

WHEN GREEN MEETS GLAM: HOW ENVIRONMENTAL CONCERN MODERATES GENERATION Z'S INTENTION TO BUY WARDAH'S ECO-FRIENDLY COSMETICS

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Abstract

Environmental awareness is increasingly influencing consumer behavior, particularly among younger generations. However, eco-friendly cosmetic products are still not the leading choice for many consumers. This study examines how environmental concern moderates the effect of two external factors—preference for sustainable retailers and trust in sustainable producers—on the purchase intention of environmentally friendly Wardah cosmetics. Furthermore, the study investigates consumer involvement with eco-friendly labels as an indirect factor influencing purchase intention through trust in sustainable producers.

Design/methodology/approach – A quantitative approach was used by conducting an online survey with 130 Generation Z respondents in Semarang. Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). Findings – The results reveal that preference for sustainable retailers ($\beta = 0.207$; $p = 0.018$), trust in sustainable producers ($\beta = 0.195$; $p = 0.046$), and environmental concern ($\beta = 0.456$; $p = 0.000$) significantly influence consumers' purchase intention of Wardah's environmentally friendly products. Consumer involvement in eco-friendly labels also significantly affects trust in producers ($\beta = 0.655$; $p = 0.000$), which in turn indirectly influences purchase intention ($\beta = 0.128$; $p = 0.048$). However, environmental concern does not significantly moderate the relationship between preference or trust and purchase intention. Originality – This study contributes to the sustainable marketing literature by highlighting the combined influence of sustainable producers and retailers on Generation Z's pro-environmental purchase intentions in the local cosmetics industry. The findings also underscore the importance of eco-labels and brand transparency in fostering consumer trust toward sustainable brands.

Keywords: Pro-environmental purchase intention, Eco-friendly cosmetics, Sustainable retailers, Sustainable Producers, Eco-labels

INTRODUCTION

Environmental and sustainability issues have become a significant concern influencing consumer behavior in recent years, especially among the younger generation, who are increasingly aware of environmental degradation and climate change (Iqbal et al., 2024). Generation Z, those born between 1997 and 2012, is known to have a high level of environmental awareness and tends to support sustainable brands (Juma-Michilena et al., 2024). However, many studies have shown that there is a mismatch between the environmental values adopted and actual purchasing behaviors. This phenomenon is known as the attitude-behavior gap (Elgammal & Al-Modaf, 2023).

In Indonesia, the trend of green consumers is starting to emerge in the cosmetics industry. Local brands such as Wardah have implemented eco-friendly practices in their product lines (Andika et al., 2023). This commitment is reflected in the use of natural materials, recyclable packaging, and a halal-certified green marketing strategy approach that is highly relevant for Muslim consumers who also care about the environment (Fanesa Azara Putri & Fitria Ridhaningsih, 2025). However, increased awareness does not necessarily drive purchasing decisions, which are also influenced by internal psychological factors such as trust, preference, and engagement with sustainability symbols (De Canio et al., 2020).

Some studies show that preference for environmentally oriented retailers, trust in manufacturers who implement sustainable practices, and engagement with eco-labels are strong predictors of purchase intent for green products (Antunes et al., 2024). These factors are particularly relevant in the cosmetics industry, where the perception of sustainability is a key element in shaping buying interest (Heiberg Jørgensen et al., 2024). Nevertheless, the influence of these three variables can be moderated by an individual's level of environmental concern, which can strengthen or weaken the relationship between these factors and purchase intent (Elgammal & Al-Modaf, 2023).

In this context, environmental concern not only acts as a driver of purchase intent but also as a moderation variable that reinforces the influence of green marketing elements on consumer behavior (De Canio et al., 2020). Therefore, this study aims to examine the factors that affect the purchase intention of Generation Z in Semarang towards environmentally friendly cosmetic products from the Wardah brand, with environmental concern as a moderation variable.

Sustainability has become a core value in the strategies of many global companies as consumer awareness of the added value of eco-friendly product adoption and practices increases (Onel, 2017). Various studies have stated that Generation Z prefers products with environmentally friendly packaging and ethical production processes over conventional products (Juma-Michilena et al., 2024). However, although environmental awareness is increasing, this is not always reflected in real purchasing behavior, a phenomenon once again reflecting the attitude-behavior gap (Elgammal & Al-Modaf, 2023).

In the context of Indonesian cosmetics, Wardah has adopted sustainability principles through the use of natural ingredients, halal certification that supports the ecosystem, and recyclable packaging (Andika et al., 2023). However, the effectiveness of sustainability strategies in driving consumer purchase intent is determined by a combination of external factors, such as producer reputation and retailer strategy, as well as internal factors, such as environmental awareness (De Canio et al., 2020).

Preference for eco-friendly retailers, trust in sustainable producers, and engagement with eco-labels have been identified as key determinants in driving purchase intent for sustainable products (Antunes et al., 2024). However, the power of influence of these variables can depend heavily on the level of consumer environmental concern, which in some studies has been found to be a significant moderator (Juma-Michilena et al., 2024).

This study aims to analyze the influence of preference for sustainable retailers, trust in producers, and involvement in eco-labels on the purchase intention of Wardah eco-friendly cosmetic products in Generation Z in Semarang. In addition, this study explores the role of environmental concern as a moderation variable to see the extent to which this variable strengthens or weakens the influence of these three external factors on purchase intention.

By analyzing the interaction between external and internal factors, this research is expected to make a theoretical and practical contribution to the development of more effective sustainable marketing strategies for the younger generation market.

H1: The preference for sustainable retailers has a positive effect on pro-environmental buying intentions. Retailers who are committed to sustainability practices influence consumers' perception of the ecological value of the products offered (Heiberg Jørgensen et al., 2024). Retailers also play a role in shaping consumer understanding through brand communication and store design (Antunes et al., 2024). Especially for Generation Z, the image of "green" retailers is an important driving factor in the purchase decision of eco-friendly cosmetics (Iqbal et al., 2024).

H2: Trust in sustainable producers has a positive effect on pro-environmental buying intentions. Trust in producers plays an important role in purchasing decisions for green products (De Canio et al., 2020). The commitment of producers such as Wardah to sustainability through recycled packaging and natural formulations—increases the perception of consumer credibility (Fanesa Azara Putri & Fitria Ridhaningsih, 2025). Another study has also shown that trust in sustainability claims has an impact on customer loyalty (Elgammal & Al-Modaf, 2023).

H3: Involvement in eco-labels has a positive effect on trust in sustainable producers. Eco-labels serve as external cues that reinforce consumer trust in producers (Choi et al., 2020). Generation Z, who are sensitive to visual information, tends to respond positively to logos and ecological symbols (Chekima et al., 2021). The higher the consumer involvement in understanding the label, the greater the confidence in the manufacturer's sustainability claims (Andika et al., 2023).

H4: Concern for the environment has a positive effect on pro-environmental buying intentions. Concern for the environment reflects an internal attitude to maintain environmental sustainability (Elgammal & Al-Modaf, 2023). Consumers with a high level of concern are more selective in consumption and avoid products that negatively impact the environment (Juma-Michilena et al., 2024). In the context of cosmetics, this awareness encourages buying interest in brands such as Wardah (Naz et al., 2024).

H5: Concern for the environment moderates the relationship between preference for retailers and pro-environmental purchase intentions. The effectiveness of sustainable retailer strategies in influencing purchase intent depends on the sensitivity of the consumer's environment (De Canio et al., 2020). Consumers with high concerns are more responsive to green promotion and ethical store design (Antunes et al., 2024). In contrast, if concern is low, the preference for green retailers does not exert a significant influence (Heiberg Jørgensen et al., 2024).

H6: Concern for the environment moderates the relationship between trust in producers and pro-environmental buying intentions. Trust in producers is stronger if consumers have a great concern for the environment (Elgammal & Al-Modaf, 2023). The combination of trust and environmental awareness results in

higher purchase intent than trust alone. Generation Z, who care about the environment, is easily convinced by producers like Wardah, who consistently convey sustainability values in a transparent manner.

The theoretical relationships proposed in the hypotheses above are presented in this study, which presents a conceptual framework that integrates both external factors (retailer preference, producer trust, and eco-label involvement) and an internal factor (environmental concern) in predicting green purchase intention. The framework also includes moderating paths to demonstrate how environmental concern can potentially strengthen or weaken the effect of external influences. This model provides a comprehensive structure for empirical testing and reflects the interaction between consumer perception, values, and behavioral intention in the context of sustainable cosmetic consumption among Generation Z in Semarang.

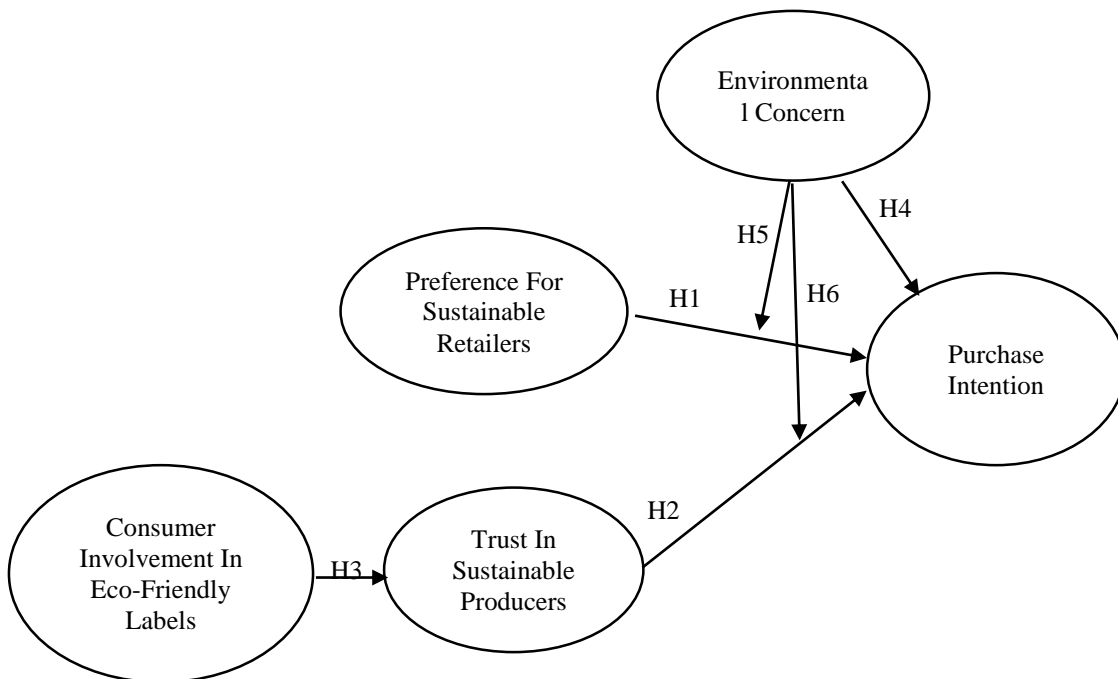


Figure1
Conceptual model

METHODS

This study employed a quantitative survey method targeting Generation Z consumers (aged 15–26) in Semarang who have purchased environmentally friendly cosmetic products from Wardah. Using purposive sampling, a total of 130 valid responses were collected via Google Forms in April 2025. The questionnaire was pre-tested and validated by experts to minimize linguistic and method bias.

The majority of respondents were female (96.92%), students (73.08%), and within the 15–25 age range (89.23%), aligning with the target market of sustainable cosmetic products. Respondents primarily shopped through online marketplaces (53.85%), followed by offline stores (22.31%) and social media (15.38%). All constructs were measured using 5-point and 7-point Likert scales adapted from established studies contextualized for the eco-cosmetic market in Indonesia. The main constructs include: Purchase Intention (PI): Five items adapted from Lee & Yun (2015) and Qi & Ploeger (2020), assessing willingness to purchase, repurchase, and recommend eco-friendly Wardah products. Trust in Sustainable Producers (TS): Four items from Voon et al. (2011) measuring belief in Wardah's environmental claims, ethical practices, and natural ingredients. Preference for Sustainable Retailers (PR): Three items adapted from Tsarenko et al. (2013) reflect consumer preference for retailers supporting environmental sustainability. Involvement in Eco-Friendly Labels (LAB): Three items from Taufique et al. (2019), assessing attention to eco-labels such as halal-organic, cruelty-free, and recycling symbols. Environmental Concern (EC): Four items based on Chen & Chai (2010), capturing awareness and concern toward global environmental issues. This construct functions as both an independent and moderating variable. Demographic data (gender, age, education, occupation, income, and shopping channels) were also collected for control purposes. All items were evaluated using PLS-SEM for validity and reliability through loading factors, AVE (> 0.5), and Composite Reliability (> 0.7). Results confirmed strong construct validity and reliability, ensuring the instrument's appropriateness for model testing.

RESULT AND DISCUSSION

This research makes an important contribution to the literature on sustainable consumer behavior, especially in the context of emerging markets such as Indonesia. The results confirm that the preference for sustainable retailers significantly affects pro-environmental purchase intentions, supporting previous findings that the retailer is not only a distribution channel but also an agent of communication of sustainability values (Heiberg Jørgensen et al., 2024). The results of this study show that of the seven hypotheses tested, five of them proved to be significant. These findings are in line with the theoretical framework of (De Canio et al., 2020), which states that pro-environmental buying intentions are influenced by a combination of external stimuli (such as beliefs and preferences) and internal psychological factors (concern for the environment).

This study provides valuable empirical evidence on the drivers of pro-environmental purchase intentions among Generation Z consumers in Indonesia, particularly in the context of sustainable cosmetics. Of the seven hypotheses tested, five were supported, affirming that both external marketing stimuli and internal psychological factors jointly influence green buying behavior. The findings align with the theoretical model by De Canio et al. (2020), which emphasizes the dual role of beliefs, preferences, and environmental concerns in shaping sustainable consumer behavior.

Table 1 Linear relationship of services to variables

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
M -> Y	0.456	0.453	0.110	4.134	0.000
M x X1. -> Y	-0.070	-0.044	0.096	0.732	0.464
M x X2. -> Y	0.082	0.068	0.063	1.307	0.191
X1. -> Y	0.207	0.199	0.088	2.363	0.018
X2. -> Y	0.195	0.208	0.098	2.000	0.046
X3. -> X2.	0.655	0.656	0.045	14.465	0.000
X3. -> X2. -> Y	0.128	0.136	0.065	1.975	0.048

Source: Data Processing Result, 2025

First, the preference for sustainable retailers significantly influenced pro-environmental purchase intentions ($p = 0.018$, $t = 2.363$). This supports the view that retail channels aligned with sustainability values act as more than distributors—they serve as conveyors of ethical consumption. Second, trust in sustainable producers also had a significant positive impact on purchase intent ($p = 0.046$, $t = 2.000$), reinforcing the importance of integrity and transparency in brand communication, especially for brands like Wardah, which combines halal and eco-friendly claims. Third, consumer engagement with eco-labels strongly influenced trust in producers ($p = 0.000$, $t = 14.465$), highlighting that eco-labels serve as critical trust signals rather than mere aesthetic features. Fourth, environmental concern significantly affected purchase intention ($p = 0.000$, $t = 4.134$), emphasizing that internal values still drive sustainable decisions.

However, environmental concern did not significantly moderate the relationships between retailer preference and purchase intention ($p = 0.464$), nor between producer trust and purchase intention ($p = 0.191$). This finding diverges from previous studies (e.g., De Canio et al., 2021) and may reflect specific characteristics of Gen Z in Semarang, who may express concern for environmental issues but have not yet translated these values into decisive behavioral changes. This points to a potential gap between awareness and action, possibly driven by competing factors such as price sensitivity or social influences.

Lastly, the indirect effect of eco-label engagement on purchase intention through producer trust was found to be significant ($p = 0.048$, $t = 1.975$), validating a partial mediation model. Overall, the study refines the understanding of sustainable purchase intentions by integrating external drivers (retailer and producer credibility, eco-labels) and internal moderators (environmental concerns) into a cohesive consumer behavior model. These insights not only strengthen theoretical constructs but also offer practical guidance for sustainability-oriented marketing strategies targeting digitally literate, value-conscious young consumers in emerging markets.

Another major contribution is the testing of the role of moderation of concern for the environment, which reinforces the influence of external variables (retailer preferences and producer confidence) on purchase intentions. These findings are in line with the theory that environmental concern is an internal psychological

factor that moderates the effectiveness of sustainability stimuli in the context of green marketing (De Canio et al., 2020).

Overall, this study refined the pro-environmental purchase intent model by integrating external (green marketing stimulus) and internal (environmental concern) dimensions within the framework of consumer behavior. This model is particularly relevant to understanding the complexity of Generation Z's purchasing decision-making, which, despite having high environmental awareness, still shows a gap between attitudes and behaviors.

Conclusion

This study offers a comprehensive analysis of how internal and external factors interact in shaping pro-environmental purchase intentions among Generation Z. It highlights the strategic role of producers and retailers not merely as product providers but as influencers of sustainable consumption behavior. The findings reveal that young consumers are increasingly responsive to sustainability elements such as eco-labels and ethical production practices, which in turn strengthen their trust in producers. Moreover, environmental concern remains a key driver in reinforcing the link between sustainability perception and purchase decisions.

The practical implication of this research suggests that producers like Wardah should communicate their sustainability values transparently and educationally. Psychographic segmentation, including personal values, green lifestyles, and involvement in environmental issues, should form the basis of targeted green marketing strategies, especially in the context of growing global environmental awareness post-pandemic.

This study contributes to both academic literature and industry practices by encouraging companies to position sustainability as a core element of brand strategy and long-term customer loyalty. However, the research is geographically and demographically limited (Generation Z in Semarang), which restricts its generalizability. Future studies are encouraged to expand the geographic and demographic scope and incorporate new variables such as green perceived value and environmental knowledge to achieve a more comprehensive understanding of sustainable consumer behavior.

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