



# Leveraging Anthropomorphism to Enhance Pro-Environmental Attitudes and Green Product Purchase Intentions

Fansuri Munawar

Faculty of Economics and Business, Universitas Widyatama, Bandung, Indonesia  
fansuri.munawar@widyatama.ac.id

**Abstract.** Currently, public awareness of the importance of environmentally friendly products still requires greater attention, particularly in major urban areas. Companies play a critical role in educating and informing the public about eco-friendly products and their benefits. However, to enhance consumer intentions to purchase such products, further research is needed to identify the factors influencing consumer behavior. This study aims to analyze the role of anthropomorphism in promoting pro-environmental attitudes and green product purchase intentions. Additionally, it examines how pro-environmental attitudes mediate the influence of anthropomorphism on green product purchase intentions. A sample of 200 respondents from the city of Bandung was selected for this research, using structural equation modeling based on partial least squares (SEM-PLS), with SmartPLS 3.0 employed as the data analysis tool. The results indicate that anthropomorphism positively influences both pro-environmental attitudes and the intention to purchase green products directly. Moreover, pro-environmental attitudes positively mediate the relationship between anthropomorphism and green product purchase intentions. These findings suggest that anthropomorphism can serve as an effective communication tool for influencing consumer behavior and increasing green product purchase intentions. Therefore, this study's results can assist companies in designing more effective advertising and promotional campaigns to raise public awareness and interest in environmentally friendly products.

**Keywords:** Anthropomorphism, Pro-environmental attitude, Purchase Intention, Green Product

## 1. INTRODUCTION

The declining environmental quality problem has become an essential concern to the global community, including in Indonesia. Consumer consumption patterns are one of the leading causes of environmental damage due to exploiting natural resources to achieve higher profits for the industry. The company seeks to include environmental issues in its marketing strategy by offering environmentally friendly products and corporate social responsibility related to the natural environment. Environmental

© The Author(s) 2024

V. Mardiansyah and R. A. E. V. Targa Sapanji (eds.), *Proceedings of the 1st Widyatama International Conference on Management, Social Science and Humanities (ICMSSH 2024)*, Advances in

Social Science, Education and Humanities Research 886,

[https://doi.org/10.2991/978-94-6463-608-6\\_15](https://doi.org/10.2991/978-94-6463-608-6_15)

problems are increasingly urgent and can impact human survival in the future. The company's role is to provide an understanding of the value of green to society as consumers and users of environmentally friendly products. Companies must provide information about green products and raise awareness about environmental conditions that are increasingly threatened, which is also the duty of the government. There is an assumption that environmentally friendly products are lower quality than ordinary products. Therefore, efforts are needed to change people's perceptions of these environmentally friendly products through anthropomorphism {Formatting Citation}[1].

Anthropomorphism is human nature and character given to non-human entities such as nature, animals, goods, and brands. Marketers often use anthropomorphism to give human characteristics to products because consumers are more easily connected with products with human characteristics. For example, products can be assigned human-like characteristics to make them memorable and convey desirable qualities. Some products are even considered to have a soul or genetic code like humans [2]. Anthropomorphism can increase user engagement, encourage engaging interactions, and influence consumer decision-making behavior [3].

A pro-environmental attitude is a general tendency that is formed or learned when a person responds consistently to environmental conditions, which can be in the form of likes or dislikes based on their perceptions and knowledge of environmental issues [4]. Then, according to [5] explains that pro-environmental consumer attitudes influence green consumer decisions. The concept of behavior is closely related to the idea of belief, which is closely related to the concept of attitude. Attitudes can reflect consumer feelings towards an object and explain consumer beliefs about the characteristics and advantages of the object. Therefore, consumer awareness about the product, quality, and advantages is critical to maintaining their trust.

Based on research, the anthropomorphism found in an object positively correlates with pro-environmental consumer attitudes [6]. Experimental evidence shows that manipulating anthropomorphism can increase pro-environmental consumer attitudes. This is due to human traits in non-human objects, so individuals can reflect on their behavior and believe that these objects have human-like consciousness. In this case, anthropomorphism can lead to social bonds with objects and ultimately affect consumer attitudes.

The literature review results show that anthropomorphism can influence the purchasing behavior of potential consumers toward environmentally friendly products. This is supported by previous research that anthropomorphism in mass media advertisements such as magazines, television, and radio significantly influences consumer buying behavior [7]. This finding is reinforced by the study of [8], which explains that anthropomorphism is a simple description of non-human entities with human characteristics. In two experiments, the use of anthropomorphism as a marketing tactic shows that consumers are more likely to choose hotel advertisements that use anthropomorphism than those that do not use anthropomorphism, so it can be said that the role of anthropomorphism can influence consumer buying behavior [8].

According to [9] pro-environmental attitudes significantly influence the desire to buy green products. This means that when a person or consumer cares more about

the environment, they are more likely to repurchase environmentally friendly products. In addition, consumer attitudes also significantly impact their desire to buy environmentally friendly products. This suggests that customers with strong environmental values prefer green products and may be willing to pay more.

Based on the results of a systematic review from [6], it can be concluded that anthropomorphism can strengthen the intention to use green products through a pro-environmental attitude. This is because when consumers are exposed to an anthropomorphic object, they will form an attitude toward it, influencing purchase intention. According to [10], consumer responses to anthropomorphism positively relate to pro-environmental attitudes and significantly affect purchase intentions. Posters with environmental themes that add human characteristics to objects can also influence people to behave pro-environmentally [11].

The results of previous research still have limitations in examining the role of anthropomorphism in the Indonesian context. In addition, previous studies only conducted limited experimental studies examining anthropomorphism's role in consumer behavior. Therefore, this study aims to fill the gap in the use of anthropomorphism in increasing the purchase intention of environmentally friendly products more broadly. In addition, this study also wanted to examine the role of pro-environmental attitudes in mediating the relationship between anthropomorphism and green product purchase intentions. Therefore, it is essential to examine the effect of anthropomorphism on pro-environmental attitudes and its impact on green product purchase intentions.

## 2. METHOD

This study examines the role of anthropomorphism, pro-environmental attitudes, and green product purchasing intentions. This study's primary data was obtained by asking respondents to answer several questions in the research instrument. Respondents used in this study were taken from 200 samples of consumers who had used environmentally friendly products in Bandung and its surroundings and lived in the area. This research analyzes data using Partial Least Squares (PLS) Structural Equation Modeling using SmartPLS 3.0 software. The research instruments include anthropomorphism variables, pro-environmental attitudes, and green product purchasing intentions. Respondents were asked to fill out a questionnaire using a seven-point Likert scale, where values from strongly disagree to agree strongly were used to measure the research construct. The validity and reliability of the research instruments were tested through factor loading, average variance extract or AVE, convergent validity, discriminant validity, Cronbach alpha, and composite reliability [12]. In addition, factor weight testing is also carried out to ensure that each question item is classified in each variable. Based on the theoretical framework and previous research conducted by [6]; [7]; [8]; [9]; [10]; and [11] can be hypothesized as follows:

- H1: There is a positive influence between anthropomorphism and pro-environmental attitudes
- H2: There is a positive influence between anthropomorphism and the intention to buy green products
- H3: There is a positive influence between pro-environmental attitudes on green product purchasing intentions

H4: Pro-environmental attitudes mediate the relationship between anthropomorphism and green product purchasing intentions

### 3. RESULT AND DISCUSSION

Based on respondent's descriptive statistic were taken from 200 samples of consumers who had used environmentally friendly products, it was explained that the information provided by the respondents was broken down into several categories, namely gender, age, frequency of seeing environmentally friendly advertisements, and the environmentally friendly products used. Most respondents (68.5%) were women, and the majority (58.0%) were aged 21-25. Most respondents (49.0%) also stated that they often see eco-friendly advertisements. The types of environmentally friendly products most used by respondents were eating and drinking utensils (43.0%). In addition, the results of the descriptive statistics show that the values of the research variables anthropomorphism, pro-environmental attitudes, and intention to buy green products are pretty high, with respective values of 5.21, 5.68, and 5.29. This shows that the respondents gave a good assessment of the application of anthropomorphism, pro-environmental attitudes, and the intention to buy green products.

Table 1. Validity Test

Construct	Factor Weights	t-statistics	p-values	Description
<b>Anthropomorphism (AVE=0.668)</b>				
A1	0.815	25.947	0.000	Valid
A2	0.897	47.849	0.000	Valid
A3	0.820	19.413	0.000	Valid
A4	0.769	16.708	0.000	Valid
A5	0.871	34.203	0.000	Valid
A6	0.716	11.182	0.000	Valid
<b>Pro-Environmental Attitude (AVE=0.558)</b>				
SPL1	0.733	13.550	0.000	Valid
SPL2	0.741	13.331	0.000	Valid
SPL3	0.727	12.453	0.000	Valid
SPL4	0.786	28.734	0.000	Valid
<b>Purchase Intention (AVE=0.732)</b>				
IP1	0.840	30.095	0.000	Valid
IP2	0.847	18.320	0.000	Valid
IP3	0.837	31.853	0.000	Valid
IP4	0.898	47.923	0.000	Valid

In Table 1, a validity test was carried out to determine whether the research instrument used was valid or not using the SmartPLS 3.0 program. The independent variable in this study is anthropomorphism, while the dependent variable is pro-environmental attitudes and green product purchasing intentions. Convergent validity is used to evaluate the validity of each variable through the evaluation of cross-loading factors, where each factor weight must be greater than 0.5. The results of this evaluation are described in Table 1, which shows the constructs, factor weights, t-statistic values, p-values, and descriptions. Based on the findings of the validity test, all indicators of the anthropomorphism, pro-environmental attitude, and purchase intention of green products have a factor weight greater than 0.5 and a t-statistic value greater than t-table

(> 1.97), which indicates that the research instrument used is valid and can be continued to the next stage.

In this study, a validity test was carried out to determine whether the research instrument used was valid or not using the SmartPLS 3.0 program. The independent variable in this study is anthropomorphism, while the dependent variable is pro-environmental attitudes and green product purchasing intentions. Convergent validity is used to evaluate the validity of each variable through the evaluation of cross-loading factors, where each factor weight must be greater than 0.5. The results of this evaluation are described in Table 1, which shows the constructs, factor weights, t-statistic values, p-values, and descriptions. Based on the findings of the validity test, all indicators of the anthropomorphism, pro-environmental attitude, and purchase intention of green products have a factor weight greater than 0.5 and a t-statistic value greater than t-table (> 1.97), which indicates that the research instrument used is valid and can be continued to the next stage.

The R-square value obtained using PLS is listed in Table 2, where the pro-environmental attitude variable has an R-Square value of 0.108, and the green product purchase intention variable has an R-Square value of 0.510. That is, anthropomorphism can explain 10.8% of pro-environmental attitudes and 51.0% of green product purchasing intentions, while other factors outside the research model can influence the rest.

Table 2. R-Square

<b>Construct</b>	<b>R-Square</b>	<b>R Square Adjusted</b>
Pro-Environmental Attitude	0.108	0.103
Purchase Intention	0.510	0.505

The data processing results using SmartPLS 3.0 have shown the results of the research hypothesis test in Table 3. Based on the findings of this study, it can be concluded that the anthropomorphism variable positively influences pro-environmental attitudes with an estimated value of 0.329 and a significance level of less than 0.01 (t - statistics 3,554). Therefore, it can be stated that this study supports hypothesis 1. Furthermore, the research findings show that the anthropomorphism variable also positively affects the intention to purchase green products with an estimated value of 0.195 and a significance level of less than 0.01 (t-statistic 3.146). This indicates that the role of anthropomorphism has a positive influence on the purchase intention of green products, and this study supports hypothesis 2.

Furthermore, the findings show that pro-environmental attitudes also positively affect purchase intentions of green products, with an estimated path analysis value of 0.626 and a significance level of less than 0.01 (t-statistic 11.478). This indicates a positive and significant influence between the effectiveness of green advertising and the purchase intention of green products, and this study supports hypothesis 3. Finally, the research findings also show that pro-environmental attitudes mediate the effect of anthropomorphism on green product purchase intentions with an estimated path analysis value of 0.206 and a significance level of less than 0.01 (t-statistic 4.469). Therefore, it can be concluded that anthropomorphism can indirectly influence the intention to purchase environmentally friendly products through the effectiveness of green advertising, and this study supports hypothesis 4.

Tabel 3 Hypothesis Testing Result

Hipotesis	Original Sample Mean	T-Statistik	Description	
<b>Direct Effect</b>				
H1: Anthropomorphism → Pro-Environmental Attitude	0,329	0,345	3,554	Accepted**
H2: Anthropomorphism → Purchase Intention	0,195	0,208	3,146	Accepted**
H3: Pro-Environmental Attitude → Purchase Intention	0,626	0,621	11,478	Accepted**
<b>Indirect Effect (Mediation)</b>				
H4: Anthropomorphism → Pro-Environmental Attitude → Purchase Intention	0,206	0,211	4,469	Accepted**

Note: \*\*sig. < 0,01

The results of this study found that anthropomorphism has a positive impact on pro-environmental attitudes. This means that the higher the role of anthropomorphism used by marketers, the more pro-environmental attitudes of consumers towards green products will increase. Therefore, it can be concluded that anthropomorphism positively influences consumer attitudes. According to [10], anthropomorphism increases consumer attitudes towards non-human objects, especially moral attitudes towards nature. When an object is designed to have human-like properties or characteristics, it will encourage feelings related to objects used by non-humans. In addition, consumer's attitude towards environmental issues increases when presented with anthropomorphic messages about ecosystem challenges [13]. For example, presenting a picture of a sad tree can evoke a strong attitude response from consumers and can persuade them to contribute to nature [10]. Besides that, anthropomorphism can strengthen consumers' intentions to use green products and their attitudes toward them [6].

In this study, it is also seen that anthropomorphism can have a positive impact on the purchase intention of green products. This is confirmed by [7] which state that anthropomorphism in advertisements such as multimedia magazines, television, and radio can significantly affect consumer buying behavior. In line with that, anthropomorphism describes human characteristics in non-human objects [8]. The study shows that anthropomorphic tactics in hotel advertisements can increase consumer preference for these advertisements, so anthropomorphism can influence consumer purchase intentions. This finding is also supported by the research of [14] who examined the effect of anthropomorphism on buying behavior in online stores and found that anthropomorphism can encourage buying behavior for environmentally friendly products. The findings of [15] also show that anthropomorphism can significantly positively affect consumer feelings, attitudes towards advertisements, brands, and buying behavior.

The findings of this study also show that pro-environmental attitudes positively influence green product purchasing intentions. This opinion is supported by [16] who states that consumer attitudes toward the environment significantly influence green purchasing behavior. That is, consumers with a pro-environmental attitude tend to be

more interested in buying environmentally friendly products. According to [17] stated the same thing that consumer attitudes have a significant influence on green buying behavior, while behavioral control, consumer effectiveness, and subjective norms also have a positive impact on green buying behavior. Consumers with a strong attitude towards green products tend to be more inclined to buy green products [18]. Therefore, consumer attitudes can positively and significantly influence green product buying behavior. Then, consumer purchase intentions are influenced by their perceptions of product quality and their attitudes toward these products, so consumer attitudes are a determining factor in purchasing behavior [19].

Based on the findings of this study, it was found that pro-environmental attitudes can play an essential role in mediating the relationship between the use of anthropomorphism and the purchase intention of green products. An experimental study by [20] shows that anthropomorphism can improve consumer attitudes and increase purchase intentions. Therefore, anthropomorphism can be considered an effective communication tool for influencing consumer attitudes and purchase intentions to buy environmentally friendly products. In order to make effective use of green advertising, companies can use the appeal of anthropomorphism as part of their marketing strategy. Anthropomorphism could be an effective tool for strengthening intentions to use environmentally friendly products by developing a pro-environmental attitude [6]. This research states that when consumers are exposed to anthropomorphic objects, they will form a positive attitude toward them, ultimately affecting the desire to buy the product. Besides that, consumer responses to anthropomorphism were positively correlated with pro-environmental attitudes and significantly influenced purchase intentions for green products [10]. Thus, it can be concluded that anthropomorphism in green product advertising can effectively influence consumer attitudes and purchase intentions.

#### 4. CONCLUSION

In this study, we aim to explore the role of anthropomorphism in influencing attitudes and purchase intentions of green products and the mediating role of pro-environmental attitudes in the relationship between anthropomorphism and purchase intentions. Our findings show that anthropomorphism can positively influence pro-environmental attitudes and green product purchasing intentions. Furthermore, we found that pro-environmental attitudes can mediate the relationship between anthropomorphism and the purchase intention of green products. Therefore, the results of this study indicate that anthropomorphism can be an effective tool to attract consumers' attention and influence their green buying behavior by developing pro-environmental attitudes. The results of this study imply that marketers should consider using anthropomorphism in their advertising to increase pro-environmental attitudes and attract consumers to buy eco-friendly products.

#### REFERENCES

- 1 D. Laksmidewi and Y. Soelasih, "Antropomorfisme: Konsumen Pada Alam Dan

- Pengaruhnya Pada Sikap Terhadap Program Green Cause-Related Marketing,” *J. Ilm. Manaj. Mix*, vol. 6, no. 1, pp. 1–13, 2016.
- 2 P. Aggarwal and A. L. McGill, “When brands seem human, do humans act like brands? Automatic behavioral priming effects of brand anthropomorphism,” *J. Consum. Res.*, vol. 39, no. 2, pp. 307–323, 2012, doi: 10.1086/662614.
- 3 M. C. Han, “The Impact of Anthropomorphism on Consumers’ Purchase Decision in Chatbot Commerce,” *J. Internet Commer.*, vol. 20, no. 1, pp. 46–65, 2021, doi: 10.1080/15332861.2020.1863022.
- 4 Lukiarti and Mi. Ming, “PENGARUH KEPEDULIAN LINGKUNGAN DAN SIKAP TERHADAP MINAT BELI PRODUK HIJAU (Studi Kasus Pada Konsumen Produk Hijau di Kabupaten Rembang),” *BBM Bul. Bisnis dan Manaj.*, vol. 5, no. 1, pp. 15–28, 2019.
- 5 Sumarwan, “Perilaku Konsumen: Teori dan Penerapannya dalam Pemasaran,” *Bogor Ghalia Indones.*, p. 468, 2011.
- 6 M. O. Williams, L. Whitmarsh, and D. Mac Giolla Chríost, “The association between anthropomorphism of nature and pro-environmental variables: A systematic review,” *Biol. Conserv.*, vol. 255, 2021, doi: 10.1016/j.biocon.2021.109022.
- 7 S. Agrawal, U. Khandelwal, and N. Bajpai, “Anthropomorphism in advertising: the effect of media on audience attitude,” *J. Mark. Commun.*, vol. 27, no. 8, pp. 799–815, 2021, doi: 10.1080/13527266.2020.1771403.
- 8 S. Lee and H. Oh, “Anthropomorphism and its implications for advertising hotel brands,” *J. Bus. Res.*, vol. 129, pp. 455–464, 2021, doi: 10.1016/j.jbusres.2019.09.053.
- 9 N. Ain and R. T. Ratnasari, “Pengaruh Citra Merek Melalui Sikap Konsumen Terhadap Niat Beli Ulang Pada Produk Busana Muslim Zoya di Surabaya,” *J. Ekon. Syariah Teor. dan Terap.*, vol. 2, no. 7, p. 553, 2015, doi: 10.20473/vol2iss20157pp553-569.
- 10 D. Laksmidewi and Y. Soelasih, “Anthropomorphic green advertising: How to enhance consumers’ environmental concern,” *DLSU Bus. Econ. Rev.*, vol. 29, no. 1, pp. 72–84, 2019.
- 11 H. K. Ahn, H. J. Kim, and P. Aggarwal, “Helping Fellow Beings: Anthropomorphized Social Causes and the Role of Anticipatory Guilt,” *Psychol. Sci.*, vol. 25, no. 1, pp. 224–229, 2014, doi: 10.1177/0956797613496823.
- 12 I. Ghozali, *Structural Equation Modeling, Metode Alternatif dengan Partial Least Square (PLS)*, Edisi 4. Semarang: Badan Penerbit Universitas Diponegoro, 2014.
- 13 T. Kim-Pong, L. Sau-Lai, and C. M. Manchi, “Saving Mr. Nature: Anthropomorphism enhances connectedness to and protectiveness toward nature,” *J. Exp. Soc. Psychol.*, vol. 49, no. 3, pp. 514–521, 2013.
- 14 S. Wölfl, J. Feste, and L. Peters, “Is somebody there? Anthropomorphic website design and intention to purchase from online stores,” *25th Am. Conf. Inf. Syst. AMCIS 2019*, 2019.
- 15 R. Gupta and K. Jain, “The impact of anthropomorphism on purchase intention of smartphones: A study of young indian consumers,” *Indian J. Mark.*, vol. 49, no. 5, pp. 7–20, 2019, doi: 10.17010/ijom/2019/v49/i5/144021.
- 16 Y. Kim, “Understanding Green Purchase : The Influence of Collectivism , Personal Values and Environmental Attitudes , and the Moderating Effect of Perceived Consumer Effectiveness,” *Seoul J. Bus.*, vol. 17, no. 1, pp. 65–92, 2011.
- 17 W. Zhuang, X. Luo, and M. U. Riaz, “On the Factors Influencing Green Purchase Intention: A Meta-Analysis Approach,” *Front. Psychol.*, vol. 12, 2021, doi: 10.3389/fpsyg.2021.644020.
- 18 R. Munamba and C. Nuangjamnong, “The Impact of Green Marketing Mix and Attitude towards the Green Purchase Intention among Generation y Consumers in Bangkok,” *SSRN Electron. J.*, 2021, doi: 10.2139/ssrn.3968444.
- 19 G. W. Kusuma, I. W. Bagia, M. A. Dewanti, and I. B. K. Suarmaja, “The Effect of



- Quality Perception and Consumer Attitude on Purchase Decision (Study on Consumer Who Purchased and Consumed Soy Sauce ABC in Buleleng District),” in *In 6th International Conference on Tourism, Economics, Accounting, Management, and Social Science (TEAMS 2021)*, 2021, pp. 384-387).
- 20 P. Hart and M. B. Royme, “Being Human: How Anthropomorphic Presentations Can Enhance Advertising Effectiveness,” *J. Curr. Issues Res. Advert.*, vol. 38, no. 2, pp. 129–145, 2017, doi: 10.1080/10641734.2017.1291381.

**Open Access** This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

