

THE EFFECT OF GREEN BRAND ASSOCIATIONS AND GREEN BRAND KNOWLEDGE ON GREEN PURCHASE INTENTION: THE MODERATING ROLE OF GREEN BRAND ATTITUDE IN BIOPLASTIC-BASED BEAUTY PRODUCT CONSUMERS IN THE YOGYAKARTA REGION

*Niken Puspitasari

¹Management, Faculty of Business & Humaniora, Universitas Teknologi Yogyakarta, Indonesia

Author's email:

nikenpuspitasari47@gmail.com

*Corresponding author: nikenpuspitasari47@gmail.com

Abstract. *This study aims to examine the influence of green brand association and green brand knowledge on green purchase intention, with green brand attitude as a moderating variable in the context of bioplastic-based beauty products in the Yogyakarta region. The research adopts a quantitative approach, utilizing questionnaires as the primary data collection method, with a sample of 170 respondents aged 18 years and above who reside in Yogyakarta. The sampling technique used was non-probability sampling. Data were analyzed using Structural Equation Modeling-Partial Least Squares (SEM-PLS) with the SmartPLS 4 software. The results reveal that green brand association has a positive and significant effect on green purchase intention; green brand knowledge also has a positive and significant effect on green purchase intention. Furthermore, green brand attitude negatively and significantly moderates the relationship between green brand association and green purchase intention, as well as between green brand knowledge and green purchase intention. This indicates that green brand attitude has a negative moderating effect, weakening the relationship between green brand association and green brand knowledge on green purchase intention.*

Keywords: *Green Brand Association, Green Brand Attitude, Green Brand Knowledge, Green Purchase Intention*

1. INTRODUCTION

Environmental issues have become a major global concern in recent decades, particularly regarding the increasing volume of plastic waste that is difficult to decompose. According to data from the Indonesian Ministry of Environment and Forestry (KLHK) in 2024, total waste generation reached 33.6 million tons, with plastic being the second-largest contributor after food waste. In the Yogyakarta Special Region (DIY), plastic waste accounted for 27.49% of the total waste generated. These facts indicate an urgent need for sustainable product innovations, including in the beauty industry, which is one of the main contributors to single-use packaging waste.

The beauty industry has begun responding to these environmental concerns by adopting bioplastic-based packaging, derived from renewable resources and more environmentally friendly due to its biodegradability. However, consumer adoption of such eco-friendly beauty products remains suboptimal. In fact, recent consumer trends indicate a growing awareness of environmental issues when making purchasing decisions. In this context, implementing green branding strategies—particularly green brand associations and green brand knowledge—is considered essential in influencing green purchase intention.

Several prior studies have examined the relationship between green brand factors and consumers' purchase intentions. However, their findings remain inconsistent. Some studies have found that green brand knowledge and green brand attitude significantly affect green purchase intention (Nova & Silvianita, 2023; Wijaya & Harsoyo, 2025), while

other studies, such as Riptiono and Yuntafi'ah (2021), found no significant effect of green brand knowledge. Moreover, the role of green brand attitude as a moderating variable is still underexplored, presenting a clear research gap.

Therefore, this study aims to analyze the influence of green brand associations and green brand knowledge on green purchase intention, as well as to examine the moderating role of green brand attitude in these relationships. The research is focused on consumers of bioplastic-based beauty products in the Yogyakarta region, which is known for its highly educated and environmentally aware population.

2. LITERATURE REVIEW

2.1 Green Marketing and Sustainable Consumer Behavior

Green marketing is a strategic approach that emphasizes environmentally friendly business practices, aiming to meet consumer needs without compromising ecological integrity (Halim et al., 2024). It includes the design, production, promotion, and distribution of products with minimal environmental impact (Kulkarni, 2022). As environmental awareness rises, green marketing has become a central element in building competitive advantage and brand value (Situmorang, 2011). Consumers now place greater emphasis on ecological values in their purchasing decisions, favoring brands that support sustainability and environmental responsibility (Prieto-Sandoval et al., 2022).

This growing environmental concern among consumers has also shifted behavior patterns. According to Kotler and Keller (2018), consumer behavior involves all activities in acquiring, consuming, and evaluating goods and services. Environmental concern is increasingly influencing psychological, social, and cultural factors that shape purchasing intentions (Hartanto et al., 2023). In this context, companies must not only provide eco-friendly products but also communicate their environmental values effectively through green branding strategies.

2.2 Green Branding Dimensions: Associations, Knowledge, Attitude, and Purchase Intention

Green brand associations refer to the perceptions and beliefs that consumers have about a brand's environmental commitments (Chen et al., 2020). These associations are formed based on product attributes, corporate environmental responsibility, and marketing communication. Strong and positive green brand associations can increase consumer trust and reduce skepticism about greenwashing (Tezcan & Akturan, 2019).

Green brand knowledge is defined as the consumer's understanding of the environmental benefits and attributes of a product or brand (Abdul et al., 2023). It plays a critical role in shaping consumer attitudes and decisions, particularly in contexts where consumers actively seek products with environmental benefits (Mohd Suki, 2016). Knowledge empowers consumers to differentiate between authentic green products and misleading claims, thereby influencing their purchase behavior (Nofandrilla, 2025).

Green brand attitude represents the consumer's overall evaluation of a brand based on its environmental practices (Kautish & Sharma, 2019). It encompasses beliefs, feelings, and behavioral intentions that align with sustainable values (Indriyani & Yani, 2024). A positive green attitude can strengthen brand loyalty and support purchase decisions, especially when it serves as a moderating factor between brand knowledge and purchase intention (Chen, 2016; Priyashantha & Priyanga, 2022).

Green purchase intention refers to a consumer's willingness or plan to buy environmentally friendly products (Putra & Nurlinda, 2023). It is influenced by various internal and external factors, including environmental concern, perceived benefits, and satisfaction with green products (Mohd Suki, 2016). Understanding the determinants of green purchase intention helps companies tailor their marketing strategies to attract environmentally conscious consumers (Siripipatthanakul et al., 2022).

This study builds on previous literature by exploring how green brand attitude moderates the relationship between green brand associations and knowledge with green purchase intention. Although prior studies have examined these relationships separately, the moderating effect of green brand attitude remains underexplored, especially in the context of bioplastic-based beauty products—a novel and relevant domain given current environmental challenges.

3. RESEARCH METHODS

This study employed a quantitative research approach to investigate the effect of green brand associations and green brand knowledge on green purchase intention, with green brand attitude as a moderating variable. The research was conducted in the Special Region of Yogyakarta, Indonesia, known for its large population of students and environmentally aware residents. The study was carried out from March to May 2025, during which data collection was conducted both online and offline. The timing was selected based on the growing environmental awareness campaigns taking place in the region, which aligned with the study's objective to assess consumer perceptions toward eco-friendly cosmetic products.

The target population in this study consisted of consumers in Yogyakarta who have purchased or are interested in purchasing beauty products with bioplastic packaging. A non-probability sampling method with purposive sampling technique was employed to select respondents who met specific criteria: minimum age of 18 years, interest in or prior experience with eco-friendly cosmetic products, and basic knowledge of environmental issues. These criteria were used to ensure that respondents were relevant to the study objectives and capable of providing meaningful insights into green consumer behavior.

The sample size consisted of 170 respondents. The number was determined based on the rule of thumb by Hair et al. (2019), which recommends a minimum of 10 respondents per indicator for Structural Equation Modeling – Partial Least Squares (SEM-PLS). Given that the model in this study contained 17 indicators, a minimum of 170 respondents was considered appropriate to ensure reliable statistical results.

The data collection instrument used in this study was a structured questionnaire consisting of closed-ended questions developed from validated indicators in previous research. A 4-point Likert scale (ranging from "strongly disagree" to "strongly agree") was used to measure the responses. This scale was chosen to minimize central tendency bias and to encourage respondents to provide clear and consistent answers. The questionnaire was distributed through social media platforms and direct outreach in order to maximize the number and diversity of respondents.

Data analysis was conducted using SmartPLS 4, a software designed for Partial Least Squares Structural Equation Modeling (PLS-SEM). This method was chosen because it is suitable for predictive research models and can handle small to medium-sized sample sizes, as well as non-normally distributed data (Hair et al., 2019). The analysis consisted of several stages:

1. Measurement Model Evaluation, which included assessing indicator reliability through outer loadings, construct reliability using Composite Reliability (CR), and convergent validity using Average Variance Extracted (AVE).
2. Discriminant Validity Assessment, conducted through the Fornell-Larcker criterion and cross-loading analysis.
3. Structural Model Evaluation, which involved examining path coefficients, R-square values, and hypothesis testing through bootstrapping procedures.

This methodological approach provided robust analytical power to test the hypothesized relationships and the moderating role of green brand attitude in the model.

4. RESULTS AND DISCUSSION

This section presents the results of the data analysis and discusses the findings in

relation to the research questions, theoretical framework, and previous studies. The analysis was conducted using Structural Equation Modeling with SmartPLS 4 software. The following sub-sections explain the testing of each hypothesis and the moderating role of green brand attitude.

4.1 The Effect of Green Brand Associations on Green Purchase Intention

The results show that green brand associations have a positive and significant effect on green purchase intention ($\beta = 0.274$; t-statistic = 3.496; p-value < 0.05). This finding supports the first hypothesis (H1), indicating that the stronger the association consumers perceive between a brand and environmental values, the more likely they are to intend to purchase the product. These results are in line with Chen et al. (2020), who emphasized that green brand associations can evoke emotional responses and trust, thereby enhancing consumer interest in eco-friendly products. Furthermore, Tezcan and Akturan (2019) also found that positive brand associations reduce skepticism and encourage green behavior.

This finding highlights the importance for brands to consistently communicate their environmental commitment through symbols, narratives, and packaging. For example, the use of bioplastic packaging with environmental labels or eco-certifications can strengthen consumer perceptions of green values.

4.2 The Effect of Green Brand Knowledge on Green Purchase Intention

Green brand knowledge was also found to have a positive and significant effect on green purchase intention ($\beta = 0.330$; t-statistic = 4.812; p-value < 0.05). This supports hypothesis H2 and aligns with previous studies such as those by Mohd Suki (2016) and Wijaya & Harsoyo (2025), who concluded that consumers with better knowledge about a brand's environmental efforts are more inclined to support and purchase the brand.

This suggests that consumer education and awareness campaigns play a key role in shaping green behavior. Brands that invest in transparent communication about their sustainability practices, such as recyclable materials or carbon footprint reduction, are likely to gain the trust and preference of environmentally conscious consumers.

4.3 The Moderating Role of Green Brand Attitude on the Relationship between Green Brand Associations and Green Purchase Intention

Interestingly, the study found that green brand attitude negatively and significantly moderates the relationship between green brand associations and green purchase intention ($\beta = -0.172$; t-statistic = 2.074; p-value < 0.05), thus supporting H3. This result contrasts with the common assumption that a positive attitude always strengthens other green variables.

This finding may indicate that consumers with strong green attitudes may already have high standards or expectations regarding green branding. If the brand associations are perceived as insufficient or inconsistent with their personal values, the effect of those associations may be weakened. This aligns with the argument of Chen (2016), who noted that attitudes can become critical filters when evaluating brand claims, particularly when consumers are highly environmentally aware.

4.4 The Moderating Role of Green Brand Attitude on the Relationship between Green Brand Knowledge and Green Purchase Intention

Similarly, green brand attitude also negatively and significantly moderates the relationship between green brand knowledge and green purchase intention ($\beta = -0.167$; t-statistic = 2.090; p-value < 0.05), thus supporting H4. This suggests that consumers who possess a strong green attitude may not be easily influenced by knowledge alone. Instead, they require more concrete and credible actions from brands before converting their intention into actual behavior.

This finding highlights the complexity of consumer psychology in green marketing.

While knowledge is essential, it must be accompanied by trust and emotional connection to align with the consumer's values and environmental commitments.

4.5 Theoretical and Practical Implications

Theoretically, the findings contribute to green marketing literature by demonstrating that green brand attitude does not always serve as a positive amplifier in behavioral models. Instead, in certain contexts, it may function as a negative moderator that filters and evaluates brand efforts critically. This enriches existing models of green consumer behavior by introducing nuanced roles of attitude in decision-making processes.

Practically, the study suggests that cosmetic brands using bioplastic packaging must go beyond merely raising awareness or claiming green associations. They must deliver authentic environmental value that meets the expectations of highly aware consumers. Failure to do so may lead to skepticism and a weakened purchase intention, even among consumers with strong green attitudes.

4.6 Contribution and Significance of the Study

This study provides valuable insight into the emerging field of green branding, particularly within the beauty industry in Indonesia. By focusing on bioplastic-based cosmetic products, the research captures a timely and relevant environmental issue. The unique finding regarding the negative moderating effect of green brand attitude adds novelty to existing studies and offers a new perspective for future researchers and marketers in understanding how consumers with strong environmental concern make decisions.

CONCLUSION

This study concludes that both green brand associations and green brand knowledge significantly influence green purchase intention among consumers of bioplastic-based beauty products in the Yogyakarta region. These findings indicate that consumers respond positively to brands that effectively communicate their environmental values and provide accessible, credible information regarding their green initiatives. Interestingly, green brand attitude was found to negatively moderate the relationship between both green brand associations and green brand knowledge with green purchase intention. This suggests that consumers with strong environmental concern may be more critical and selective, requiring brands to demonstrate genuine environmental commitment beyond surface-level claims. These results emphasize the importance of authenticity and transparency in green marketing strategies. Brands aiming to attract environmentally conscious consumers must align their communication, product attributes, and corporate practices with the deeper values held by their target audience to effectively influence purchase intention.

REFERENCES

- Abdullah, R., Fauzan, R., & Subroto, Y. (2021). *Metodologi Penelitian Bisnis*. Yogyakarta: Deepublish.
- Abdul, S., Kamarulzaman, Y., Osman, M. N., & Samsudin, A. (2023). Green brand knowledge and its impact on green purchase behavior. *Journal of Green Marketing Strategy*, 12(2), 45–58.
- Baiquni, A., & Ishak, M. (2019). Purchase intention and environmental concern in green marketing context. *Jurnal Ilmu Pemasaran*, 6(1), 55–63.
- Chen, Y. S. (2010). The drivers of green brand equity: Green brand image, green satisfaction, and green trust. *Journal of Business Ethics*, 93(2), 307–319. <https://doi.org/10.1007/s10551-009-0223-9>
- Chen, Y. S., Lin, C. Y., & Weng, C. S. (2020). The influence of green brand affect on green purchase intentions: The mediation effects of green brand associations and green brand attitude. *Sustainability*, 12(14), 5605. <https://doi.org/10.3390/su12145605>
- Ghozali, I., & Latan, H. (2014). *Partial Least Squares: Konsep, Teknik dan Aplikasi SmartPLS 2.0 M3 untuk Penelitian Empiris*. Semarang: Badan Penerbit UNDIP.

- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2019). *A primer on partial least squares structural equation modeling (PLS-SEM)* (2nd ed.). SAGE Publications.
- Halim, R., Yusuf, M., & Nugraha, H. (2024). Strategi green marketing dalam membangun citra merek hijau. *Jurnal Pemasaran Hijau Indonesia*, 9(1), 1–10.
- Hartmann, P., & Apaolaza Ibáñez, V. (2006). Green value added. *Marketing Intelligence & Planning*, 24(7), 673–680.
- Kementerian Lingkungan Hidup dan Kehutanan. (2024). Sistem Informasi Pengelolaan Sampah Nasional (SIPSN). Retrieved from <https://sipsn.kemenvh.go.id/sipsn/public/data/timbangan>
- Kotler, P., & Keller, K. L. (2018). *Marketing Management* (15th ed.). Pearson Education.
- Kotler, P., Keller, K. L., & Chernev, A. (2022). *Marketing Management* (Global ed.). Pearson.
- Kulkarni, A. (2022). Green marketing strategies for sustainable development. *International Journal of Business and Sustainability*, 4(3), 15–26.
- Mombeuil, C., & Diunugala, C. (2023). Green brand awareness, green brand association, green perceived quality, and intention to purchase electric vehicles: The mediating effect of green trust. *Journal of Cleaner Production*, 398, 136–148. <https://doi.org/10.1016/j.jclepro.2023.136512>
- Mohd Suki, N. (2016). Green product purchase intention: Impact of green brands, attitude, and knowledge. *British Food Journal*, 118(12), 2893–2910. <https://doi.org/10.1108/BFJ-06-2016-0295>
- Nova, S., & Silvianita, A. (2023). Pengaruh green brand knowledge dan attitude toward green brand terhadap green purchase intention. *Jurnal Ilmu Manajemen Terapan*, 11(3), 87–95.
- Pasardana. (2024, November 29). Kemenperin Paparkan Sejumlah Peluang dan Tantangan di Industri Kosmetik Dalam Negeri. Retrieved from <https://pasardana.id/article/2024/11/29/kemenperin-paparkan-sejumlah-peluang-dan-tantangan-di-industri-kosmetik-dalam-negeri/>
- Prieto-Sandoval, V., Jaca, C., & Ormazabal, M. (2022). Green marketing and sustainable behavior: A literature review. *Sustainability*, 14(6), 3280. <https://doi.org/10.3390/su14063280>
- Riptiono, R., & Yuntafiah, F. (2021). The effect of green brand knowledge on consumer purchase intention: Empirical study on natural cosmetic products. *Jurnal Ilmu Ekonomi dan Manajemen*, 10(2), 65–73.
- Salbela, N., & Silvianita, A. (2023). Hubungan antara green brand knowledge dan attitude dengan green purchase intention. *Jurnal Pemasaran Hijau*, 7(2), 32–41.
- Sugiyono. (2017). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Bandung: Alfabeta.
- Situmorang, S. H. (2011). Green marketing dalam perspektif etika bisnis dan keberlanjutan lingkungan. *Jurnal Ekonomi dan Bisnis*, 6(1), 12–19.
- Taluke, L., Firdaus, H., & Puspita, A. (2019). Analisis Likert dalam penilaian perilaku konsumen. *Jurnal Psikologi Industri dan Organisasi*, 10(2), 99–106.
- Yuliana, F., Syahputra, A., & Ramadhan, D. (2024). Membangun loyalitas konsumen melalui green brand pada produk kecantikan. *Jurnal Riset Pemasaran*, 12(1), 14–25.