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Green Awareness and Green Attitude as Predictors of Green Purchase Intention: A Study on Green Cosmetic Consumers in Indonesia

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ABSTRACT

This research explores the influence of green awareness and green attitude on consumers' intention to purchase green cosmetics in Indonesia. With increasing environmental concerns, understanding the psychological drivers behind eco-friendly product choices is vital, especially in developing markets. The study aims to examine how consumers' environmental consciousness shapes their attitudes and subsequently affects their intention to buy green cosmetic products. A quantitative method was utilized, involving the distribution of structured questionnaires to individuals familiar with green cosmetics. The data were analyzed using Structural Equation Modeling (SEM). The results confirmed all hypotheses, showing that green awareness significantly influences both green attitude and purchase intention. Additionally, green attitude has a strong positive effect on green purchase intention. These findings underscore the importance of raising consumer awareness and cultivating positive attitudes to promote sustainable purchasing behavior. The study provides practical implications for businesses and policymakers striving to advance environmentally responsible consumption in Indonesia's cosmetic sector.

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1. INTRODUCTION

Over the past few decades, increasing global awareness of environmental issues has accelerated the transformation of industries toward more eco-friendly practices, including within the cosmetics sector. Today's consumers are placing greater emphasis on sustainability when selecting products, considering factors such as the sourcing of raw materials, waste-minimizing production processes, and the ecological impacts of consumption. This shift in consumer behavior has led to a growing demand for green cosmetics products formulated with natural ingredients, produced sustainably, and free from harmful chemicals (Paul et al., 2016; Joshi & Rahman, 2015). According to Grand View Research (2022), the global market

for natural and organic cosmetics is projected to reach USD 33 billion by 2030, with an annual growth rate exceeding 5%. Global corporations such as L'Oréal and Unilever have demonstrated their commitment to environmental responsibility by reducing carbon emissions and replacing plastic packaging with recycled materials initiatives that align with the broader goals of the green economy.

In Indonesia, interest in green cosmetic products has begun to emerge, albeit at a relatively modest pace. Statista (2023) reports that 68% of Indonesian consumers express interest in environmentally friendly products, yet only 34% consistently follow through with purchases. This highlights a significant gap between environmental awareness and actual purchasing behavior. Many consumers remain reluctant to switch from conventional cosmetics due to factors such as price sensitivity, accessibility, and limited understanding of the benefits of green products (Rahman & Reynolds, 2016). In response, industry players have begun to implement sustainable strategies, including the use of natural ingredients, biodegradable packaging, and corporate social responsibility (CSR) programs. Nonetheless, key obstacles particularly low levels of green awareness and the lack of positive attitudes toward green products continue to hinder consumer behavior change (Akehurst et al., 2012; Zhang et al., 2014).

Research on green purchase intention is crucial for understanding how consumer decisions are shaped within the context of sustainability, particularly in the cosmetics industry. Awareness of environmental issues acts as a preliminary driver for the development of favorable attitudes toward eco-friendly products, which subsequently fosters the intention to purchase such products (Chen & Chang, 2012; Maichum et al., 2016; Nguyen et al., 2019). Understanding this relationship is essential for designing effective marketing communications, consumer education initiatives, and brand strategies rooted in sustainability values. Yadav & Pathak (2017) emphasize that attitude is a significant predictor of green consumer behavior, while Joshi and Rahman (2015) highlight limited knowledge as a primary barrier to forming purchase intentions. Hence, investigating the relationship between green awareness, green attitude, and green purchase intention is vital to bridging the existing gap in the green cosmetics market in Indonesia.

Most existing studies on green purchase intention have been conducted outside of Indonesia, particularly in countries such as India (Paul et al., 2016; Yadav & Pathak, 2017), Thailand (Maichum et al., 2016), and China (Wang et al., 2014). These studies suggest that cultural factors, social values, and environmental norms significantly influence consumers' intentions to purchase green products. However, there is a noticeable lack of in-depth research on the determinants of green purchase intention within the context of cosmetics in Indonesia. This study, therefore, seeks to explore two key factors green awareness and green attitude in shaping green purchase intention among prospective green cosmetics consumers in Indonesia. By doing so, it aims to address the gap in the literature and contribute to the development of more sustainable marketing strategies. To address this research gap, the present study focuses on two critical psychological constructs: green awareness and green attitude, and their influence on green purchase intention among potential consumers of environmentally friendly cosmetics in Indonesia. Understanding these relationships is vital for developing effective communication strategies, enhancing consumer engagement, and fostering environmentally responsible consumption behavior. Based on this objective, the following hypotheses are proposed:

H1: Green awareness has a positive and significant effect on green attitude.
H2: Green awareness has a positive and significant effect on green purchase intention.
H3: Green attitude has a positive and significant effect on green purchase intention.

The following is a figure illustrating the research model of this study.

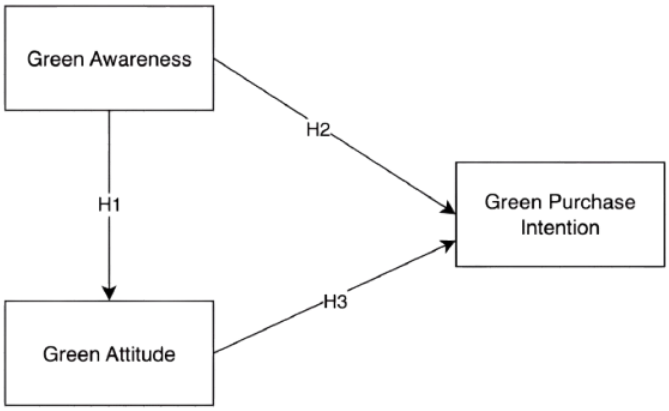


Figure1. Conceptual Framework
Source: Authors' own elaboration (2025)

2. RESEARCH METHOD

This study employed a quantitative research approach to examine the extent to which *green awareness* and *green attitude* influence *green purchase intention* among potential consumers of green cosmetics in Indonesia. Quantitative methods are suitable for measuring relationships between variables and testing hypotheses based on empirical data (Creswell, 2014; Sugiyono, 2017). The sample size for this research was determined using G*Power 3.1, a statistical power analysis tool widely used in social science research (Faul et al., 2007). Based on an a priori power analysis with a medium effect size ($f^2 = 0.15$), $\alpha = 0.05$, and power ($1-\beta$) = 0.95 for two predictors, a minimum of 107 respondents was required. To ensure the adequacy of data and accommodate potential non-responses or invalid data entries, the final sample size was set at 150 respondents, exceeding the minimum required threshold (Erdfelder et al., 1996; Mayr et al., 2007).

Primary data were collected through an online questionnaire distributed via Google Forms. The questionnaire consisted of structured questions using a five-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The population of this study comprises potential consumers of green cosmetics in Indonesia, where the total population size is unknown. Therefore, a non-probability purposive sampling technique was used to target respondents with prior awareness or interest in purchasing green cosmetic products (Sekaran & Bougie, 2016). The data collected were analyzed using Structural Equation Modeling–Partial Least Squares (SEM-PLS) with the help of SmartPLS 3.2.9 software. SEM-PLS is appropriate for research that involves complex models with latent variables and relatively small sample sizes. It is particularly suitable for exploratory studies and when the research objective is prediction rather than confirmation (Hair et al., 2019; Hair et al., 2021). Moreover, PLS-SEM was selected due to its robustness in handling non-normal data, its ability to simultaneously estimate measurement and structural models, and its effectiveness in theory development and model exploration (Sarstedt et al., 2017; Henseler et al., 2009). The model assessment in PLS-SEM includes evaluating construct validity and reliability (through outer loadings, composite reliability, and average variance extracted) and hypothesis testing using bootstrapping procedures to assess the significance of path coefficients.

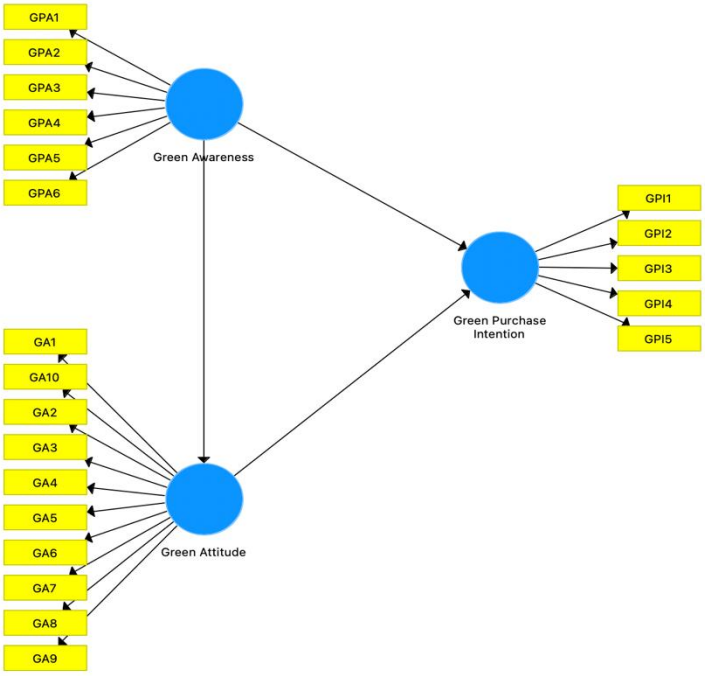


Figure2. Conceptual Framework in SmartPLS Before Processes
Source: Authors' own elaboration

3. RESULTS AND DISCUSSION

3.1. Measurement Model Assessment

To ensure the adequacy of the measurement model, convergent validity was assessed by examining factor loadings, composite reliability (CR), and average variance extracted (AVE), following the suggestions of

Malhotra and Dash (2016) and Hair et al. (2021). Convergent validity is confirmed when item loadings are above 0.7, CR values exceed 0.7, and AVE values are above 0.5, indicating that the indicators sufficiently represent the intended latent constructs.

3.1.1 Convergent Validity

All constructs in the study met the minimum criteria for convergent validity:

1. Green Awareness was measured using six items, with factor loadings ranging from 0.702 to 0.898. These results indicate that the items effectively capture consumer knowledge and consciousness about environmental issues in the context of green cosmetic products (Chen & Chang, 2012).
2. Green Attitude, consisting of ten indicators, showed loading values between 0.740 and 0.823. These values demonstrate strong internal consistency and reflect consumers' favorable perceptions and positive evaluation toward eco-friendly cosmetic products (Kumar & Ghodeswar, 2015).
3. Green Purchase Intention was assessed through five items, with loading factors ranging from 0.723 to 0.838. These results confirm that the indicators reliably measure consumers' likelihood to purchase environmentally friendly cosmetic products in the future (Yadav & Pathak, 2016).

The constructs in this study demonstrated strong internal consistency, as all composite reliability (CR) values exceeded the threshold of 0.70, which is indicative of acceptable construct reliability (Hair et al., 2021; Henseler et al., 2021). In terms of internal reliability, Cronbach's alpha values were found to be 0.846 for green attitude, 0.700 for green awareness, and 0.735 for green purchase intention each meeting the minimum acceptable value of 0.70 (Sarstedt et al., 2022). Furthermore, the average variance extracted (AVE) values for green attitude 0.586; green awareness 0.694; and green purchase intention 0.659; exceeded the recommended benchmark of 0.50. These results support the convergent validity of the constructs, indicating that a substantial proportion of variance in the indicators is captured by the respective latent variables (Hair et al., 2021). The measurement model, therefore, satisfies the key psychometric criteria required for structural model analysis in partial least squares structural equation modeling (PLS-SEM).

3.1.2. Discriminant Validity

To evaluate discriminant validity, the Heterotrait-Monotrait ratio of correlations (HTMT) was employed, a method recognized for its robustness in detecting discriminant issues between constructs (Voorhees et al., 2016; Sarstedt et al., 2022). HTMT values below the threshold of 0.90 indicate adequate discriminant validity. In this study, the HTMT values for green awareness, green attitude, and green purchase intention were all below 0.90, confirming that each construct is empirically distinct and does not share excessive conceptual overlap with the others. This suggests that respondents were able to clearly differentiate between their awareness of environmental issues, their evaluative stance toward green behavior, and their actual intention to purchase eco-friendly cosmetic products.

Table1. Measurement Model and Discriminant Validity (Heterotrait-Monotrait Ratio)

Variable	Factor Loading	Cronbach's Alpha	Composite Reliability	AVE	GA	GAT	GPI
Green Awareness	0.702 to 0.898	0.700	0.788	0.694			
Green Attitude	0.740 and 0.823	0.846	0.878	0.586	0.747		
Green Purchase Intention	0.723 to 0.838	0.735	0.825	0.659	0.898	0.836	

Source: Processed data by authors (2025)

The Cronbach's Alpha coefficient for each variable in this study exceeds the predetermined threshold value of 0.6. This indicates that the instruments used demonstrate good internal consistency reliability and are therefore considered valid for measuring the variables in question. Cronbach's Alpha value above 0.6 is acceptable for exploratory research, as it reflects that the items within the instrument correlate sufficiently and can be relied upon for further analysis.

3.1.3 Hypotheses Testing

The structural model analysis reveals significant relationships among the study constructs, with all hypothesized paths supported by empirical evidence. As illustrated in Figure 3, Green Awareness exerts a strong positive influence on Green Attitude ($p = 0.000$, $t = 8.618$), confirming hypothesis H1. This finding indicates that heightened consumer awareness regarding environmentally sustainable cosmetic products substantially fosters favorable attitudes toward such products in the Indonesian market. Additionally, Green

Awareness positively impacts Green Purchase Intention (p = 0.000, t = 3.660), supporting hypothesis H2, although this effect is comparatively moderate. This suggests that consumer knowledge and consciousness about green cosmetics contribute to their purchase intentions, albeit to a lesser degree than their influence on attitudes.

Furthermore, Green Attitude demonstrates a significant positive effect on Green Purchase Intention (p = 0.000, t = 4.865), supporting hypothesis H3. This underscores the pivotal role of consumer attitudes in translating awareness into actual purchase intentions for green cosmetics. These results align with the Theory of Planned Behavior (Ajzen, 1991), which posits that behavioral intentions are shaped by attitudes formed through cognitive awareness. Empirical studies within emerging markets further corroborate these findings, highlighting the critical role of green awareness and attitudes in driving eco-conscious consumer behavior (Biswas & Roy, 2015; Nguyen, Lobo, & Greenland, 2020). Table 2 summarizes the path coefficients and t-values associated with each tested hypothesis.

Table2. Hyphotesis Testing Result

Hyphotesis	T Statistics	P Value	Result
H1: GA-> GAT	8.618	0.0000	Supported
H2 : GA -> GPI	3.660	0.0000	Supported
H3 : GAT -> GAT	4.865	0.0000	Supported

Source: Processed data by authors (2025)

3.2 Discussion

3.2.1 Green Awareness Has a Positive and Significant Effect on Green Attitude

The findings demonstrate that green awareness significantly and positively shapes green attitudes among Indonesian consumers towards green cosmetics. This corroborates previous studies that emphasize how increased consumer awareness of environmentally sustainable products strengthens positive attitudes by highlighting their ecological and health benefits (Lim et al., 2021). Specifically, in the green cosmetics sector, awareness raises understanding about sustainable ingredients and ethical manufacturing, which enhances favorable perceptions (Hidayat & Prasetyo, 2022). Additionally, Bakhsh et al. (2023) emphasize the vital role of awareness campaigns in emerging markets for nurturing constructive consumer attitudes towards green products. Hence, fostering green awareness is essential for cultivating supportive consumer attitudes that encourage sustainable consumption behaviors.

3.2.2 Green Awareness Has a Positive and Significant Effect on Green Purchase Intention

The results also reveal that green awareness has a direct, positive influence on green purchase intention, though this effect is relatively less pronounced compared to its impact on attitudes. This aligns with the idea that well-informed consumers are more inclined to intend purchasing green cosmetics, as increased knowledge reduces perceived risks and builds confidence in product claims (Nguyen et al., 2020). Given Indonesia's expanding eco-friendly personal care market, consumers' awareness of the social and environmental implications of their purchases is a critical motivator for green buying behavior (Sari et al., 2023). Furthermore, Tan and Lau (2022) provide evidence that heightened awareness correlates with greater willingness to pay premiums for green cosmetic products. Therefore, enhancing consumer knowledge about green cosmetics is fundamental in stimulating green purchase intentions.

3.2.3 Green Attitude Has a Positive and Significant Effect on Green Purchase Intention

Lastly, the data confirm that green attitude strongly and positively influences green purchase intention, supporting established behavioral theories such as the Theory of Planned Behavior (Ajzen, 1991), which posits attitudes as key predictors of intention. This finding is consistent with empirical research showing that positive consumer attitudes towards green cosmetics significantly increase their purchasing intentions (Biswas & Roy, 2015; Hidayat & Prasetyo, 2022). In the Indonesian context, these results suggest that developing favorable attitudes through effective marketing and education strategies is critical to converting awareness into actual buying decisions. Consequently, nurturing positive consumer attitudes is a pivotal step in advancing the sustainable cosmetics market.

4 CONCLUSION

This study confirms that green awareness has a significant positive effect on both green attitude and green purchase intention among Indonesian consumers of green cosmetics. Moreover, green attitude significantly influences consumers' intention to purchase green cosmetic products. These findings highlight the crucial role of consumer knowledge and favorable perceptions in shaping eco-friendly purchasing behaviors within

Indonesia's growing sustainable cosmetics market. Therefore, efforts to increase awareness and positively influence attitudes should be prioritized to promote green consumerism and support the expansion of environmentally responsible cosmetic products in Indonesia.

Despite the insightful findings, this study has several limitations. First, the research focuses solely on consumers of green cosmetics in Indonesia, which may limit the generalizability of results to other product categories or geographic regions. Second, the cross-sectional design captures consumer perceptions at a single point in time, limiting the ability to infer causality or changes in attitudes and intentions over time. Third, the study relies on self-reported data, which may be subject to social desirability bias, especially regarding environmental concerns.

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