Environmental Concern, Subjective Norm, Eco Labels, and Green Purchase Intention: The Moderating Role of Social Media Information in the FMCG Industry

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ABSTRACT

Plastic pollution has become a global environmental issue with serious ecological consequences. Reports from the United Nations Environment Programme indicate that global plastic waste production exceeds 400 million tons annually, with a significant portion originating from packaging waste generated by the Fast-Moving Consumer Goods (FMCG) industry. This study aims to analyze the influence of Environmental Concern (EC), Subjective Norm (SN), and Eco Labels (EL) on Green Purchase Intention (GPI), while also examining the moderating role of Social Media Information (SMI). The research employed a quantitative approach using a survey of 210 consumers selected through purposive sampling. Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 3 at a 5% significance level. The results reveal that Environmental Concern, Subjective Norm, Eco Labels, and Social Media Information have a positive and significant effect on Green Purchase Intention. Furthermore, Social Media Information does not moderate the relationship between Environmental Concern and Green Purchase Intention, but it significantly moderates the relationship between Subjective Norm and Green Purchase Intention. These findings provide empirical contributions to the literature on green consumer behavior and offer practical implications for strengthening sustainable marketing strategies and environmental communication in the FMCG sector.

INTRODUCTION

Plastic waste has become a critical environmental issue that threatens ecosystem sustainability and human well-being worldwide. The increasing accumulation of plastic waste raises serious concerns because plastic materials degrade very slowly and often persist in the environment for hundreds of years. According to reports from the United Nations Environment Programme, global

plastic waste production reached approximately 400 million tons in 2024 and is projected to increase to around 460 million tons annually by 2025, while only about 9–10% of plastic waste is recycled (Paino, 2025; Waste Direct, 2025; Beston, 2025; CFES, 2025). The remaining waste accumulates in landfills, rivers, and oceans, causing severe ecological damage and threatening biodiversity. One of the major contributors to plastic waste is the packaging used in the Fast-Moving Consumer Goods (FMCG) industry, which relies heavily on single-use plastic materials for product distribution and marketing (Isma, 2024; Greenpeace Indonesia, 2018). Therefore, understanding consumer behavior related to environmentally friendly products has become increasingly important in supporting global sustainability efforts and reducing plastic pollution.

The growing environmental crisis caused by plastic waste has raised concerns among governments, environmental organizations, and consumers worldwide. The FMCG sector plays a significant role in this problem due to its extensive use of plastic packaging, particularly single-use packaging that contributes substantially to environmental pollution. The rapid growth of consumer markets has led to increased consumption of packaged products, which in turn generates large volumes of plastic waste every year. Although many companies have introduced sustainability initiatives and environmental commitments, the effectiveness of these efforts remains widely debated. Environmental campaigns and sustainability programs often promote eco-friendly packaging and recycling initiatives; however, the actual environmental impact of these initiatives may not always align with their intended goals. In many cases, consumers are exposed to environmental claims that may not fully reflect the real environmental performance of products. As a result, understanding the factors that influence consumers' green purchase intention becomes essential in addressing environmental challenges and promoting responsible consumption patterns.

In response to growing environmental concerns, many companies within the FMCG sector have implemented sustainability initiatives aimed at reducing plastic waste and promoting circular economy practices. These initiatives include recycling programs, waste collection partnerships, and public education campaigns that encourage consumers to participate in responsible waste management. Some companies have also introduced environmentally friendly packaging innovations such as recycled plastic materials and eco-labeling systems to communicate their sustainability commitments to consumers. Despite these efforts, recent reports indicate that plastic packaging remains one of the largest contributors to global plastic pollution. Brand audit reports show that multinational FMCG companies continue to produce billions of plastic sachets annually, which significantly contributes to environmental pollution (Greenpeace Indonesia, 2023). This situation illustrates a significant gap between sustainability commitments and the actual environmental outcomes of corporate

practices. Such discrepancies often raise concerns about greenwashing, a phenomenon in which companies promote environmental claims that appear stronger than the real environmental benefits experienced by consumers (Kusuma, 2023).

Previous studies have widely examined factors influencing green consumer behavior and environmentally responsible purchasing decisions. Environmental concern is considered one of the most important determinants of environmentally friendly consumption behavior because individuals who demonstrate high environmental awareness tend to support sustainable products and environmentally responsible practices (Hudayah et al., 2023; Ayaz & Jang, 2024; Siyal et al., 2021). Consumers with strong environmental concern are more likely to perceive environmentally friendly products as valuable and beneficial, which subsequently increases their intention to purchase such products (Hoang & Tung, 2024; Lavuri et al., 2021). Environmental concern also reflects individuals' beliefs and attitudes regarding environmental protection and sustainability, which influence their consumption behavior. However, some studies have reported inconsistent findings regarding the effect of environmental concern on green purchase intention. For instance, Qomariah and Prabawani (2020) found that environmental concern does not always translate directly into purchasing behavior, indicating that other psychological or contextual factors may influence consumers' decisions.

In addition to environmental concern, subjective norms and eco-labels have also been identified as significant predictors of green purchase intention. Subjective norms represent the influence of social pressure from family members, friends, and other reference groups that shape individuals' behavioral intentions (Shang et al., 2024; Sousa et al., 2022). Individuals often adjust their purchasing behavior to align with social expectations and maintain social acceptance, particularly in contexts where environmental awareness becomes socially desirable. Several studies have confirmed that subjective norms positively influence green purchase intention (Parveen & Chaudhary, 2025; Aseri & Ansari, 2023; Zhuang et al., 2021). Similarly, eco-labels function as credible informational signals that help consumers identify environmentally friendly products and strengthen their trust in sustainability claims (Panopoulos et al., 2023; Majeed et al., 2022). Nevertheless, prior research has also produced mixed results regarding the effectiveness of eco-labels in influencing consumer behavior. For example, Jamal et al. (2021) reported that eco-labels did not significantly influence purchase intention in certain sectors, suggesting that additional contextual factors may affect consumer responses.

Alongside these factors, the rapid growth of digital technology and social media has transformed the way consumers access and process product information. Social media platforms provide consumers with extensive information about products, sustainability practices, and environmental issues,

which may influence their attitudes and purchasing decisions. Social media information can shape consumer perceptions by spreading environmental awareness, encouraging discussions about sustainability, and strengthening social influence through online communities (Xie & Madni, 2023; Nekmahmud et al., 2022; Sun & Xing, 2022). Despite the increasing importance of digital communication in shaping consumer behavior, limited studies have examined the moderating role of social media information in the relationship between environmental and social factors and green purchase intention. Most existing studies focus on the direct effects of social media on consumer behavior rather than exploring its potential interaction effects with psychological or social determinants. Therefore, further investigation is necessary to understand how social media information interacts with environmental concern and subjective norms in influencing green purchase intention.

Based on the identified research gaps, this study aims to examine the influence of environmental concern, subjective norms, and eco-labels on green purchase intention while investigating the moderating role of social media information. This research contributes to the literature by integrating environmental, social, and digital communication perspectives in explaining green consumer behavior. Specifically, the study proposes that social media information may strengthen the influence of subjective norms and environmental awareness on consumers' intention to purchase environmentally friendly products. By exploring these relationships, the study provides a more comprehensive understanding of how internal values, social influence, and digital information interact in shaping sustainable consumption behavior. The findings of this research are expected to contribute both theoretically and practically by expanding the green consumer behavior literature and offering insights for companies in developing effective sustainability communication strategies that promote environmentally responsible purchasing decisions.

Literatur Review

Environmental concern reflects individuals' beliefs, attitudes, and level of awareness regarding environmental issues (Hudayah et al., 2023; Boo & Park, 2013). Individuals with stronger environmental concern tend to demonstrate pro-environmental behavior and support environmentally friendly consumption practices (Hoang & Tung, 2024; Lavuri et al., 2023; Kamalanon et al., 2022; Harjadi & Gunardi, 2022; Prakash et al., 2019). Environmental concern generally consists of cognitive, affective, and conative dimensions, representing environmental beliefs, emotional concern, and behavioral intentions toward environmental protection. Previous studies have shown that environmental concern plays an important role in shaping green purchase intention, as individuals who are more aware of environmental problems tend to prefer products that minimize environmental impact (Hudayah et al., 2023; Siyal et al., 2021). However, empirical findings remain inconsistent, as some studies indicate

that environmental concern does not always directly translate into purchasing behavior (Ayaz & Jang, 2024; Qomariah & Prabawani, 2020). Based on these arguments, environmental concern is expected to positively influence green purchase intention. Thus, the following hypothesis is proposed: H1: Environmental concern positively influences green purchase intention.

In addition to personal environmental awareness, social influence also plays a significant role in shaping green purchasing behavior. Subjective norm refers to the perceived social pressure from important reference groups such as family, friends, or colleagues regarding whether individuals should perform a particular behavior (Zhuang et al., 2021; Sousa et al., 2022; Rausch & Kopplin, 2021). Within the Theory of Planned Behavior framework, subjective norm represents one of the key psychological determinants influencing behavioral intentions (Ajzen, 1991; Shang et al., 2024). Individuals often adjust their behavior to meet social expectations and maintain social acceptance, particularly when environmentally responsible consumption is viewed positively within their social environment. Similarly, eco labels serve as credible informational cues that help consumers identify environmentally friendly products and increase trust in sustainability claims (Panopoulos et al., 2023; Majeed et al., 2022). Eco labels function as communication tools that signal product environmental performance, thereby supporting consumer decision-making in green purchasing contexts (Sabilla & Hendayani, 2022; Rahman & Widodo, 2020). Prior studies generally confirm the positive effect of subjective norm and eco labels on green purchase intention, although several studies report varying results depending on contextual and sectoral differences (Jamal et al., 2021; Panopoulos et al., 2023). Therefore, the following hypotheses are proposed: H2: Subjective norm positively influences green purchase intention. H3: Eco labels positively influence green purchase intention.

The rapid development of digital technology has further expanded the role of social media in influencing consumer behavior. Social media information refers to the use of social media platforms as a source of product information prior to purchase decisions (Xie & Madni, 2023). Through social media, consumers are exposed to various types of information that may influence their attitudes, perceptions, and purchasing decisions (Sun & Xing, 2022; Nekmahmud et al., 2022; Pop et al., 2020). Social media also functions as an educational platform that enhances environmental awareness and encourages discussions related to sustainable consumption practices. Previous studies suggest that social media information can significantly influence green purchase intention by shaping consumer perceptions and reinforcing social norms related to environmental responsibility (Xie & Madni, 2023; Zhao et al., 2019). Furthermore, social media may strengthen the relationship between environmental concern and green purchase intention as well as between subjective norm and green purchase intention by amplifying environmental information and social

influence in digital communities (Hu et al., 2024; Truc, 2024; Panopoulos et al., 2023). Based on these arguments, the following hypotheses are proposed: H4: Social media information positively influences green purchase intention. H5: Social media information moderates the relationship between environmental concern and green purchase intention. H6: Social media information moderates the relationship between subjective norm and green purchase intention.

RESEARCH METHODS

This study employed a quantitative survey research design to examine the causal relationships among the variables proposed in the research hypotheses. A quantitative approach was selected because it allows researchers to measure relationships between variables objectively and test theoretical models using statistical analysis (Karsim & Meisa, 2024, p. 7; Adil et al., 2023, p. 1; Machali, 2021, p. 23). The study adopted a deductive research approach, which begins with established theories and previous empirical findings that are subsequently tested through empirical data analysis (Adil et al., 2023; Machali, 2021). In addition, this research used a cross-sectional design, meaning that data were collected at a single point in time to capture respondents' perceptions and behavioral intentions related to environmentally friendly products. This design is widely used in behavioral and consumer research because it enables efficient data collection and analysis for examining relationships among multiple constructs within a theoretical framework.

The population of this study consisted of consumers who use laundry detergent products and are familiar with the Rinso brand produced by Unilever. The sampling technique used was non-probability sampling with purposive sampling, which allows researchers to select respondents based on specific criteria relevant to the research objectives. The criteria for respondents included: (1) consumers living in Indonesia, (2) individuals who are familiar with Rinso products, (3) active users of social media who seek product or environmental information, (4) individuals who have awareness or concern regarding environmental issues, particularly plastic waste, and (5) respondents aged at least 17 years. Data were collected using a structured questionnaire measured with a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The use of a Likert scale enables quantitative measurement of respondents' perceptions and attitudes and supports statistical analysis using structural equation modeling techniques (Hair et al., 2021).

The sample size was determined based on the 10-times rule commonly applied in PLS-SEM, which recommends that the minimum number of respondents should be ten times the largest number of structural paths directed toward a latent variable (Hair et al., 2021, p. 16). In this study, the Green Purchase Intention (GPI) variable had four incoming paths; therefore, the minimum

required sample size was 40 respondents. However, this study collected data from 210 respondents to improve statistical power and enhance the representativeness of the findings. The collected data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with the SmartPLS 3 software, which allows simultaneous evaluation of measurement models and structural models. PLS-SEM was selected because it is suitable for exploratory research, complex models, and prediction-oriented analysis involving multiple latent constructs (Hair et al., 2021).

To ensure the validity and reliability of the data, several evaluation procedures were conducted. Prior to the main data analysis, a pre-test was conducted on 10% of the total sample to assess the clarity and reliability of the measurement instrument. The evaluation of the measurement model (outer model) included convergent validity using loading factors $\geq$ 0.708, average variance extracted (AVE) $\geq$ 0.50, discriminant validity, and composite reliability values between 0.70 and 0.90 (Hair et al., 2021, pp. 77, 80). Additionally, Common Method Bias (CMB) was examined using the Full Collinearity Test, where variance inflation factor (VIF) values below 3 indicate that the data are free from common method bias (Hair et al., 2021, p. 96). The structural model (inner model) was subsequently evaluated using the bootstrapping procedure to obtain statistical estimates, including R-square values, t-statistics greater than 1.96, and p-values below 0.05, which indicate significant relationships among the variables.

RESULTS AND DISCUSSION

Results

Respondent Demographic Characteristics

The respondent profile analysis in this survey is based on the following demographics:

Table 1. Respondent Demographic Characteristics

Category	Item	f	%
Gender	Male	50	24%
	Female	160	76%
	Total	**210**	**100%**
Age of Respondents	17–25 years	162	77%
	26–35 years	36	17%
	> 35 years	12	6%
	Total	**210**	**100%**
Region of Residence	Sumatra	17	8%
	Java	57	27%
	Kalimantan	78	37%
	Sulawesi	19	9%

	Bali, NTB & NTT	33	16%
	Papua & Maluku	6	3%
	Total	**210**	**100%**
Education Level	Elementary School	3	1%
	Junior High School	6	3%
	Senior High School / Vocational High School	140	67%
	Diploma (D1/D2/D3/D4)	16	8%
	Bachelor's Degree (S1)	41	20%
	Postgraduate (Master's/Doctoral Degree)	4	2%
	Total	**210**	**100%**
Occupation	Student	126	60%
	Private Employee	54	26%
	Civil Servant	8	4%
	Entrepreneur	15	7%
	Others	7	3%
	Total	**210**	**100%**
Average Monthly Income / Allowance	< 1 million	56	27%
	1–3 million	93	44%
	> 3–5 million	41	20%
	> 5–10 million	14	7%
	> 10 million	6	3%
	Total	**210**	**100%**

Source: Data Processed by Researchers, 2026

Based on Table 1, of the 210 respondents to the RINSO packaging study, the majority were female (76%), with a dominant age range of 17–25 years (77%). The majority of respondents were from Kalimantan (37%), had a high school/vocational high school education (67%), were students (60%), and had an income/pocket allowance of up to 3 million rupiah (71%). This indicates that respondents predominantly represent young people, those with secondary to higher education, and those with moderate economic conditions, with a predominance in Kalimantan.

Descriptive Statistics

Descriptive statistics describe data trends to understand respondents' perceptions based on the average (mean) value.

Table 2. Variable Descriptive Statistics

Variable	Mean Score	Category
Environmental Concern (EC)	4.31	Very High
Subjective Norm (SN)	4.19	High
Eco Labels (EL)	4.27	Very High
Social Media Information (SMI)	4.30	Very High
Green Purchase Intention (GPI)	4.32	Very High

Source: Data Processed by Researchers, 2026

Based on Table 2, the average EC score (4.31) indicates that respondents have a very strong concern for environmental issues, particularly the use of environmentally friendly RINSO. SN (4.19) indicates that the social environment plays a strong role in encouraging respondents to use environmentally friendly products like RINSO. Furthermore, EL (4.27) reflects consumers' positive response to the eco-friendly label on RINSO packaging as a source of product information. SMI (4.30) indicates that respondents actively use social media to seek information about RINSO's environmentally friendly characteristics. Meanwhile, GPI (4.32) confirms that respondents have a very strong intention to purchase RINSO as an environmentally friendly product in the future.

Measurement Analysis Model

The measurement model analysis in this study explains the results of the suitability, validity, and reliability tests as the basis for data analysis.

Table 3. Measurement Model Evaluation: SLF, CR, and AVE Values

Variable	Items	SLF	CR	AVE
Environmental Concern (EC)	I care about the environment because environmental damage can threaten my health.	0.817	0.939	0.658
	I believe it is important to protect the environment in order to maintain my quality of life.	0.798		
	I support environmental preservation because it improves my living comfort.	0.819		
	I believe that choosing products with environmentally friendly packaging can help future generations live better.	0.817		
	I care about the environment because environmental damage can harm other people.	0.808		
	I support environmental preservation so that the surrounding community can live better.	0.854		
	I believe it is important to protect nature for the sustainability of ecosystems.	0.804		
	I reduce the use of products that may damage the environment to preserve nature.	0.769		
Subjective Norm (SN)	People will have a good impression of me if I buy environmentally friendly products.	0.815	0.881	0.649
	People will appreciate me more if I buy environmentally friendly products.	0.814		
	Many people in my daily environment show support when I buy environmentally friendly products.	0.801		

	People around me influence me to buy environmentally friendly products.	0.793		
Eco Labels (EL)	The eco-label displayed on the product packaging demonstrates the product's credibility.	0.762	0.866	0.565
	The eco-label on the packaging confirms that the product meets quality standards.	0.735		
	The eco-label on the packaging provides trustworthy information about the company's environmental commitment.	0.719		
	Most environmental claims on the product packaging are true in showing environmental responsibility.	0.784		
	The eco-label on the packaging informs consumers about environmental safety when using the product.	0.755		
Social Media Information (SMI)	Social media makes it easy for me to obtain information about environmentally friendly products.	0.727	0.839	0.567
	Information shared on social media increases my interest in environmentally friendly products.	0.733		
	I receive feedback about environmentally friendly products through environmental information on social media.	0.741		
	I trust the information shared on social media regarding environmentally friendly products.	0.809		
Green Purchase Intention (GPI)	I choose to purchase products that demonstrate environmental responsibility.	0.733	0.846	0.523
	I intend to purchase environmentally friendly products in the near future because they contribute positively to the environment.	0.726		
	I will buy environmentally friendly products even if they are more expensive than non-green products.	0.706		
	I prefer environmentally friendly products over conventional products when the quality is similar.	0.750		
	I often buy products that use recyclable or recycled packaging.	0.701		

Source: Data Processed by Researchers, 2026

Based on these results, all indicators in the EC, SN, EL, SMI, and GPI variables have Standardized Loading Factor (SLF) values ≥0.70, thus meeting the requirements for convergent validity (Hair et al., 2021, p. 77). The Composite Reliability (CR) values for each variable range from 0.70–0.90, and all variables meet the Average Variance Extracted (AVE) criterion of >0.50 (Hair et al., 2021,

p. 80). These results indicate that all constructs in the model have good validity and reliability, making them suitable for use in subsequent structural analysis.

Discriminant Validity

This test was conducted to ensure that each construct in the study is distinct from one another and does not overlap.

Table 4. Discriminant Validity - Fornell Larcker

Variable	EC	SN	EL	SMI	GPI
Environmental Concern (EC)	**0.811**				
Subjective Norm (SN)	0.208	**0.806**			
Eco Labels (EL)	0.295	0.382	**0.751**		
Social Media Information (SMI)	0.231	0.375	0.470	**0.753**	
Green Purchase Intention (GPI)	0.516	0.401	0.510	0.422	**0.723**

Source: SmartPLS 3

The Fornell–Larcker test results indicate that all constructs meet discriminant validity, with the square root of the AVE of each variable being higher than its correlation with other variables (Hair et al., 2021, p. 85). EC (0.811 > 0.516), SN (0.806 > 0.401), EL (0.751 > 0.510), SMI (0.753 > 0.422), and GPI (0.723 > 0.516) indicate that all constructs are distinct and non-overlapping.

Composite Reliability

Composite Reliability was used to assess the internal consistency of each construct in the model, the results of which are presented in Table 5.

Table 5. Reliability Testing Results

Variable	Cronbach's Alpha	Composite Reliability
Environmental Concern (EC)	0.926	0.939
Subjective Norm (SN)	0.820	0.881
Eco Labels (EL)	0.807	0.866
Social Media Information (SMI)	0.746	0.839
Green Purchase Intention (GPI)	0.773	0.846

Source: SmartPLS 3

The reliability test results (Table 4.5) indicate that all constructs meet the internal consistency limits as defined by Hair et al. (2021, p. 80), with Cronbach's Alpha as the lower limit and Composite Reliability as the upper limit. The Cronbach's Alpha values (0.926-0.773) exceeded the minimum limit of 0.70, while the Composite Reliability of each construct (0.939-0.846) fell within the ideal range of 0.80–0.90 and below 0.95. This indicates that the indicators are consistent and all variables are reliable, making them suitable for structural testing.

Full Collinearity Test

This analysis is used to detect multicollinearity through the VIF value. According to Hair et al. (2021, p. 96), a VIF ≥5 indicates serious collinearity, a range of 3‑5 is tolerable, and ≤3 is not a problem. This test ensures model feasibility before further analysis.

Table 6. Variance Inflation Factor (VIF)

EC Item	VIF	SN Item	VIF	EL Item	VIF	SMI Item	VIF	GPI Item	VIF
EC1	2.532	SN1	1.706	EL1	1.756	SMI1	1.324	GPI1	1.486
EC2	2.199	SN2	1.684	EL2	1.452	SMI2	1.431	GPI2	1.413
EC3	2.497	SN3	1.714	EL3	1.499	SMI3	1.426	GPI3	1.458
EC4	2.630	SN4	1.736	EL4	1.756	SMI4	1.545	GPI4	1.460
EC5	2.221			EL5	1.586			GPI5	1.442
EC6	2.958								
EC7	2.382								
EC8	2.124								

Source: SmartPLS 3

The Full Collinearity Test results show that all indicators in the EC, SN, EL, SMI, and GPI variables have a VIF ≤ 3. According to Hair et al. (2021, p. 96), this value indicates no multicollinearity issues, making the model suitable for further analysis.

R Square

The R Square test is conducted to determine the extent to which the independent variables explain the variance in the dependent variable.

Table 7. R Square Value

Endogenous Variable	R Square	R Square Adjusted
Green Purchase Intention (GPI)	0.479	0.464

Source: SmartPLS 3

The GPI R-square value of 0.479 and the Adjusted R-square of 0.464 indicate that the independent variable explains 47.9% of the variation in green purchasing intention, while the remainder is influenced by factors outside the model. According to Hair et al. (2021, p. 123), R-square values ranging from 0.25 are weak, 0.50 moderate, and 0.75 strong, so a value of 0.479 falls into the moderate category, indicating the model adequately explains the dependent variable.

Hypothesis Testing

Hypothesis testing was conducted at a significance level of $\alpha = 5\%$, with a p-value <0.05 or a t-statistic exceeding the critical value (Hair et al., 2021, pp. 16–17).

Table 8. Hypothesis Testing

No	Path	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values	Result	Hypothesis Decision
1	EC -> GPI	0.352	0.348	0.085	4.128	0.000	Significant	Accepted
2	SN -> GPI	0.203	0.212	0.065	3.140	0.002	Significant	Accepted
3	EL -> GPI	0.263	0.280	0.068	3.882	0.000	Significant	Accepted
4	SMI -> GPI	0.182	0.185	0.072	2.527	0.012	Significant	Accepted
5	EC*SMI -> GPI	0.019	-0.005	0.113	0.173	0.863	Not Significant	Rejected
6	SN*SMI -> GPI	0.104	0.088	0.049	2.099	0.037	Significant	Accepted

Source: SmartPLS 3

Based on the results of the hypothesis testing, EC had a significant positive effect on GPI (t = 4.128; p = 0.000), thus the hypothesis was accepted. This indicates that the higher the environmental concern, the stronger the consumer's intention to purchase eco-friendly products. SN also had a significant positive effect on GPI (t = 3.140; p = 0.002), thus the hypothesis was accepted. These results confirm that social incentives contribute to shaping green purchase intentions. EL also showed a significant positive effect on GPI (t = 3.882; p = 0.000), indicating that eco-labels increase trust and clarity of product information. Furthermore, SMI also had a significant positive effect on GPI (t = 2.527; p = 0.012), indicating that exposure to digital information can encourage green purchase intentions.
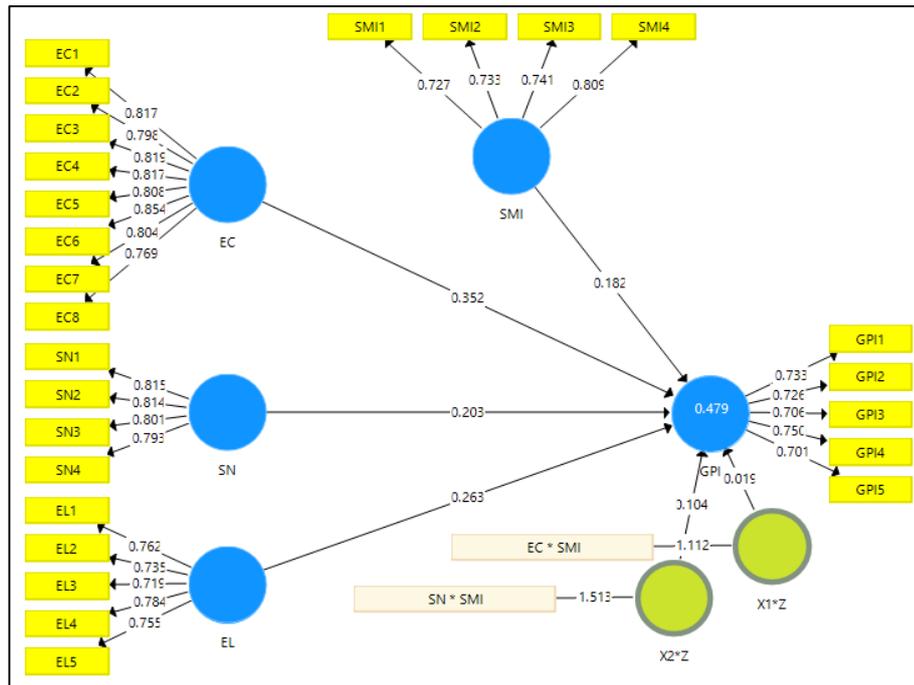
Figure 1. Structural Model Results

However, SMI did not moderate the relationship between EC and GPI (t = 0.173; p = 0.863), suggesting that the influence of environmental concern on purchase intentions is likely internal and independent of external information reinforcement. Conversely, SMI was shown to moderate the relationship between SN and GPI (t = 2.099; p = 0.037), indicating that social media strengthens the influence of social pressure on green purchase intention. Furthermore, the strength of each variable's influence is seen from the original sample values where EC is the strongest predictor of GPI (β = 0.352), followed by EL (β = 0.263), SN (β = 0.203), and SMI (β = 0.182). This finding confirms that environmental concern is a dominant factor in shaping green purchase intention compared to other variables.

Discussion

The increasing problem of plastic waste generated from FMCG product packaging has raised global environmental concerns, particularly regarding the gap between corporate sustainability claims and actual environmental practices (Beston, 2025; CFES, 2025; Kusuma, 2023; Greenpeace Indonesia, 2018). The results of this study indicate that Environmental Concern (EC) has a positive and significant effect on Green Purchase Intention (GPI). Descriptive analysis shows that EC is categorized at a very high level (Table 4.2), indicating that respondents

possess strong ecological awareness, which acts as an internal driver of their intention to purchase environmentally friendly products such as detergents with sustainable packaging innovations. This finding confirms that individuals with high environmental awareness tend to feel a sense of responsibility toward environmental sustainability and therefore demonstrate stronger preferences for green consumption. Such behavior reflects the increasing importance of environmental values in consumer decision-making processes. These findings are consistent with previous studies by Hoang and Tung (2024), Hudayah et al. (2023), and Lavuri et al. (2021), which emphasize that environmental concern is one of the strongest predictors influencing consumers' intention to purchase environmentally friendly products.

In addition to environmental concern, Subjective Norm (SN) was also found to have a positive and significant effect on Green Purchase Intention (GPI). The descriptive statistics reveal that SN is categorized as high (Table 4.2), indicating that social influences from family members, friends, and surrounding communities continue to play an important role in shaping individuals' intentions to purchase environmentally friendly products. In the context of green consumption, individuals often align their purchasing decisions with social expectations in order to maintain social acceptance and demonstrate their commitment to sustainability values. This behavior is particularly evident in communities where environmental awareness and sustainable consumption have become socially desirable norms. The findings support previous research conducted by Parveen and Chaudhary (2025), Shang et al. (2024), and Nekmahmud et al. (2022), which demonstrate that normative pressure and the desire for social approval significantly encourage the adoption of green purchasing behavior.

Furthermore, Eco Labels (EL) were found to have a positive and significant influence on Green Purchase Intention (GPI). The descriptive results indicate that respondents perceive eco labels at a very high level (Table 4.2), suggesting that environmental labels are viewed as credible sources of information that enhance consumer trust in sustainability claims. Eco labels function as informational signals that help consumers identify environmentally friendly products and evaluate the environmental performance of products before making purchasing decisions. By providing clear environmental information, eco labels reduce information asymmetry between producers and consumers and strengthen consumer confidence in sustainable product attributes. These findings are consistent with previous studies conducted by Panopoulos et al. (2023), Majeed et al. (2022), and Sabilla and Hendayani (2022),

which emphasize the important role of eco-labeling as an effective communication tool in encouraging environmentally responsible purchasing behavior.

The results also demonstrate that Social Media Information (SMI) has a positive and significant direct effect on Green Purchase Intention (GPI). The descriptive analysis indicates that respondents experience a very high level of exposure to environmental information through social media platforms (Table 4.2). This finding suggests that social media plays an important role in increasing environmental awareness and promoting interest in environmentally friendly products. Social media platforms facilitate rapid dissemination of environmental information, consumer reviews, and sustainability-related discussions that can influence consumer attitudes and perceptions. Consequently, exposure to sustainability information through social media may strengthen consumers' motivation to adopt environmentally responsible purchasing behavior. These results are consistent with prior studies conducted by Xie and Madni (2023), Sun and Xing (2022), Nekmahmud et al. (2022), and Pop et al. (2020), which demonstrate that social media serves as an influential information channel capable of shaping consumers' perceptions and encouraging green purchasing intentions.

However, the results reveal that Social Media Information (SMI) does not significantly moderate the relationship between Environmental Concern (EC) and Green Purchase Intention (GPI). This non-significant moderating effect may be explained by the demographic characteristics of the respondents, the majority of whom are aged between 17 and 25 years (Table 4.1), as well as the descriptive findings indicating that both EC and SMI are categorized as very high (Table 4.2). These conditions suggest that respondents already possess a strong intrinsic commitment to environmental sustainability, which is based on their understanding that environmental protection contributes to ecosystem sustainability, quality of life, comfort, and health. As a result, environmental concern itself functions as a strong internal motivator for green purchasing intentions without requiring additional reinforcement from social media information. This finding aligns with the study by Qomariah and Prabawani (2020), which indicates that among consumers with high environmental concern, green purchase intention may emerge primarily from internal values rather than external informational influences.

Conversely, the analysis shows that Social Media Information (SMI) significantly moderates the relationship between Subjective Norm (SN) and Green Purchase Intention (GPI). Descriptive statistics indicate that SN is

categorized as high and SMI as very high (Table 4.2), while the majority of respondents belong to the younger age group of 17–25 years (Table 4.1). Within this demographic group, intensive exposure to social media information tends to amplify social pressure, social validation, and the influence of reference groups in shaping environmentally responsible purchasing behavior. In other words, social media acts as a contextual factor that strengthens the influence of subjective norms on consumers' green purchase intentions. This finding suggests that for younger consumers, social media platforms serve as important channels for reinforcing social expectations and sustainability-related discussions. The results are consistent with previous research indicating that both social media information and subjective norms significantly influence green purchase intention (Nekmahmud et al., 2022; Pop et al., 2020; Sun & Xing, 2022). Nevertheless, this study has several limitations, including the dominance of young respondents and the limited geographical scope, which may restrict the generalizability of the findings. In addition, the focus on a single product category and brand limits the applicability of the results to other products with different levels of environmental commitment. Future research is therefore recommended to expand the sample scope, investigate brands with stronger sustainability commitments, and incorporate additional variables such as purchase behavior, green skepticism, and green perceived value to enhance the explanatory power of the model.

CONCLUSION

The findings of this study demonstrate that Environmental Concern (EC), Subjective Norm (SN), Eco Labels (EL), and Social Media Information (SMI) have positive and significant effects on Green Purchase Intention (GPI). These results indicate that consumers' intention to purchase environmentally friendly products is shaped by a combination of internal environmental awareness, social influence, credible sustainability information presented through eco-labels, and exposure to environmental information on social media platforms. In addition, the results reveal that Social Media Information significantly moderates the relationship between Subjective Norm and Green Purchase Intention, suggesting that social media strengthens the influence of social pressure and reference groups in encouraging environmentally responsible purchasing behavior, particularly among digitally active younger consumers. However, Social Media Information does not moderate the relationship between Environmental Concern and Green Purchase Intention, indicating that individuals with strong environmental awareness tend to develop green purchasing intentions independently of external informational influences. These findings highlight the

growing environmental sensitivity among consumers and emphasize the importance of transparent sustainability communication and credible environmental labeling in encouraging green consumption behavior.

This study contributes to the literature on green consumer behavior by integrating environmental awareness, social influence, sustainability labeling, and digital information exposure into a single conceptual framework explaining green purchase intention. The findings provide theoretical insights into how social media functions not only as an information channel but also as a contextual factor that strengthens the effect of social norms on sustainable consumption behavior. From a practical perspective, the results suggest that companies should strengthen sustainability communication strategies by providing transparent environmental information and utilizing social media platforms to promote environmentally responsible consumption. Nevertheless, this study has several limitations. The sample is dominated by young respondents and focuses on a single product category, which may limit the generalizability of the findings. Furthermore, the study measures purchase intention rather than actual purchasing behavior. Future research is therefore recommended to include broader demographic groups, examine different product categories or brands with varying levels of sustainability commitment, and incorporate additional variables such as green skepticism, perceived environmental value, and actual purchase behavior to enhance the robustness of the research model.

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