

The role of green product as an intermediary of environmental attitude and environmental knowledge on green behavior

Fauziyah Nur Jamal^{1,*}, Nabila Na'ma Aisa², Norfaridatul Akmaliah Othman³, Geraldine B. Advincula⁴, Wafrotur Rohmah⁵

^{1,2} Universitas Ahmad Dahlan, Indonesia

³ Universiti Teknikal Malaysia Melaka, Malaysia

⁴ Southern Luzon State University, Philippines

⁵ Universitas Muhammadiyah Surakarta, Indonesia

fauziyah.jamal@mgm.uad.ac.id

*Correspondent Author

ARTICLE INFORMATION

ABSTRACT

Article History

Received: 05-12-2023

Revised: 06-02-2024

Accepted: 07-02-2024

Keywords

Green Product;
Environmental Knowledge;
Environmental Attitude;
Green Behavior.

The impact of global warming has made people aware of the importance of environmental preservation. Therefore, it is necessary to implement green product behavior in university environments. However, there is a need for more awareness among students about the use of green products. This research seeks to fill this research gap by developing appropriate green marketing strategies that help implement environmentally friendly behavior in students. This study aimed to determine the mediating role of green products on the influence of environmental knowledge and attitude on the green behavior of students. The sample consisted of 30 respondents, selected using a non-probability sampling technique. The collected data were subsequently processed using Smart PLS. The results show a mediating role of green products on the influence of environmental knowledge and attitude on student green behavior.

This article has open access under the [CC-BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license.



1. Introduction

Environmental awareness has grown in importance, particularly in Indonesia, where marketing development promotes environmental awareness. Green marketing has recently become an interesting subject in the business community (Jamal et al., 2023). Every company attempts to integrate the green marketing concept into their business strategy, which results in environmentally friendly business operations. According to Polonsky (1994), green marketing embraces all efforts to create and facilitate any exchange to satisfy human needs and

desires while minimizing environmental damage. Increasingly adverse environmental conditions make people more conscious of the significance of caring for the environment and play a significant role in environmental conservation efforts (Chen et al., 2015).

Green marketing products must consider several components such as design, technology, usability, value, convenience, quality and packaging (Bhalerao & Deshmukh 2015). There are various factors that companies need to pay attention to when carrying out marketing operations, including product, pricing, place, and promotion. This component must be examined since it can support the marketing process to generate profits (Kotler & Armstrong 2017). Besides the industrial world, green marketing has also started to enter the world of education.

It focuses on the educational process, with approaches, applications, strategies, and practices related to green education, which many countries have begun incorporating in educational institutions and systems (Grindsted, 2015). Green education is based on the principle of behavior change in preserving the environment. Universities must start to direct environmentally friendly behavior. The impact of global warming has made people now aware of the importance of protecting the environment (Jamal et al., 2022). One form of manifestation of public awareness about environmental sustainability is through the use of environmentally friendly products or green products. Green products are products with environmentally friendly packaging (Chopra & Meindl, 2007). Universitas Ahmad Dahlan is currently trying to create awareness and comfort towards the environment, especially in the economics and business faculty, in the management study program whose students, in the era of the COVID-19 pandemic and adopted the pandemic situation, directly led to changes in the learning process online learning as an environmentally friendly form carried out at the university, including by media (Zoom, Google Meet, Google Classroom, etc).

The urgency of this research raises the importance of environmental knowledge and attitudes on student behavior. The problem that arises is the low awareness of students about using green products and the desire to implement high student awareness of the environment, which causes the message delivered on using green products to students ineffective. Therefore, student behavior in understanding the environment must be improved to be more aware of the value of environmentally responsible items. Steg and Vlek (2009) state that green behavior is behavior to minimize environmental damage, which is a relevant approach to be implemented in learning to support sustainable development in education. Environmental knowledge is a series of ecological knowledge individuals possess regarding the environment (Chen et al., 2015). In the research by Erwinsyah (2022), students have a challenging responsibility to protect the environment by developing good environmental knowledge, attitudes, and practices to change their behaviors to become more environmentally friendly.

Based on these problems, this research aims to raise the issue of the mediating role of green products on the influence of environmental knowledge and environmental attitude on student green behavior at Universitas Ahmad Dahlan. The selection is based on the implementation of green products. The research carried out can provide scientific development, especially in the field of green marketing.

2. Literature Review and Hypothesis Development

Based on the literature review, this research will provide a theoretical contribution by establishing a research model using the basic master theory. This research model identifies the theory of planned behavior (TPB), founded on the concept that humans may behave wisely so that they consider all available knowledge, implicitly or overtly, and evaluate the implications of their behavior (Ajzen, 2011). This theory shows that behavior depends on a person's intention to carry out that behavior. Based on the literature review that has been compiled,

several studies have been found in articles related to the topic. In the research results of Zsóka et al. (2013), there was a significant association between the intensity of environmental education and pupils' environmental knowledge. This is partly due to environmental education and the increased intrinsic motivation of devoted students who willingly participate in environmental education, particularly at the university level.

This is followed by Sugiarto and Gabriella (2020), indicating that while student knowledge is high, student environmental behavior is medium. This demonstrates that students are already at the awareness stage when environmentally friendly conduct is vital. Still, implementation could be more moderate, implying that the knowledge presented to students is mainly theoretical and not applied in practice. In research by Dagher et al. (2015), several consumer attitudes towards the environment can be seen from attitudes towards improving environmentally friendly living, liking products with an environmentally friendly concept and purchasing environmentally friendly products is a good idea.

2.1. Literature Review

2.1.1. Green Product

A product is classified as green when its environmental and societal performance in manufacturing, usage, and disposal is significantly better than standard or competitive products (Peattie & Peattie, 1995). Green products have become the most reliable resolution for environmental sustainability in many developed industries and universities in several countries (Ansu-Mensah, 2021). Green product means that all products from the company are processed through an environmentally friendly process. Environmentally friendly products have many life cycle phases, namely before, during, and after use (Dangelico & Vocalelli, 2017).

2.1.2. Green Behavior

Goleman et al. (2012) explain that green behavior is human activity that protects and preserves the living environment in their immediate surroundings. Green behavior arose due to humanity's growing appreciation for the universe. Eco-literacy is one way to teach children a sense of affection for the universe from an early age. Green human behavior is considered human ethics in handling the environment because of awareness and a sense of responsibility for preserving the universe (Capra, 2007). Keraf (2014) explains that humans have a sense of belonging and love for the nature in which they dwell. Thus, they should be able to learn to deal with what is around them. Important implications for developing organizational theory and practice, especially attitudes towards the environment and the extent to which organizations, industry and their supervisors care about environmental sustainability (Katz et al., 2022).

2.1.3. Environmental Knowledge

Students have a problematic obligation to preserve the environment by gaining sound knowledge about environmental issues, attitudes, and practices that will help them alter their behavior and become more environmentally aware (Erwinsyah, 2022). Meanwhile, according to Monsuwé et al. (2004) consumers may easily, comfortably, and rapidly browse all products online. As a result, online shopping can be defined as purchasing and selling items via smartphones linked to the internet. This means that vendors and buyers do not need to meet in person, locate a physical market, or even carry vast sums of money in their wallets. Sellers and buyers can complete transactions

quickly, precisely, efficiently, and comfortably by connecting to the internet through a smartphone.

2.1.4. Environmental Attitude

In the current reality of environmental development, social media such as Facebook, Instagram, Twitter, WhatsApp, etc., greatly influence attitudes toward adolescent behavior based on environmental issues, which will positively impact environmental sustainability and biodiversity (Haryono, 2021). Environmental attitude affects the environmentally conscious behavior of university students (Altinigne & Bilgin, 2015). In this case, if someone aggressively promotes an environmentally friendly lifestyle, considers environmental protection efforts necessary, and is aware of environmental sustainability, the individual concerned has environmental attitudes. Environmental attitude is a psychological movement indicated by analyzing perceptions (or concepts about) the natural environment, including variables that influence its quality, with a tendency to support or not support it (Milfont, 2007).

2.2. Hypothesis Development

2.2.1. The Effect of Environmental Knowledge on Green Behavior

Chan et al. (2014) also said that an individual's understanding of the environment is critical in fostering ecologically responsible conduct. When an individual has significant environmental knowledge, he is more likely to engage in environmentally conscious activity. Environmental knowledge can be measured by indicators including factual knowledge, stored within someone's memory. This refers to an individual's actual comprehension of the product, problem, or object. Subjective knowledge is an individual's view or judgment of what and how much they know about a product, problem, or object. Abstract knowledge relates to issues, environment, problems, causes, and solutions. According to Steg and Vlek (2009), an adaptation of environmental knowledge is that employees know that the conditions around their environment are getting worse and environmental problems are caused by the hotel industry. Employees understand and feel responsible for the environmental issues that occur in their environment. Students carry a challenging commitment to protect the environment by implementing green behavior and developing knowledge, attitudes, and practices in protecting the environment (Erwinsyah, 2022).

H₁: Environmental Knowledge Has an Effect on Green Behavior

2.3.2. The Effect of Environmental Attitude on Green Behavior

A person's attitude toward environmental awareness varies widely and can be beneficial or detrimental. To determine the level of environmental attitude can be seen from the promotion of environmentally friendly lifestyles, environmental protection efforts, and awareness of environmental sustainability (Chan & Lee, 2009). In education, students must be informed about environmental attitudes that play a social role and provide benefits in preserving the environment to create green behavior (Altinigne & Bilgin, 2015).

H₂: Environmental Attitude Has an Effect on Green Behavior

2.3.3. The Effect of Environmental Knowledge on Green Product

People prefer applicable things, one of which is recycling products, which is proof that it can motivate people to behave greenly and buy products. A person's attitude

toward environmental awareness varies greatly. Success is greatly influenced by the importance of environmental issues in society (Utami, 2020).

H₃: Environmental Knowledge Has an Effect on Green Product

2.3.4. The Effect of Environmental Attitude on Green Product

Referring to research by Haryono (2021), green product business actors in Jawa Barat can consider forming an environmental attitude through environmental awareness to encourage higher purchases of green products, especially among generation Z. To form environmental awareness, it is necessary to consider the media that is often used by this generation Z is one of the social media.

H₄: Environmental Attitude Has an Effect on Green Product

2.3.5. The Effect of Green Product on Green Behavior

Wandari and Darma (2020) said the management and application of green behavior characteristics in the millennial generation to boost the desire to use green products. Green behavior characters are about how to manage characters in the millennial generation to produce increased interest in using green products. The green behavior character refers to the awareness of the millennial community in Kota Denpasar to have a substantial amount of concern for the environment. The implementation of the green behavior character is carried out to help the government work together to protect the environment and the community can love and increase consumption of products. Environmentally friendly products, intentions and facilities can support the behavior of the surrounding environment and community leaders in adopting a healthy lifestyle (Fuady et al., 2020).

H₅: Green Product Has an Effect on Green Behavior

2.3.6. The Mediating Role of Green Product on the Effect of Environmental Knowledge on Green Behavior

Steg and Vlek (2009) said that green behavior is behavior to minimize environmental damage, which is a relevant approach to be applied in all tertiary institutions in supporting sustainable development, especially in their environment. A product is said to be environmentally friendly if all aspects within the university, including management students, experience a significant increase in the use of green products in terms of environmental knowledge and attitudes towards the environment. This indicates that the green product variable can be used as a strategy for universities or business people to increase management students' green behavior in environmentally friendly consumption to minimize environmental pollution, with the provision of environmental knowledge and environmental attitudes for students to explore the importance of environmental knowledge and also determine attitudes in choosing green products. This is an essential capital for universities in forming a long-term commitment to students.

H₆: Green Product on the Effect of Environmental Knowledge on Green Behavior

2.3.7. The Mediating Role of Green Product on the Effect of Environmental Attitude on Green Behavior

Environmental concern was found to increase green behavior triggered by awareness and attitude toward environmental conditions, which encourages a person to want to contribute positively to the environment by using green products (Ali & Ahmad, 2016). Someone feels that using green beauty products is good and triggers purchase

intentions as a real contribution that shows a positive attitude toward protecting the environment. This has led them to act conscientiously and buy goods that cause no harm to their environmental attitudes (Elahi & Yaghoubi, 2012). In other words, environmental issues and the preservation of the environment are among the criteria people consider when purchasing goods and services (Juwaheer et al., 2012). Many studies have shown that consumers are willing to pay more for green products (Lee, 2008). Additionally, the innovative role of producers in displaying green products has increased. The number of studies on green consumer behavior during the past decade has increased and contributed to studies on environmental attitudes and their effect on consumers' behavior. This change in consumer behavior has helped the beginning of the green revolution to avoid further harm to the environment (Juwaheer et al., 2012). This attitude is directly influenced by personal experiences and those obtained as a result of contact with other people and media (Do Paco & Raposo, 2009). Environmental attitudes were assessed in terms of the consequences perceived by customers. Environmental consequences can be measured and assessed based on concerns about the impact of a product on the environment, destruction of forests, and the rate of use of energy in the production of a product (Ramayah et al., 2010). The level of environmental concern of a person is associated with his attitude and behavior (Newton et al., 2015).

H₇: Green Product on the Effect of Environmental Attitude on Green Behavior

2.2. Research Framework

Based on the literature review that has been collected, the research that will be conducted is connected to the influence of the mediating role of green products on the impact of environmental knowledge and environmental attitude on student green behavior. The variables used in this research are a combination of several studies that have been conducted previously. These variables include green products, environmental knowledge, environmental attitude, and green behavior. The following is a conceptual framework in Figure 1.

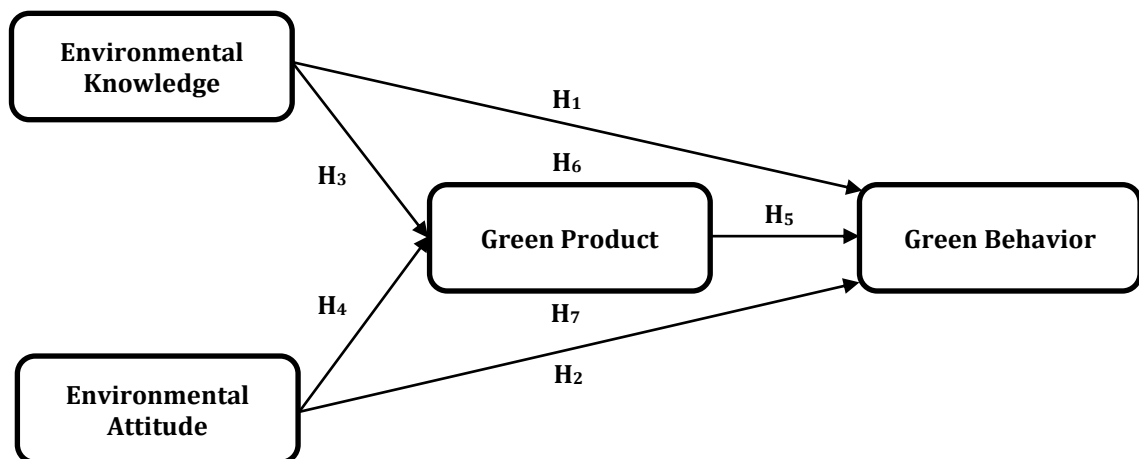


Figure 1. Research Framework

3. Research Method

3.1. Population and Sampling Method

The population of management students class of 2022/2023, in this case, a sample of 30 students was taken. Using samples in Smart PLS does not require extensive databut can be as small as at least 30 samples (Ghozali & Latan, 2015). The sampling technique used in

this research used a purposive sampling technique. According to Sugiyono (2022), purposive sampling is a strategy for selecting samples based on specific criteria. It is used in quantitative research, which does not involve generalizations. This research was conducted at the Department of Management, Faculty of Economics and Business, Universitas Ahmad Dahlan. The choice of this location is based on efforts to implement green products that the university is carrying out as a form of concern for the environment.

3.2. Data Collection Method

In this research, the method used was with the help of a questionnaire. Questionnaires and several Microsoft Office tools for data management, including Excel and Word, will be used to collect data. The questionnaire will include a collection of statements relevant to the investigation. The questionnaire has answer choices in the form of a Likert scale. The Likert scale is a tool for measuring a person's views, opinions, and attitudes toward social occurrences that occur. Likert scale measurement involves offering statements to respondents and providing an answer scale with a score ranging from 1 to 5. This study employs primary data gathered by filling out a questionnaire (Sugiyono, 2022).

3.3. Data Analysis Method

The research hypothesis was tested using a Structural Equation Model (SEM) based on Partial Least Squares (PLS). PLS refers to a component or variant-based SEM. SEM is a statistical study that can examine several associations that are difficult to quantify simultaneously. The validity test evaluates an instrument on a questionnaire to declare it valid, and the outer loading or loading factor value is used to test convergent validity. An indicator is displayed as good or fulfills convergent validity if its outer loading value is more significant than 0.7 (Ghozali & Latan, 2015). Furthermore, reliability tests are designed to assess data consistency. A trustworthy instrument produces the same data when measuring the same thing multiple times. The reliability test was performed by comparing the Cronbach's alpha and composite reliability value. An instrument is considered dependable if the Cronbach's alpha value exceeds 0.6 and composite reliability more than 0.7 (Ghozali & Latan, 2015). Hypothesis testing is carried out by examining the p value. If hypothesis testing yields a p value less than 0.05, the hypothesis is accepted. If it gives a p value more than 0.05, the hypothesis is rejected (Ghozali & Latan, 2015).

4. Results and Discussion

4.1. Validity Test

Table 1. Validity Test Result

Indicator	Environmental Attitude (EA)	Environmental Knowledge (EK)	Green Behavior (GB)	Green Product (GP)
EA 1	0.759			
EA 3	0.823			
EA 4	0.868			
EK 2		0.845		
EK 4		0.923		
GB 1			0.835	
GB 3			0.839	
GB 4			0.783	
GP 3				0.880
GP 4				0.793
GP 5				0.917

Source: Primary Data Processed (2023)

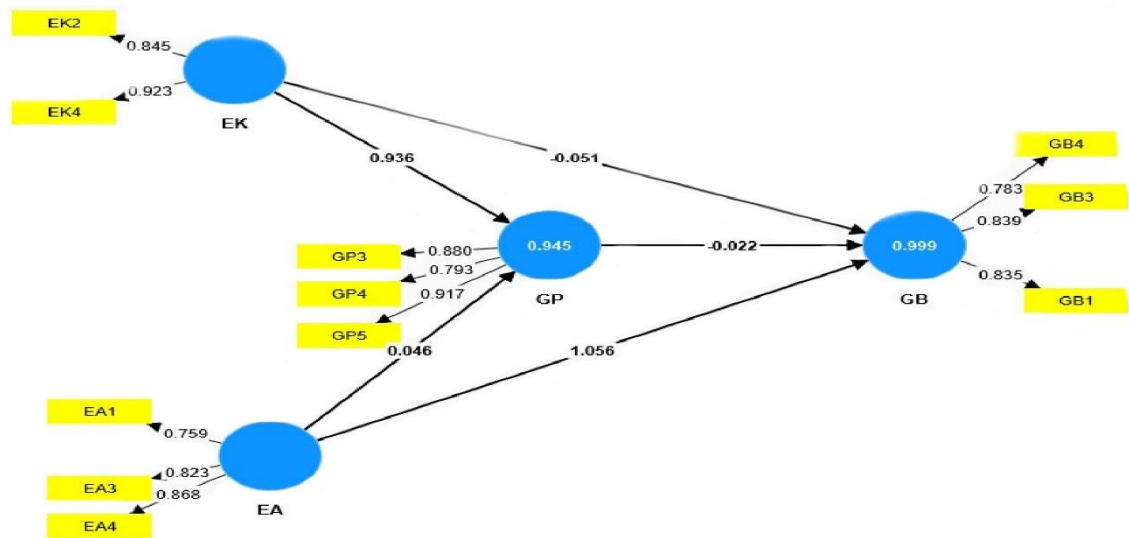


Figure2. Measurement Model

Table 1 and Figure 2 demonstrate the results of validity tests on key research variables used in the study. Some indicators for each variable have been eliminated since their loading factor value is less than 0.7. Each variable is valid when its loading factor value exceeds 0.7.

4.2. Reliability Test

Table 2 shows that the PLS algorithm can be evaluated as a reliability value based on output calculation. An instrument is considered dependable if the Cronbach's alpha value exceeds 0.6 and composite reliability more than 0.7 (Ghozali & Latan, 2015). Based on this value, they were displayed so all variables were declared reliable.

Table 2. Reliability Test Result

Variable	Cronbach's Alpha	Composite Reliability
Environmental Attitude	0.754	0.858
Environmental Knowledge	0.728	0.878
Green Behavior	0.754	0.859
Green Product	0.830	0.830

Source: Primary Data Processed (2023)

4.3. Hypothesis Test

Table 3 displays the results of hypothesis testing. The p value of environmental attitude to green behavior is smaller than 0.05, so the first hypothesis is supported. Then, the p value of environmental attitude to green product is smaller than 0.05, so the second hypothesis is supported. Next, the p value of environmental knowledge to green behavior is smaller than 0.05, so the third hypothesis is supported. Moreover, the p value of environmental knowledge to green product is smaller than 0.05, so the fourth hypothesis is supported. Finally, the p value of green product to green behavior is smaller than 0.05, so the fifth hypothesis is supported. In addition, the indirect effect of environmental attitude to green behavior through green product as a mediator is significant, so the sixth hypothesis is supported. Conversely, the indirect of environmental knowledge to green behavior through green product as a mediator is significant, so the seventh hypothesis is supported.

Table 3. Hypothesis Test Result

Hypothesis			Original Sample	Sample Mean	Standard Deviation	T Statistic	P Value
Environmental Attitude → Green Behavior			1.056	1.057	0.036	29.201	0.000
Environmental Attitude → Green Product			0.327	0.320	0.081	4.107	0.000
Environmental Knowledge → Green Behavior			0.123	0.120	0.044	2.820	0.005
Environmental Knowledge → Green Product			0.936	0.924	0.075	20.370	0.000
Green Product → Green Behavior			0.176	0.174	0.094	2.684	0.011
Environmental Attitude → Green Product → Green Behavior			-0.125	-0.131	0.038	3.320	0.001
Environmental Knowledge → Green Product → Green Behavior			-0.138	-0.148	0.053	2.577	0.011

Source: Primary Data Processed (2023)

4.4. Discussion

4.4.1. The Effect of Environmental Knowledge to Green Behavior

Environmental knowledge has an effect on green behavior. The results of the analysis are in line with Steg and Vlek (2009) research that adapting environmental knowledge will lead to green behavior so that students know and feel responsible for environmental problems that occur in their environment.

4.4.2. The Effect of Environmental Attitude to Green Behavior

Environmental attitude has an effect on green behavior. The results of the analysis are in line with the findings of Fawehinmi et al. (2020). In general, environmental attitudes can be described as having a positive impression of universities that have implemented environmentally friendly practices, and students believe that the impact of employee behavior on the environment should be a common concern.

4.4.3. The Effect of Environmental Knowledge to Green Product

Environmental knowledge has an effect on green product. The analysis results align with the study conducted by Utami (2020) that students prefer applicable things, including using green products. This is evidence that it can motivate them to behave environmentally friendly and buy products. A person's attitude towards environmental awareness varies greatly, as does concern for the environment.

4.4.4. The Effect of Environmental Attitude to Green Product

Environmental attitudes has an effect on green product. The results of this analysis align with the study conducted by Haryono (2021) that universities can consider forming an environmentally friendly attitude through environmental awareness to encourage higher purchases of environmentally friendly products, especially among students. To create environmental awareness, it is necessary to consider the often-used media, namely social media.

4.4.5. The Effect of Green Product to Green Behavior

Green product has an effect on green behavior. The analysis results align with the study conducted Fuady et al. (2020) that environmentally friendly products, intentions, and facilities can support environmental behavior, which can be interpreted as helping students know and apply concern for the environment and protect it.

4.4.6. The Mediating Role of Green Product on the Effect of Environmental Knowledge to Green Behavior

Green product has a mediating effect on the effect of environmental knowledge and environmental attitude on green behavior. The results of this analysis align with the study conducted Steg and Vlek (2009), who stated that green behavior is behavior to minimize environmental damage, which is a relevant approach to be applied in all tertiary institutions in supporting sustainable development, especially in their environment. A product is said to be environmentally friendly if all aspects within the university, including management students, experience a significant increase in the use of green products in terms of environmental knowledge and attitudes towards the environment. This indicates that the green product variable can be used as a strategy for universities or business people to increase management students' green behavior in environmentally friendly consumption to minimize environmental pollution, with the provision of environmental knowledge and environmental attitudes for students to explore the importance of environmental knowledge and also determine attitudes in choosing green products. This is an essential capital for universities in forming a long-term commitment to students.

4.4.7. The Mediating Role of Green Product on the Effect of Environmental Attitude to Green Behavior

Green products have a mediating effect on the effect of environmental attitudes, and environmental attitudes on green behavior. Environmental attitude is defined as a set of beliefs, desires, emotions, and behavioral intentions related to the environment (Abbasi et al., 2013) that might lead to an intention to do something (Ramayah et al., 2010). An environment-friendly attitude is defined as an attitude in which environmental consequences are considered. Bertrandias and Gambier (2014) conducted research to achieve a better understanding of the social aspects of green purchase behavior. They examined the effects of the environmental concerns of others on green behavior. The results showed that the environmental concerns of others reduce the likelihood of selecting products with low environmental impact. Their research results indicated that customers who had higher levels of concern about the environment and fewer doubts had more positive attitudes and behavioral control, and thus were more motivated to have a stronger intention for green products. In addition, utilitarian interests, natural experiences, and environmental concerns have an impact on attitudes toward the brand. In addition, increased temperature has a direct impact on green behavior, but it does not affect attitudes toward green behavior. Kim (2011) pointed out that, consumers with high environmental attitude have an intention to buy products that are considered environmental friendly.

5. Conclusion

The implication of this research is that green behavior is influenced by environmental knowledge, environmental attitude and green products. So that it can be used as a guide for decision makers as green marketing strategies that are useful in implementing

environmentally friendly behavior in students. The results of this theoretical model explain that increasing environmental knowledge and attitude directly influence the implementation of green behavior or through green products, which have a partial influence. This suggests that the green product variable might be utilized as a strategy by universities or businesses to enhance students' green behavior in environmentally friendly consumption to reduce environmental damage. This research contributes to universities providing information to help their development, scientifically providing descriptions and ideas for scientific development efforts using green marketing strategies, and further research can use variables not included in this research.

References

- Abbasi, C., Enayati, G., & Rahbari, M. (2013). Factors influencing the green purchasing behavior of Iranian Students (Case study: Students of Islamic Azad University of Qazvin). *Journal of Management*, 9(3), 36-49.
- Ajzen, I. (2011). The theory of planned behaviour: Reactions and reflections. *Psychology and Health*, 26(9), 1113–1127. <https://doi.org/10.1080/08870446.2011.613995>
- Ali, A., & Ahmad, I. (2016). Environment friendly products: Factors that influence the green purchase intentions of Pakistani consumers. *Pakistan Journal of Engineering, Technology & Science*, 2(1).
- Altinigne, N., & Bilgin, Z. (2015). The effect of environmental attitudes on environmentally conscious behavior of university students. *145th International Marketing Trends Conference, Paris*.
- Ansu-Mensah, P. (2021). Green product awareness effect on green purchase intentions of university students: An emerging market's perspective. *Future Business Journal*, 7(1), 1–13. <https://doi.org/10.1186/s43093-021-00094-5>
- Bertrandias, L., & Elgaaied-Gambier, L. (2014). Others' environmental concern as a social determinant of green buying. *Journal of Consumer Marketing*, 31(6/7), 417-429. <https://doi.org/10.1108/JCM-05-2014-0966>
- Bhalerao, V. R., & Deshmukh, D. A. (2015). Green marketing: Greening the 4 P of Marketing. *International Journal of Knowledge and Research in Management & E-Commerce*, 5(2).
- Capra, F. (2007). Sustainable living, ecological literacy, and the breath of life. *Canadian Journal of Environmental Education*, 12.
- Chan, E. H. W., & Lee, G. K. L. (2009). Design considerations for environmental sustainability in high density development: A case study of Hong Kong. *Environment, Development and Sustainability*, 11(2). <https://doi.org/10.1007/s10668-007-9117-0>
- Chan, E. S. W., Hon, A. H. Y., Chan, W., & Okumus, F. (2014). What drives employees' intentions to implement green practices in hotels? The role of knowledge, awareness, concern and ecological behaviour. *International Journal of Hospitality Management*, 40. <https://doi.org/10.1016/j.ijhm.2014.03.001>
- Chen, Y. S., Chang, C. H., Yeh, S. L., & Cheng, H. I. (2015). Green shared vision and green creativity: The mediation roles of green mindfulness and green self-efficacy. *Quality and Quantity*, 49(3). <https://doi.org/10.1007/s11135-014-0041-8>
- Chopra, S., & Meindl, P. (2007). Supply chain management: Strategy, planning & operation. *Das Summa Summarum des Management*. https://doi.org/10.1007/978-3-8349-9320-5_22
- Dagher, G. K., Itani, O., & Kassar, A. N. (2015). The impact of environment concern and attitude on green purchasing behavior: Gender as the moderator. *Contemporary Management Research*, 11(2). <https://doi.org/10.7903/cm.r.13625>

- Dangelico, R. M., & Vocalelli, D. (2017). Green marketing: An analysis of definitions, strategy steps, and tools through a systematic review of the literature. *Journal of Cleaner Production*, 165. <https://doi.org/10.1016/j.jclepro.2017.07.184>
- Do Paco, A., & Raposo, M. (2009). "Green" segmentation: An application to the Portuguese consumer market. *Marketing Intelligence & Planning*, 27(3), 364-379. <https://doi.org/10.1108/02634500910955245>
- Elahi, S., & Yaghubi, R. (2012). The introduction of green marketing tools and their impact on consumer purchasing behavior. *Improvement and Transformation Management Studies*, 21(5), 167-168.
- Erwinsyah, E. (2022). Environmental knowledge, attitudes, and practices for behavior change of university students: The case of Indonesia. *Journal of Steam Education*, 5(2), 181-192. <https://doi.org/10.55290/steam.1075516>
- Fawehinmi, O., Yusliza, M. Y., Kasim, W. Z. W., Mohamad, Z., & Halim, M. A. S. A. (2020). Exploring the interplay of green human resource management, employee green behavior, and personal moral norms. *SAGE Open*, 10(4). <https://doi.org/10.1177/2158244020982292>
- Fuady, I., Prasanti, D., & Indriani, S. S. (2020). Penerapan teori plan behavior: Faktor yang mempengaruhi niat perilaku hidup bersih dan sehat. *Jurnal Berkala Kesehatan*, 6(1). <https://doi.org/10.20527/jbk.v6i1.8638>
- Ghozali, I., & Latan, H. (2015). *Partial least squares konsep, teknik dan aplikasi menggunakan program Smart PLS 3.0 untuk penelitian empiris*. Badan Penerbit Universitas Diponegoro.
- Goleman, D., Bennett, L., & Barlow, Z. (2012). *Eco literate: How educators are cultivating emotional, social and ecological intelligence*. John Wiley & Sons.
- Grindsted, T. S. (2015). Sustainable universities from declarations on sustainability in higher education to national law. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.2697465>
- Haryono, A. T. (2021). Pengaruh environmental knowledge dan environmental attitude terhadap pro-environmental purchahasing behaviour (Sebuah study tentang perilaku konsumen gen Z). *AKSES: Jurnal Ekonomi Dan Bisnis*, 16(2). <https://doi.org/10.31942/akses.v16i2.5552>
- Jamal, F. N., Othman, N. A., Fitriani, D., Rohmah, W., Leuveano, R. A. C., & Fahmi, A. A. (2023). Integrated model of brand trust for green marketing. *International Journal of Sustainable Development and Planning*, 18(6). <https://doi.org/10.18280/ijstdp.180617>
- Jamal, F. N., Othman, N. A., Nizam, N. Z., Jelita, A., Rohmah, W., & Dzakiyullah, N. R. (2022). Green marketing: Reviewing aspect of communication tools. *International Journal of Sustainable Development and Planning*, 17(4). <https://doi.org/10.18280/ijstdp.170405>
- Juwaheer, T. D., Pudaruth, S., & Noyaux, M. M. E. (2012). Analysing the impact of green marketing strategies on consumer purchasing patterns in Mauritius. *World Journal of Entrepreneurship, Management and Sustainable Development*, 8(1), 36-59. <https://doi.org/10.1108/20425961211221615>
- Katz, I. M., Rauvola, R. S., Rudolph, C. W., & Zacher, H. (2022). Employee green behavior: A meta-analysis. *Corporate Social Responsibility and Environmental Management*, 29(5). <https://doi.org/10.1002/csr.2260>
- Keraf, A. S. (2014). *Filsafat lingkungan hidup: Alam sebagai sebuah sistem kehidupan bersama Fritjof Capra*. Kanisius Publisher.
- Kim, H. Y., & Chung, J. E. (2011). Consumer purchase intention for organic personal care products. *Journal of Consumer Marketing*, 28(1), 40-47. <https://doi.org/10.1108/07363761111101930>
- Kim, Y. (2011). Understanding green purchase: The influence of collectivism, personal values and environmental attitudes, and the moderating effect of perceived consumer effectiveness. *Seoul Journal of Business*, 17(1), 65.
- Kotler, P., & Armstrong, G. (2017). *Principles of marketing: Seventeenth edition*. Pearson.

- Lee, K. (2008). Opportunities for green marketing: Young consumers. *Marketing Intelligence & Planning*, 26(6), 573-586. <https://doi.org/10.1108/02634500810902839>
- Milfont, T. L. (2007). Psychology of environmental attitudes: A cross-cultural study of their content and structure. (*Doctoral dissertation*, The University of Auckland).
- Monswé, T. P. Y., Benedict, G. C. D., & Ko, D. R. (2004). What drives consumers to shop online? A literature review. *International Journal of Service Industry Management*, 15(1). <https://doi.org/10.1108/09564230410523358>
- Newton, J. D., Tsarenko, Y., Ferraro, C., & Sands, S. (2015). Environmental concern and environmental purchase intentions: The mediating role of learning strategy. *Journal of Business Research*, 68(9), 1974-1981. <https://doi.org/10.1016/j.jbusres.2015.01.007>
- Peattie, K., & Peattie, S. (1995). Sales promotion: A missed opportunity for services marketers? *International Journal of Service Industry Management*, 6(1), 22-39. <https://doi.org/10.1108/09564239510078830>
- Polonsky, M. J. (1994). An introduction to green marketing. *Electronic Green Journal*, 1(2). <https://doi.org/10.5070/g31210177>
- Ramayah, T., Lee, J. W. C., & Mohamad, O. (2010). Green product purchase intention: Some insights from a developing country. *Resources, Conservation and Recycling*, 54(12), 1419-1427. <https://doi.org/10.1016/j.resconrec.2010.06.007>
- Steg, L., & Vlek, C. (2009). Encouraging pro-environmental behaviour: An integrative review and research agenda. *Journal of Environmental Psychology*, 29(3). <https://doi.org/10.1016/j.jenvp.2008.10.004>
- Sugiarto, A., & Gabriella, D. A. (2020). Kesadaran dan perilaku ramah lingkungan mahasiswa di kampus. *Jurnal Ilmu Sosial Dan Humaniora*, 9(2). <https://doi.org/10.23887/jish-undiksha.v9i2.21061>
- Sugiyono. (2022). *Metode penelitian kuantitatif, kualitatif, dan R&D*. Alfabeta.
- Utami, K. S. (2020). Green consumers behavior: Perilaku konsumen dalam pembelian produk ramah lingkungan. *Jurnal Maksipreneur: Manajemen, Koperasi, Dan Entrepreneurship*, 9(2). <https://doi.org/10.30588/jmp.v9i2.499>
- Wandari, N. K. M. A., & Darma, G. S. (2020). Pengelolaan karakter green behavior pada generasi milenial dalam meningkatkan minat penggunaan green product. *Jurnal Akuntansi Dan Manajemen*, 17(02). <https://doi.org/10.36406/jam.v17i02.305>
- Zsóka, Á., Szerényi, Z. M., Széchy, A., & Kocsis, T. (2013). Greening due to environmental education? Environmental knowledge, attitudes, consumer behavior and everyday pro-environmental activities of Hungarian high school and university students. *Journal of Cleaner Production*, 48. <https://doi.org/10.1016/j.jclepro.2012.11.030>