof. Bus. Rev.* **8**, (2023). <https://doi.org/10.26668/businessreview/2023.v8i12.4014>
3. K. H. D. Tang, Correlation between sustainability education and engineering students' attitudes towards sustainability. *Int. J. of Sustain. in H. Edu.* **19**, (2018). <https://doi.org/10.1108/IJSHE-08-2017-0139>
4. H. Didik, P.N. Bambang, S. Asep, and Y.A. Purwanto, Sustainability challenge of micro hydro power development in Indonesia, in Proceedings of IOP Conference Series: Earth and Environmental Science, Bogor, Indonesia, October 23–25 (2017). <https://doi.org/10.1088/1755-1315/147/1/012031>
5. N.K. Sharma, G.S. Kushwaha, Eco-labels: a tool for green marketing or just a blind mirror for consumers. *Elec. G. J.* **1**, 1–22 (2019)
6. A. Bask, M. Halme, M. Kallio, M. Kuula, Business students' value priorities and attitudes towards sustainable development. *J. Clean Prod.* **264**, (2020). <https://doi.org/10.1016/j.jclepro.2020.121711>
7. D. Syarifuddin, D.P. Alamsyah, Green perceived value for environmentally friendly products: green awareness improvement. *J. Eko. Pem.* **18**, 245–255 (2017)
8. A. Basheer, A. Sindiani, O. Gulacar, I. Eilks, M. Hugerat, Exploring pre- and in-service science teachers' green chemistry and sustainability awareness and their attitudes towards environmental education in Israel. *Int. J. Sci. Math Educ.* **21**, (2023). <https://doi.org/10.1007/s10763-022-10318-x>
9. E.T. Maziriri, B. Nyagadza, T. Chuchu, G. Mazuruse, Antecedents of attitudes towards the use of environmentally friendly household appliance products in Zimbabwe: an extension of the theory of planned behaviour. *PSU Res. Rev.*, (2023). <https://doi.org/10.1108/PRR-03-2022-0033>
10. I. Blanco-Penedo, J. García-Gudiño, E. Angón, J.M. Perea, A. J. Escribano, M. Font-i-Furnols, Exploring sustainable food choices factors and purchasing behavior in the sustainable development goals era in Spain. *Sustain. (Switzerland)*. **13**, (2021). <https://doi.org/10.3390/su13137397>
11. A. Eldesouky, F.J. Mesias, M. Escribano, Consumer assessment of sustainability traits in meat production. A choice experiment study in Spain. *Sustain. (Switzerland)*. **12**, (2020). <https://doi.org/10.3390/su12104093>
12. K.M. Priya, S. Alur, Analyzing consumer behaviour towards food and nutrition labeling: A comprehensive review. *Heliyon*. **9**, (2023). <https://doi.org/10.1016/j.heliyon.2023.e19401>
13. T. Roh, J. Seok, Y. Kim, Unveiling ways to reach organic purchase: Green perceived value, perceived knowledge, attitude, subjective norm, and trust. *J. of Ret. and Cons. Serv.* **67**, 102988 (2022)
14. A. Syed, N. Gul, H.H. Khan, M. Danish, S.M. Ul Haq, B. Sarwar, U. Azhar, W. Ahmed, The impact of knowledge management processes on knowledge sharing attitude: The role of subjective norms. *The J. of Asian Fin. Eco. and Bus.* **8**, 1017–1030 (2021)

15. H. Aslan, The influence of halal awareness, halal certificate, subjective norms, perceived behavioral control, attitude and trust on purchase intention of culinary products among muslim costumers in Turkey. *Int. J. Gastron Food Sci.* **32**, 100726 (2023)
16. S.W. Wu, P. Y. Chiang, Exploring the mediating effects of the theory of planned behavior on the relationships between environmental awareness, green advocacy, and green self-efficacy on the green word-of-mouth intention. *Sustain. (Switzerland)*. **15**, (2023). <https://doi.org/10.3390/su151612127>
17. M. Featherman, S.J. Jia, C.B. Califf, N. Hajli, The impact of new technologies on consumers beliefs: reducing the perceived risks of electric vehicle adoption. *Technol. Forecast. Soc. Change*. **169**, 120847 (2021)
18. R. Gupta, S. Sen, The effect of evolving resource synergy beliefs on the intentions-behavior discrepancy in ethical consumption. *J. of Cons. Psych.* **23**, 114–121 (2013). <https://doi.org/10.1016/j.jcps.2012.07.004>
19. R. Nimri, M. Dharmesti, C. Arcodia, and R. Mahshi, UK consumers' ethical beliefs towards dining at green restaurants: a qualitative evaluation. *J. of Hos. and Tour. Man.* **48**, (2021). <https://doi.org/10.1016/j.jhtm.2021.08.017>
20. O. Ogiemwonyi, M.T. Jan, Resources the correlative influence of consumer ethical beliefs, environmental ethics, and moral obligation on green consumption behavior. *Res. Cons. and Recy. Adv.* **19**, (2023). <https://doi.org/10.1016/j.rcradv.2023.200171>
21. L. Cometa, Consumer beliefs about green hotels. Kent State Univ. Coll. and Grad. School of Edu. Health and Human Serv. (2012)
22. A. Pagiaslis, A.K. Krontalis, Green consumption behavior antecedents: environmental concern, knowledge, and beliefs. *Psychol Mark.* **31**, (2014). <https://doi.org/10.1002/mar.20698>
23. H. Kim, T.T. Kim, S.W. Shin, Modeling roles of subjective norms and eTrust in customers' acceptance of airline B2C eCommerce websites. *Tour. Manag.* **30**, 266–277 (2009)
24. C. Othman, M.S. Rahman, Investigation of the relationship of brand personality, subjective norm and perceived control on consumers' purchase intention of organic fast food. *Mod. Appl. Sci.* **8**, 92–106 (2014). <https://doi.org/10.5539/mas.v8n3p92>
25. Y. Xu, J. Du, M.A.S. Khan, S. Jin, M. Altaf, F. Anwar, and I. Sharif, Effects of subjective norms and environmental mechanism on green purchase behavior: an extended model of theory of planned behavior. *Front. Environ. Sci.* **10**, (2022). <https://doi.org/10.3389/fenvs.2022.779629>
26. 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, in *Proceedings of IOP Conference Series: Materials Science and Engineering*, AASEC, Bandung, Indonesia, April 18 (2018). <https://doi.org/10.1088/1757-899X/434/1/011001>
27. D.Y. Rahmi, Y. Rozalia, D.N. Chan, Q. Anira, 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. of Eco. Bus. & Acc. Vent.* **20**, (2017). <https://doi.org/10.14414/jebav.v20i2.1126>
28. N. M. Suki, Green awareness effects on consumers' purchasing decision: some insights from Malaysia. *Int. J. of Asia-Pacific Stud.* **9**, 49–63 (2013)
29. D.P. Alamsyah, R. Febriani, Green customer behaviour: impact of green brand awareness to green trust. *J. Phys. Conf. Ser.* **1477**, 072022 (2020). <https://doi.org/10.1088/1742-6596/1477/7/072022>
30. X. Gao, L. Tian, Effects of awareness and policy on green behavior spreading in multiplex networks. *Physica A: Stat. Mech. and its Appl.* **514**, 226–234 (2019). <https://doi.org/10.1016/j.physa.2018.09.067>

31. C. Murphy, B. Mallon, G. Smith, O. Kelly, V. Pitsia, G. Martinez Sainz, The influence of a teachers' professional development programme on primary school pupils' understanding of and attitudes towards sustainability. *Environ. Educ. Res.* **27**, (2021). <https://doi.org/10.1080/13504622.2021.1889470>
32. P. Sánchez-Bravo, V. Edgar Chambers, L. Noguera-Artiaga, D. López-Lluch, I.V. Edgar Chambers, Á.A. Carbonell-Barrachina, E. Sendra, Consumers-attitude towards the sustainability of different food categories. *Foods.* **9**, (2020). <https://doi.org/10.3390/foods9111608>
33. B. Zhang, Y. Zhang, P. Zhou, Consumer attitude towards sustainability of fast fashion products in the UK. *Sustain. (Switzerland)*. **13**, (2021). <https://doi.org/10.3390/su13041646>
34. U. Riegel, Religion and attitude towards sustainability. *J. of Emp. Theo.* **28**, (2023). <https://doi.org/10.1163/15709256-20231140>
35. R. Nieto-Villegas, R. Bernabéu, A. Rabadán, Effects on beer attribute preferences of consumers' attitudes towards sustainability: the case of craft beer and beer packaging. *J. Agric. Food Res.* **15**, (2024). <https://doi.org/10.1016/j.jafr.2024.101050>
36. D. Gadenne, B. Sharma, D. Kerr, T. Smith, The influence of consumers' environmental beliefs and attitudes on energy saving behaviours. *Energy Policy.* **39**, (2011). <https://doi.org/10.1016/j.enpol.2011.09.002>
37. M. Ali, M. Irfan, I. Ozturk, A. Rauf, Modeling public acceptance of renewable energy deployment: a pathway towards green revolution. *Eco. Res-Eko. Istrazivanja.* **36**, (2023). <https://doi.org/10.1080/1331677X.2022.2159849>
38. Z. Zaremohzzabieh, N. Ismail, S. Ahrari, A. Abu Samah, The effects of consumer attitude on green purchase intention: a meta-analytic path analysis. *J. Bus. Res.* **132**, (2021). <https://doi.org/10.1016/j.jbusres.2020.10.053>
39. D. Gadenne, L. Mia, J. Sands, L. Winata, G. Hooi, The influence of sustainability performance management practices on organisational sustainability performance. *J. of Acc. and Org. Change.* **8**, 210–235 (2012). <https://doi.org/10.1108/18325911211230380>
40. G. Singh, S. Sharma, R. Sharma, Y. K. Dwivedi, Investigating environmental sustainability in small family-owned businesses: integration of religiosity, ethical judgment, and theory of planned behavior. *Technol. Forecast. Soc. Change.* **173**, (2021). <https://doi.org/10.1016/j.techfore.2021.121094>
41. H. Huang, E.W.L. Cheng, The role of commitment in an extended theory of planned behavior: test of its mediating effect with partial least squares structural equation modeling. *Mathematics.* **10**, (2022). <https://doi.org/10.3390/math10071049>
42. A.E.E. Sobaih, I.A. Elshaer, Personal traits and digital entrepreneurship: a mediation model using smartpls data analysis. *Mathematics.* **10**, 3926 (2022)
43. C.M. Ringle, D. Da Silva, D.D.S. Bido, Structural equation modeling with the smartpls. *Rev. Bras. de Market.* **13**, (2014)