

## Consumer awareness and green cosmetics among Samarinda's Gen Z

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**Abstract** This study aims to analyse the influence of Green Consumer Knowledge (GCK), Consumer Social Responsibility (CnSR), and Green Advertising (GA) on green purchasing behaviour (Green Purchase Behaviour) among Generation Z in Samarinda, Kalimantan. A quantitative approach was used with a survey method through an online questionnaire distributed to 189 respondents aged 18-25 years in Samarinda City. Data were analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM). The results showed that GCK significantly influenced Green Purchase Behaviour, both directly and through the partial mediation role of CnSR. This suggests that consumer knowledge of green products increases social awareness and encourages more environmentally responsible purchasing decisions. In addition, GA was shown to positively moderate the relationship between CnSR and Green Purchase Behaviour, indicating that sustainability-focused advertising strengthens the influence of social responsibility on consumer purchasing decisions. This study concludes that the combination of GCK, CnSR, and GA is a key driver in promoting sustainable consumption among Generation Z. Practical implications of this study include the importance of consumer education, corporate collaboration with NGOs to improve CnSR, and transparent and credible advertising strategies to avoid scepticism related to greenwashing. This study is limited to the cosmetics sector and the student population in Samarinda, so generalisation to other sectors or regions may be limited. Further research is recommended to involve non-student Generation Z and more diverse product categories.

**Keywords:** consumer social responsibility; green purchase behaviour; gen-z, green consumer knowledge; green advertising

### INTRODUCTION

Climate change is an increasingly pressing global issue, driven by increasing greenhouse gas (GHG) emissions from human activities, especially in the use of fossil fuels and industrial production (Filonchuk et al., 2024). To address the increasing environmental impact, many countries, including Indonesia, have implemented sustainability policies, such as emission reduction targets through Nationally Determined Contributions (NDCs) and stricter environmental regulations (Hariram et al., 2023). However, government and industry efforts will not be effective without the active participation of consumers in choosing environmentally friendly products (Achmad et al., 2023).

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Indonesia, which is highly affected by climate change, especially in agriculture, is actively involved in the United Nations Framework Convention on Climate Change (UNFCCC) (Lieke et al., 2023). With emissions reaching 1.24 Gt CO<sub>2</sub>e in 2022, Indonesia is ranked seventh globally, emphasizing the need for effective action. The country plays a leading role in ASEAN climate initiatives, focusing on collaboration to address climate change challenges (Hartanto, 2024).

Indonesia is a significant contributor to global Greenhouse Gas (GHG) emissions and has pledged to reduce its carbon footprint (Raihan et al., 2023). Through its Nationally Determined Contribution (NDC), the government aims to cut GHG emissions by 29% with domestic resources and 41% with international assistance by 2030 (Filonchuk et al., 2024). Environmental regulations and sanctions for ecological damage have been implemented (Lawasi, 2024). However, consumer participation is essential for these efforts to succeed. When consumers prioritise environmentally friendly products, businesses are encouraged to adopt sustainable practices, driving environmental transformation (Chen et al., 2024).

Public behaviour and awareness of the concept of caring for the environment can be seen from the increasing preference of Indonesian consumers for environmentally friendly products (Sihombing et al., 2023). Research shows that 86% of consumers prioritise environmentally friendly packaging, surpassing countries such as Vietnam and the Philippines. Studies confirm a strong relationship between environmental awareness and green purchases, with consumers willing to pay more for sustainable options (Cozma et al., 2023). Environmental attitudes significantly influence purchasing behaviour, as consumers favour products that align with their values (Mabkhot, 2024). In addition, this also shows awareness of the importance of reducing waste and environmental impact. This behaviour is in line with the concept of Green Purchase Behaviour (GPB), particularly the decision to buy more environmentally friendly products as a form of commitment to environmental preservation. This behaviour includes the purchase of beauty products (Nugraha & Soelasih, 2023).

The beauty industry in Indonesia is experiencing significant growth, with the personal care sector growing by 6% and expected to continue to grow due to the increasing awareness of Indonesian women about skin care (Rahmi, 2024). This trend highlights the increasing importance of appearance, especially in urban areas, where beauty care has become an integral part of the modern lifestyle (Chu, 2023). In addition, the green cosmetics sector in Indonesia is also growing by 7.2% per year (2019–2023), driven by consumer demand for natural products. Despite this growth, there is no official regulation defining green beauty standards, leading to confusion among consumers and businesses. Diverse definitions from organisations such as PETA and the Vegan Society further complicate the issue. This study explores the impact of Green Consumer Knowledge (GCK), Consumer Social Responsibility (CnSR), and Green Advertising (GA) on Gen-Z's eco-conscious purchasing in the cosmetics sector, aiming to bridge the knowledge gap and promote sustainable practices.

Generation Z, born between 1997 and 2012, is the largest demographic group in Indonesia, with 74.93 million people (27.94% of the population). As digital natives, they are highly connected and adept at navigating technology, which influences their communication, consumer behaviour, and worldview. (Jayatissa, 2023) Gen-Z is known for ethical consumption and a strong preference for environmentally friendly products. Factors such as environmental awareness, social norms, and perceived green knowledge shape their green purchasing decisions (Hudayah et al., 2023).

Green purchasing among Gen-Z is influenced by environmental knowledge, social responsibility, and green advertising (Rizkynugraheny et al., 2025). Informed consumers are more likely to choose sustainable products, while social responsibility mediates the relationship between environmental knowledge and purchasing decisions. Understanding these factors is critical for businesses targeting this environmentally conscious demographic (Mahmud, 2024).

Sense of responsibility for green purchases is shaped by social norms and peer interactions, which greatly influence consumer intentions. Social influence increases awareness of sustainability and has a direct impact on green purchase intentions, emphasising the role of collective social processes in encouraging environmentally responsible behaviour (Truc, 2024). Green advertising moderates this relationship, strengthening the impact of social responsibility on Gen-Z purchasing decisions. Effective green marketing, as demonstrated in studies such as The Body Shop, aligns with Gen-Z values and significantly shapes their purchasing patterns.

Although Gen-Z demonstrates environmental awareness, there is often a gap between this awareness and actual green purchasing behaviour. For example, Gen-Z in Germany demonstrates higher environmental sensitivity compared to their counterparts in Poland, where awareness often does not translate into action (Truc, 2024). Similarly, in China, factors such as environmental awareness and brand image positively influence green purchasing, while price negatively impacts. In Portugal, willingness to purchase, price consciousness, perceived benefits, and quality play a key role. These findings highlight the complexity of the factors that shape Gen-Z's sustainable purchasing behaviour (Elgammal et al., 2024).

Green advertising is crucial in strengthening the relationship between consumer social responsibility (CSR) and green purchasing. Companies committed to environmental sustainability gain consumer trust and enhance their brand image, thereby driving green purchasing intentions. However, greenwashing undermines trust, leading to skepticism and decreased purchase intentions. Transparency in marketing is essential to prevent such outcomes (Elgammal et al., 2024).

In the context of consumer behaviour, interest in environmentally friendly products is increasing, especially among Generation Z, who are known to have a high awareness of sustainability issues. Green Purchase Behaviour (GPB) reflects consumers' decisions to purchase products that have a lower environmental impact, as a form of their commitment to environmental conservation. GPB is not only influenced by environmental awareness, but also by other factors such as knowledge of green products (Green Consumer Knowledge/GCK), consumer social responsibility (Consumer Social Responsibility/CnSR), and green marketing strategies such as Green Advertising (GA) (Borah et al., 2024).

Green Consumer Knowledge (GCK) is a key factor in driving green purchasing decisions. Consumers who have a better understanding of the benefits and environmental impacts of a product tend to be more proactive in choosing more sustainable products (Wang et al., 2019). However, previous studies have shown mixed results. Some studies found a positive relationship between GCK and GPB, while other studies showed that environmental knowledge does not always have a direct effect on purchasing behaviour due to differences in culture and social norms. Therefore, it is necessary to further explore how other factors, such as CnSR, can mediate this relationship.

Consumer Social Responsibility (CnSR) acts as a bridge between environmental awareness and real action in green consumption. Consumers who feel socially responsible are more likely to convert their awareness into sustainable purchasing behaviour. However, research also shows that even though someone has a positive attitude towards sustainability, this attitude does not always translate into strong purchase intentions. Therefore, external factors such as Green Advertising (GA) can play a role in strengthening the influence of CnSR on GPB.

Green Advertising (GA) plays an important role in shaping consumer perceptions of a product's sustainability. Transparent and credible green advertising can increase consumer awareness and trust in a brand's sustainability claims (Lopes et al., 2024). Previous studies have shown that GA can strengthen the relationship between consumer social responsibility and green product purchase intention. However, on the other hand, concerns about greenwashing practices can reduce the effectiveness of GA in building consumer trust. Therefore, it is important to further examine how GA can function as an effective moderator in the relationship between CnSR and GPB. Based on the background above, this study aims to analyze the influence of Green Consumer Knowledge on Green Purchase Behaviour among Generation Z in Indonesia, with the role of Consumer Social Responsibility as a mediator and Green Advertising as a moderator.

## **METHODOLOGY**

This study uses a quantitative approach with a survey method to analyse the purchasing behaviour of environmentally friendly products among Generation Z in Samarinda, Kalimantan. This study targets Gen-Z consumers in Indonesia, born between 1997 and 2012, with a focus on college students aged 18-25 years (Nguyen Tran Cam, 2023). Data collection was conducted in April 2024, with the oldest Gen-Z member being 25 years old and the youngest being 18 years old. Respondents' ages were categorised into 18-21, 22-25 years old. The distribution of questionnaires was carried out online via WhatsApp using the snowball sampling technique,

where initial respondents were asked to share the questionnaire with their peers to expand the scope of participation that matched the sample criteria.

The number of samples used in this study was calculated using the Hair formula. According to Hair et al (2019) the Hair formula is a study that has an unknown population of Gen-Z students who use WhatsApp. Here is the calculation:

$$\begin{aligned}\text{Sample} &= \text{Number of indicators} \times 5 \\ &= 38 \times 5 \\ &= 190\end{aligned}$$

Hair et al (2019) also explained the sample size in SEM (Structural Equation Model) analysis if there are more than 20 indicators, the sample size is between 100-200. Based on the calculation above, the sample in this study was 190 respondents. This approach ensures reliable inferences, minimises bias, and balances resources. This is broadly applicable across research contexts and supports ethical use of resources by avoiding overly large samples. Respondents aged 18-21 years reached 126 (66.7%), and 22-25 years reached 63 (33.3%). The gender distribution included 42 males (22.2%) and 147 females (77.8%).

Dillman (2007) highlights effective online questionnaire design, emphasizing clear wording, logical sequencing, and an attractive layout to improve response rates and data quality (Ghanad, 2023). Questions should be concise, free of jargon, and tailored to the target population for better. Avoiding ambiguous language, double-barrelled questions, and ensuring logical flow reduces cognitive load and dropout rates. Grouping related topics and creating a user-friendly design enhances engagement, keeping questionnaires concise further ensures data quality.

Although items from previous studies have been used in various contexts, adaptations were made to ensure suitability to the culture and characteristics of Gen-Z respondents in Indonesia. (Mabkhot, 2024) The adaptation process began with the translation of the items into Indonesian by two bilingual experts with backgrounds in marketing and consumer behaviour. (Sihombing et al., 2023) Furthermore, terminology was adjusted to better suit the communication style and consumption experience of Gen Z in Indonesia, especially in the context of purchasing environmentally friendly cosmetic products. (Melati & Amirudin, 2024) Several technical terms were simplified to make them easier for respondents to understand.

To ensure that each item still represents the construct being measured, content validation was carried out through expert judgment involving three academics in the fields of marketing and consumer behaviour. The experts reviewed the translated instruments to assess the suitability of meaning, readability, and relevance to the context of Gen-Z Indonesia (Hudayah et al., 2023). Based on feedback from the experts, several items were revised to avoid ambiguity and improve suitability to respondents' habits. After content validation, a pretest was conducted on 30 student respondents in Samarinda who had similar characteristics to the research population (Ghanad, 2023). In this pretest, respondents were asked to provide input on the clarity of the questions, understanding of the terms used, and the suitability of the Likert scale applied (Fadhila, 2024). The pretest results showed the need for several improvements in the use of words and phrases to be more relevant to the mindset and experience of Gen Z in purchasing environmentally friendly cosmetic products.

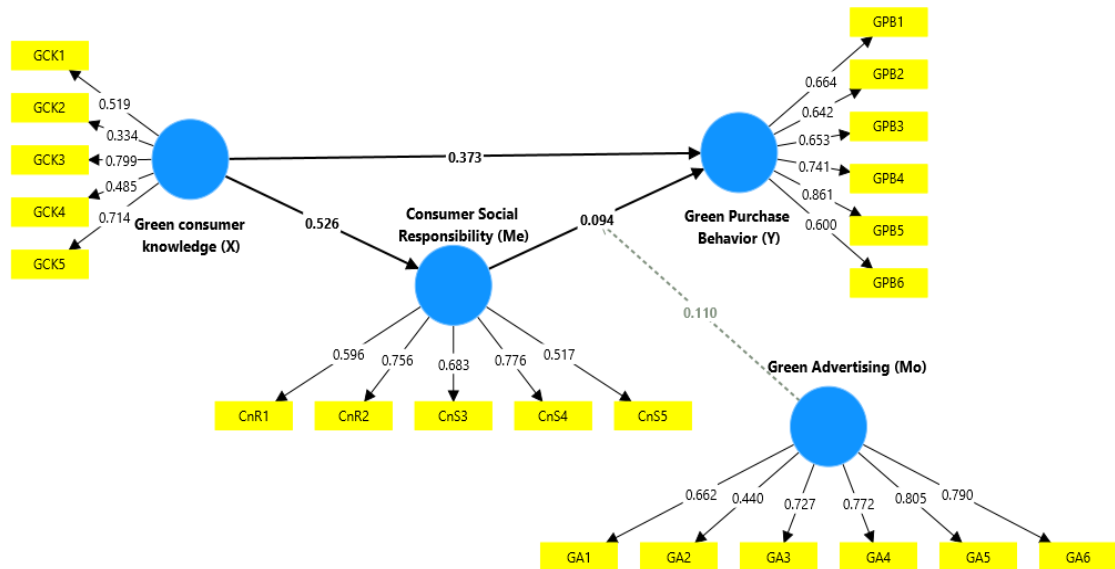
Construct validation was then carried out through confirmatory factor analysis (CFA) using the Partial Least Squares Structural Equation Modelling (PLS-SEM) approach. The results of the analysis showed that several items had loading factors below 0.60, so they had to be eliminated to increase the validity of the model (Birjaman et al., 2023). After modification, all variables met the convergent validity criteria with an Average Variance Extracted (AVE) value above 0.50 and a composite reliability (CR) above 0.70, indicating that the instrument was able to measure the construct well. With the validation procedure carried out, the instrument in this study has been adjusted to the cultural context and characteristics of Gen-Z Indonesia so that it can be relied on to measure Green Consumer Knowledge, Consumer Social Responsibility, Green Advertising, and Green Purchase Behaviour accurately in this study.

## **RESULT AND DISCUSSION**

### **Evaluation of the measurement model**

The measurement model in this study consists of a reflective measurement model, where green consumer variables, help-seeking behaviour and self-determination are measured reflectively.

Hair et al (2021) state that the evaluation of the reflective measurement model consists of a loading factor  $\geq 0.60$ , Composite reliability  $\geq 0.70$ , average variance extracted (AVE  $\geq 0.50$ ) and evaluation of discriminant validity using the Fornell and Lacker criterion  $\geq 0.400$ . The following Figure 1 is the measurement model before modification.



**Figure 1.** Measurement model before modification  
 Source : Research framework by the author (2025)

**Table 1.** Loading factor, Composite Reliability, and Average Variance Extracted

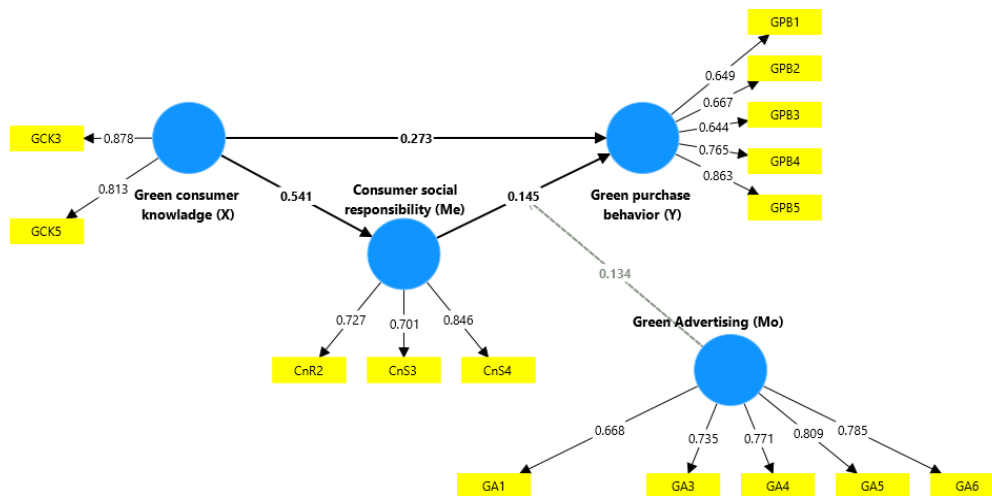
Variabel	Indicator	Loading factor	Comp-Reliability	AVE
Green consumer knowledge (X)	GCK1	0.519	0.715	0.353
	GCK2	0.334		
	GCK3	0.799		
	GCK4	0.485		
	GCK5	0.714		
Consumer Social Responsibility (Me)	CnR1	0.596	0.802	0.452
	CnR2	0.756		
	CnS3	0.683		
	CnS4	0.776		
	CnS5	0.517		
Green Advertising (Mo)	GA1	0.662	0.856	0.505
	GA2	0.440		
	GA3	0.727		
	GA4	0.772		
	GA5	0.805		
	GA6	0.790		
Green Purchase Behaviour (Y)	GPB1	0.664	0.849	0.488
	GPB2	0.642		
	GPB3	0.653		
	GPB4	0.741		
	GPB5	0.861		
	GPB6	0.600		

Source : Data processing results by the author (2025)

The analysis reveals that Green Consumer Knowledge is measured by five indicators, but three (GCK1, GCK2, and GCK4) are invalid due to loading factors below 0.600, while the variable's reliability is acceptable with a CR value of 0.715, although the AVE value of 0.353 does not meet the threshold for good convergent validity, explaining only 35.3% of the variance.

The Consumer Social Responsibility variable is assessed using five indicators, with three considered valid due to loading factors  $\geq 0.600$ . The variable's reliability is acceptable with a CR value of 0.802, but the AVE value of 0.452 does not meet the threshold for good convergent validity, explaining 45.2% of the variance. The Green Advertising variable is measured with six indicators, of which five are valid (loading factor  $\geq 0.600$ ) and one is invalid due to a loading factor  $< 0.600$ . Its reliability is acceptable with a CR value of 0.856, and the AVE value of 0.502

meets the good convergent validity standard, explaining 50.2% of the variance. Lastly, the Green Purchase Behaviour variable, measured with six valid indicators (loading factor  $\geq 0.600$ ), has an AVE value of 0.488, which does not meet the threshold for good convergent validity, explaining 48.8% of the variance. It can be concluded that because there are six indicators declared invalid, the measurement model analysis will continue after modification with the aspect of the desire to seek help (M1) removed from the model, the following model after modification, can be seen in the figure 2.



**Figure 2.** Measurement model after modification  
 Source: Research framework by the author (2025)

**Table 2.** Loading factor, Composite Reliability, and Average Variance Extracted after modification

Variabel	Indikator	Loading factor	Composite Reliability	AVE
Green consumer knowledge (X)	GCK3	0.765	0.834	0.716
	GCK5	0.863		
Consumer Social Responsibility (Me)	CnR2	0.727	0.803	0.578
	CnS3	0.701		
	CnS4	0.846		
Green Advertising (Mo)	GA1	0.668	0.869	0.571
	GA3	0.735		
	GA4	0.771		
	GA5	0.809		
	GA6	0.785		
Green Purchase Behaviour (Y)	GPB1	0.649	0.844	0.522
	GPB2	0.667		
	GPB3	0.644		
	GPB4	0.765		
	GPB5	0.863		
	GPB6	0.593		

Sources: Data processing results by the author (2025)

The analysis indicates that Green Consumer Knowledge, measured by two indicators, is valid with a loading factor  $\geq 0.600$ . The reliability of the variable is acceptable with a CR value of 0.834, and the convergent validity, indicated by an AVE value of 0.716, meets the good convergent validity requirement. This variable explains 71.6% of the variance. The Consumer Social Responsibility variable, measured by three indicators, also meets validity criteria with a loading factor  $\geq 0.600$ . Its reliability is shown by a CR value of 0.803, and the AVE value of 0.578 confirms good convergent validity. This variable accounts for 56.8% of the variance.

The Green Advertising variable is measured with five valid indicators, all having a loading factor  $\geq 0.600$ . Its reliability, with a CR value of 0.869, and an AVE value of 0.571, confirms good convergent validity. The variable explains 57.1% of the variance. The Green Purchase Behaviour variable, measured with six indicators, has five valid ones (loading factor  $\geq 0.600$ ) and one invalid. The variable's AVE value of 0.522 confirms good convergent validity, and the CR value of 0.844 indicates acceptable reliability. This variable explains 52.2% of the variance.

### Structural Model Evaluation

#### Multikolinieritas

The evaluation of the structural model involves checking for multicollinearity between variables using the Inner VIF measure. Inner VIF values under 5 indicate the absence of multicollinearity between the variables (Hair et al., 2022)

**Table 3.** Results Analysis

Variables	VIF
Consumer social_responsibility (Me) -> Green purchase _behaviour (Y)	1.560
Green Advertising (Mo) -> Green purchase _behaviour (Y)	1.300
Green consumer _knowladge (X) -> Consumer social_responsibility (Me)	1.000
Green consumer _knowladge (X) -> Green purchase _behaviour (Y)	1.485
Green Advertising (Mo) x Consumer social_responsibility (Me) -> Green purchase behaviour (Y)	1.010

Sources: Data processing results by the author (2025)

The analysis results show that the inner VIF value is <5, so the level of multicollinearity between variables is said to be low. This result strengthens the results of parameter estimation in SEM PLS is robust, especially the analysis of mediators and moderators (unbiased).

#### Standard Root Mean Square Residual

SRMR, or standardised root mean square residual, measures model fit by comparing the data correlation matrix with the estimated model correlation matrix. According to Schmelleh et al. (2003), an SRMR value between 0.08 and 0.10 indicates an acceptable model fit. The analysis reveals an SRMR value of 0.10, suggesting the model is a good fit (Table 4).

**Table 4.** Direct hypothesis testing

Hypothesis	Path coefficient	p-value	95% interval faith path coefficient		F Square
			Low Limit	Up Limit	
H1. Green consumer knowledge (X) → Green purchase behaviour (Y)	0.352	0.000	0.206	0.471	0.083
H2. Green consumer knowledge (X) → Consumer social responsibility (Me)	0.541	0.000	0.462	0.626	0.415
H3. Consumer social responsibility (Me) → Green purchase behaviour (Y)	0.145	0.026	0.014	0.260	0.022
H4. Green Advertising (Mo) -> Green purchase _behaviour (Y)	0.347	0.000	0.222	0.537	0.152

Sources : Data processing results by the author (2025)

Based on the analysis that has been carried out, it is found that (H1) is accepted, namely green consumer knowledge is able to directly influence green purchasing behaviour, as evidenced by the p value <0.05 (p=0.000), with a path coefficient (0.352), the contribution of green consumer knowledge to predict green purchasing behaviour is low (f square = 0.083). Meanwhile (H2) is accepted, namely green consumer knowledge is able to influence consumer social responsibility, as evidenced by the p value <0.05 (p=0.000), with a path coefficient (0.541), the contribution of green consumer knowledge is able to predict consumer social responsibility has a high category (f square = 0.415). In addition (H3) accepted consumer social responsibility is able to influence green purchase behaviour as evidenced by the p value <0.05 (p=0.026), with path coefficient (0.145), the contribution of consumer social responsibility is able to predict green purchase behaviour is low (f square = 0.022). Then (H4) accepted green advertising is able to influence green purchase behaviour as evidenced by the p value <0.05 (p=0.000), with path coefficient (0.347), the contribution of green advertising to predict green purchase behaviour is moderate (F-squared = 0.122). Hair et al (2017) explain that to be able to see the contribution of influence in a model can be seen from F Square, namely 0.02 (low), 0.15 (moderate) and 0.35 (high).

*Hypothesis through mediators*

The following table 5 are the results of the hypothesis testing analysis of the role of help-seeking behaviour in mediating the influence of self-determination on emotional wellbeing.

**Table 5.** Hypothesis testing through mediators

Hypothesis	Path coefficient	p-value	95% interval faith path coefficient		Upsilon (V)	Remark
			Low Limit	Up Limit		
H5. Green consumer knowledge X Consumer social responsibility (Me) → Green purchase behaviour (Y)	0.079	0.031	0.007	0.147	0,006	Low Influence

Sources: Data processing results by the author (2025)

Based on the analysis that has been done, it is found that green consumer knowledge is able to influence green purchasing behaviour through consumer social responsibility, as evidenced by the p value <0.05 (p=0.031). The mediation effect in this study uses upilon (v) with the results of the mediation effect of consumer social responsibility classified as low. The role of consumer social responsibility as a partial mediator. The mediation effect refers to Cohen in Ogbeibu (2020), namely 0.175 (high mediation effect), 0.075 (medium mediation effect) and 0.01 (low mediation effect).

*Hypothesis through the moderator*

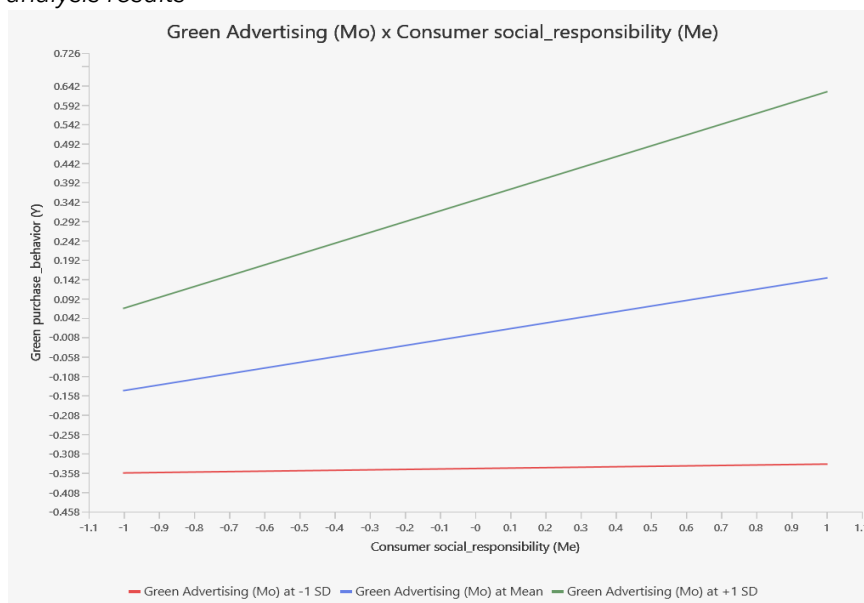
**Table 6.** Hypothesis testing through moderators

Hipotesis	Path coefficient	p-value	95% interval faith path coefficient	
			Low Limit	Up Limit
H6. Consumer social responsibility (Mo) → Green Advertising (Mo) → Green purchase behaviour (Y)	0.134	0.038	0.024	0.273

Sources: Data processing results by the author (2025)

From the analysis that has been done at Table 6, it is found that green advertising is able to significantly moderate the influence of consumer responsibility on green purchase behaviour with a moderation path coefficient of (0.134) and p value <0.05 (p=0.038), because the interaction coefficient is positive, namely 0.121, green advertising significantly strengthens the influence of consumer social responsibility on green purchase behaviour.

*Simple plot analysis results*



**Figure 3.** Simple plot

Sources: Data processing results by the author (2025)

Based on the results of the simple plot at Figure 3, it is known that the green line is the effect of consumer social responsibility on green purchase behaviour with high green advertising. Meanwhile, the red line is the effect of consumer social responsibility on green purchase behaviour with low green advertising (Slavich et al., 2023). The gradient/slope of the two lines can be said to be different, so the effect of consumer social responsibility on green purchase behaviour with high and low green advertising is different, so green advertising significantly moderates the effect of consumer social responsibility on green purchase behaviour (Noraisyah et al., 2025).

### **The Influence of Green Consumer Knowledge on Green Purchase Behaviour**

The findings of this study indicate that GCK directly affects GPB with a path coefficient of 0.352 and a p-value  $< 0.05$  ( $p = 0.000$ ), which means that the higher the consumer knowledge about green products, the more likely they are to make sustainable purchases. However, the effect of GCK on GPB is still relatively low ( $f$  square = 0.083), indicating that other factors also influence green purchasing behaviour (Mahmud, 2024). GCK is proven to significantly influence green purchasing behaviour, in line with previous studies. This shows that increasing environmental awareness among Gen-Z directly drives their tendency to purchase green products. This highlights the importance of integrating sustainability education into marketing strategies to encourage the right consumer choices. (Nasiketha et al., 2024)

The results of this study are in line with the theory that GCK has an important role in shaping green purchasing behaviour. The theory proposed by Moisander (2007) and Dangelico et al. (2021) showed that consumer knowledge about environmentally friendly products contributes to increased environmental awareness and pro-environmental attitudes, which ultimately drives more responsible purchasing decisions. (Borah et al., 2024)

### **The role of consumer social responsibility as a mediator**

The results of the analysis show that CnSR mediates the relationship between GCK and GPB with a path coefficient of 0.079 and a p value  $< 0.05$  ( $p = 0.031$ ). Although the role of CnSR as a mediator is significant, the effect is relatively low ( $\nu$  = 0.006), indicating that although CnSR increases the impact of GCK on GPB, its influence is not dominant. Therefore, more intensive education and social campaigns are needed to strengthen the role of CnSR in encouraging green consumption behaviour.

This study shows that CnSR plays a role as a mediator in the relationship between GCK and GPB, which means that the higher the consumer's knowledge of green products, the greater their sense of social responsibility in purchasing decisions. (Noraisyah et al., 2025) Consumers with high levels of awareness tend to be more concerned about their social responsibility in consumption. (Iskandar, 2024) CnSR acts as a partial mediator, bridging the gap between knowledge and behaviour. (Ramadhani & Budiarti, 2024) This finding emphasizes that a sense of social responsibility enhances the application of green awareness into actionable purchasing decisions, emphasising the role of collective social norms in encouraging sustainable consumption.

### **The role of green advertising as a moderator**

In this study, the moderating effect of GA on the relationship between CnSR and GPB has a path coefficient of 0.134 and a p-value  $< 0.05$  ( $p = 0.038$ ), indicating that GA significantly strengthens the influence of CnSR on GPB. The results of the simple plot analysis also show that the effect of CnSR on GPB is stronger at high levels of GA compared to low GA. Therefore, companies need to ensure that their green marketing campaigns are transparent and authentic in order to build trust and increase green purchasing intentions among young consumers. GA is shown to strengthen the relationship between CnSR and GPB, indicating that credible green advertising can enhance the impact of consumers' social responsibility on purchasing decisions. This is in line with the theory proposed by Raj & Sharma and Suki et al., which shows that sustainability-based marketing strategies can increase consumer awareness and strengthen green purchase intentions (Nguyen Tran Cam, 2023). GA positively moderates the relationship between CnSR and green purchasing behaviour. Effective green advertising strengthens the influence of social responsibility by reinforcing green values and fostering consumer trust (Truc, 2024). Marketers should focus on transparent and credible green advertising to avoid skepticism associated with

greenwashing(Mabkhot, 2024). Companies should emphasise GCK in their campaigns, educating consumers about the benefits and impacts of green products (Nurainun et al., 2023). Collaborative efforts between corporations and NGOs to promote CnSR can increase brand loyalty and green consumption (Dwivedi et al., 2021). Tailoring green advertising to align with Gen Z values can significantly increase engagement and conversion rates(Rahmi, 2024).

The results showed the important role of Green Consumer Knowledge in encouraging green purchasing behaviour directly or through Consumer Social Responsibility as a partial mediator (Shah & Asghar, 2023). This finding is consistent with the theory that consumer knowledge about sustainability increases social awareness and ultimately encourages more environmentally friendly purchasing decisions (Elgammal et al., 2024). In addition, Green Advertising proved to be a significant moderator, strengthening the relationship between Consumer Social Responsibility and Green Purchase Behaviour (Efendi & Nawsri, 2024). This emphasises the role of sustainability-based marketing strategies in strengthening the influence of social factors on consumer behaviour (Suryanto et al., 2024). Overall, the results support the integration of sustainability dimensions in marketing strategies and product development to enhance green purchase behaviour (Li et al., 2024).

These findings suggest that companies could benefit from investing in consumer education programs about sustainability and environmental issues. By increasing Green Consumer Knowledge, businesses may not only directly influence green purchasing behaviour but also foster a sense of social responsibility among consumers. Additionally, the moderating effect of Green Advertising highlights the potential for targeted marketing campaigns to amplify the impact of consumers' social responsibility on their purchasing decisions.

## CONCLUSION

The results of this study indicate that Green Consumer Knowledge (GCK) has a significant direct effect on Green Purchase Behaviour (GPB) with a path coefficient of 0.352 and p-value = 0.000. However, the contribution of GCK in predicting GPB is still relatively low ( $f^2 = 0.083$ ). In addition, Consumer Social Responsibility (CnSR) is proven to be a partial mediator in the relationship between GCK and GPB, with a path coefficient of 0.079, p-value = 0.031, and a low mediation effect ( $V = 0.006$ ). This shows that although CnSR increases the impact of GCK on GPB, its effect is still limited. Meanwhile, Green Advertising (GA) has a direct effect on GPB with a path coefficient of 0.347 and p-value = 0.000 and has a moderating effect on the relationship between CnSR and GPB with a moderation coefficient of 0.134 and p-value = 0.038. The simple plot analysis results show that the relationship between CnSR and GPB is stronger at high GA levels compared to low GA levels.

Thus, this study confirms that the combination of GCK, CnSR, and GA plays an important role in driving green purchasing behaviour among Generation Z in Samarinda. Green advertising not only attracts consumers' attention but also strengthens the relationship between social responsibility and purchasing decisions, highlighting the need for a strategic and sustainability-focused marketing approach. Practical implications of this study include the importance of consumer education about sustainability, the active role of companies in increasing consumers' social awareness, and transparent marketing strategies to strengthen trust and avoid scepticism towards greenwashing practices.

However, this study is limited to college students in Indonesia and only focuses on the cosmetics sector, which may affect generalisation to other demographics, regions, or industries. Future research should expand to include non-college Gen-Z individuals, explore different product categories such as fashion or food, and adopt a longitudinal design to capture behavioural changes over time. In addition, incorporating cultural, socioeconomic, and regional variations can provide a more comprehensive understanding of green consumer behaviour.

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