

The Role of Environmental Knowledge in the Relationship between Green Marketing and Purchase Intention of Eco-Friendly Products of MSMEs

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ABSTRACT

The primary objective of this research is to investigate the impact of green marketing strategies on consumers' purchase intention regarding sustainable household products, with environmental knowledge as a moderating variable. Data were derived from a sample of 122 respondents who are aware of eco-friendly products of MSMEs in Indonesia using an online survey within a quantitative approach. The study employed a purposive sampling technique, where only individuals meeting specific criteria were selected. Partial Least Squares Structural Equation Modeling (PLS-SEM) was utilized to evaluate the collected data. The results show that green marketing has positive impact on purchase intention and environmental knowledge positively moderates relationship between green marketing and purchase intention. The results provide valuable insights for sustainable household products to increase purchase intention through green marketing strategies. Furthermore, this study enriches the theoretical understanding of consumer purchase intention of the sustainable household products by offering green marketing strategies to sustain a competitive advantage within an increasingly saturated market.

INTRODUCTION

Environmental concern is a global phenomenon which occurs in almost all countries, Indonesia included (Sollu & Hendratmoko, 2024). As one of the largest archipelago countries in the world with a large population, Indonesia faces serious challenges related to climate change (Fadhilah, 2025). Over the past decade, Indonesia has encountered several ecological challenges, including waste problem, climate change, and systemic pollution (Mulya & Kusumawardhani, 2023). Integrating environmental concerns into core business is a strategic move for all business organizations, regardless of scale, to ensure the sustainability of MSMEs in the modern economy. The success of MSMEs in Indonesia is greatly influenced by human resources to transform environmental issues into competitive advantages in capturing market share, in line with the growing trend towards a green industry (Sholehuddin & Sudarmiatin, 2024).

According to data from the Ministry of Cooperatives and Small and Medium-sized Enterprises of Indonesia, the number of MSMEs in Indonesia outside the agricultural and fisheries business sectors was 30.18 million units as of December 31, 2024 (Kadin Indonesia, 2024). The large number of MSMEs in Indonesia means that MSME business actors need to develop strategies that differentiate them amidst increasingly competitive competition. A viable approach involves the implementation of a green marketing strategy.

Green marketing, a term introduced in a 1975 seminar by the American Marketing Association, focuses on promoting environmentally safe products (Rizky & Wandebori, 2024). With the rise of green marketing, corporations have increasingly incorporated environmental concern into their marketing strategies (Prayitno, 2024). The marketing mix serves as a marketing tool that aligns with the marketing plan to deliver sustainable market performance and a long-term value (Yaputra *et al.*, 2023). Consumer purchase intentions are directly and significantly influenced by green marketing (Abdullah & Donald, 2025; Astuti *et al.*, 2024; Ashoush & Kortam, 2022). In the context of MSMEs, research by Markhamah *et al.*, (2024) also found that green marketing has a significant impact on purchase intention of natural beauty products from MSMEs in Indonesia. Purchase intention can be interpreted as the stage of consumers in evaluating the information received, so that it can be said that consumers will plan to purchase a certain product or brand (Azizah & Dwita, 2024).

In contrast, a notable research gap persists within this domain. Conversely, several studies offer a different perspective. Green Marketing does not have a direct positive impact on purchase intention (Jinan *et al.*, 2022; Andika & Nuvriasari, 2024). A study by Zuhdi *et al.* (2024) found that green marketing has negative effects significant on purchase interest. Consumers perceive that this shift in consumption patterns do not significantly contribute to ecological preservation (Jinan *et al.*, 2022).

Increasingly environmentally conscious market demands have driven attention to these issues (Prayitno, 2024). Consumers are actively seeking environmentally conscious products that reflect their values as climate change becomes a main concern (Iqbal *et al.*, 2023).

Previous study demonstrates that SMEs business sustainability is more effectively achieved when green marketing is able to shape an environmentally-based entrepreneurial orientation (Amelia, 2026). Environmental Knowledge is an understanding of the environment and all aspects related to ecosystems, natural resources, pollution, conservation, and the impact of human activities on the environment (Azizah & Dwita, 2024). These findings highlight the importance of fostering both environmental awareness to enhance consumer interest in green products (Andika & Nuvriasari, 2024). The higher the knowledge of each individual about the environment, it will change individual behaviour in overcoming environmental problems (Azizah & Dwita, 2024). Abdullah & Donald (2025) suggested future studies should investigate additional constructs such as environmental concern to better understand its relationship between green marketing and purchase intention, especially in various contexts. These findings point to an area that requires further empirical investigation. In response to these findings, the aim of this study is to examine the role of green marketing strategies on consumers' purchase intention and the incorporation of environmental knowledge that the consumer has. Based on this background, the research problems are formulated as follow: (1) How does green marketing influence consumers' purchase intention? (2) How does green marketing influence consumers' purchase intention with moderation of environmental knowledge?

LITERATURE REVIEW

Green Marketing

Green marketing refers to a strategy that involves the development of eco-friendly products and highlighting environmental benefits to the target customers (Solomon, 2018). Green marketing serves not only as a marketing tool but also as a way to build an environmentally conscious corporate culture, raise awareness of ecological issues, and encourage innovation in products and processes (Amelia, 2026). This approach markets products that are eco-friendly, featuring characteristics such as sustainable manufacturing, absence of harmful substances, recyclability, reduced packaging, and repairability (Rizky & Wandebori, 2024). The term green marketing involves integrating a company's holistic strategy, from product creation, pricing to promotion and distribution (Ashoush & Kortam, 2022). Several previous studies reveal that green marketing has a direct and strong influence on purchase intention (Abdullah & Donald, 2025; Astuti *et al.*, 2024; Ashoush & Kortam, 2022).

Purchase Intention

Intentions are assumed to capture the motivational factors that influence a behaviour (Ajzen, 1991). Purchase intention represents the probability of a consumer's willingness to purchase a specific product within a forthcoming timeframe (Ashoush & Kortam, 2022). Consumer purchase intention towards green products has become an important concern in consumer behaviour research (Markhamah *et al.*, 2024). Green purchase intention is defined as an individual's intention and willingness to purchase an environmentally friendly

products (Iqbal *et al.*, 2023). Companies should refine their green marketing efforts to boost customer intention to purchase products (Mulya & Kusumawardhani, 2023).

Environmental Knowledge

Environmental knowledge is the cognitive capacity to identify and evaluate environmental concerns related to human consumption patterns and behavioral choices (Haron *et al.*, 2005 as cited in Iqbal *et al.*, 2023). Before taking action, a person must comprehend ecosystems in their natural condition and the activities that take place within them, as well as what can be done to address environmental challenges (Astuti *et al.*, 2024). Environmentally conscious consumers can better analyze green marketing claims, distinguish between the genuine environmental commitments and the greenwashing practices (Iqbal *et al.*, 2023). The green marketing significantly impacts purchase intention, with environmental knowledge acting as a moderator (Astuti *et al.*, 2024).

Based on this theoretical foundation, the hypothetical framework in this study is as follows:

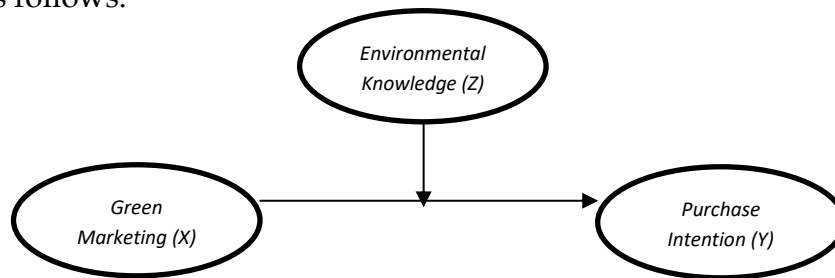


Figure 1. Conceptual Model

METHODOLOGY

This study is an explanatory study with a quantitative approach, using a survey method, aimed at examining the relationship between green marketing, purchase intention and environmental knowledge regarding eco-friendly products of MSMEs. The population in this study includes consumers who are aware of eco-friendly products of MSMEs in Indonesia. The sample in this study consisted of 122 people selected using a purposive sampling technique. Roscoe (1975) as cited in Memon *et al.*, (2020) suggested that a sample size greater than 30 and less than 500 is suitable for most behavioural studies. According to Roscoe's set of guidelines for determining sample size, the sample size of 122 in this study is more than sufficient. The sample determined in this study met the following criteria such as aged 18 years or above, demonstrate awareness of eco-friendly products of MSMEs but have never purchased it and have decent care about the environment. Primary data were gathered through the distribution of a closed-ended online questionnaires using the *Google Form* application in February-March 2026.

The first part of the questionnaire collected demographic information about respondents, and the second part investigated the scales used by respondents to evaluate 3 variables. The green marketing questions in the questionnaire were adapted from Sollu & Hendratmoko (2024), while the purchase intention and

environmental knowledge questions in the questionnaire were adapted from Astuti *et al.* (2024). Responses for all items were recorded using a five-point Likert scale (1 being Strongly Disagree, 2 being Disagree, 3 being Neutral, 4 being Agree, and 5 being Strongly Agree). Hypothesis testing was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM). Data analysis was performed utilizing SmartPLS software.

RESEARCH RESULT

This study involved 122 respondents who agreed to respond by completing a link provided by the researcher, namely consumers who are aware of eco-friendly products of MSMEs in Indonesia. The primary test was conducted using Partial Least Squares (PLS).

Table 1. Demographic Data

Characteristics	N	Percentage
Gender		
Male	36	29.5%
Female	86	70.5%
Age (years old)		
18-24	85	69.7%
25-31	8	6.6%
32-38	17	13.9%
39-45	4	3.3%
46-52	7	5.7%
>52	1	0.8%
Monthly Household Expenses		
<Rp 3.000.000	90	73.8%
Rp 3.000.000 - Rp 6.000.000	24	19.7%
Rp 6.000.001 - Rp 9.000.000	3	2.5%
>9.000.000	5	4.1%
Occupation		
Full-time employed	23	18.9%
Part-time employed	6	4.9%
Self-employed	2	1.6%
Entrepreneur	6	4.9%
Not (yet) employed	6	4.9%
University student	79	64.8%
Total	122	100%

Source: Processed Data, 2026

Among 122 respondents, the majority of respondents were female (70,5%) aged 18-24 years (69,7%) had monthly household expenses of less than Rp 3.000.000 (73,8%) and were university students (64,8%).

Table 2. Description of Research Variables

Variable	Item	Mean	SD	Min	Max
Green Marketing (GM)	GM01	3.902	0.765	1	5
	GM02	3.910	0.881	1	5
	GM03	4.016	0.704	2	5
	GM04	4.123	0.650	2	5
	GM05	3.877	0.819	1	5
	GM06	3.984	0.680	2	5
	GM07	3.902	0.685	2	5
	GM08	4.049	0.641	2	5
	GM09	4.016	0.630	2	5
	GM10	3.992	0.636	2	5
Environmental Knowledge (EK)	EK1	4.033	0.667	2	5
	EK2	3.836	0.697	2	5
	EK3	4.057	0.593	3	5
Purchase Intention (PI)	PI1	3.934	0.736	2	5
	PI2	3.820	0.727	2	5
	PI3	3.861	0.775	1	5
	PI4	3.877	0.734	2	5
	PI5	3.828	0.757	2	5

Source: Processed Data, 2026

The results of the description of the green marketing variable formed by 10 items obtained an average with a range of 3.877 to 4.123 which shows that respondents provide a good perception of green marketing, meaning that respondents think that green marketing carried out by the brand has been implemented well. Furthermore, the description of the environmental knowledge variable formed by 3 items obtained an average with a range of 3.836 to 4.057 which shows that respondents provide a good perception of environmental knowledge, meaning that respondents have good environmental knowledge. Furthermore, the description of the purchase intention variable formed by 5 items obtained an average with a range of 3.820 to 3.934 which shows that respondents provide a good perception of purchase intention, meaning that respondents have a desire to buy products from the brand.

Table 3. Results of Convergent Validity and Construct Reliability Validity Tests

Variable	Item	Loading	Average variance extracted	Cronbach's alpha	Composite reliability
Green Marketing (GM)	GM01	0.751	0.595	0.924	0.929
	GM02	0.735			
	GM03	0.745			
	GM04	0.811			
	GM05	0.728			
	GM06	0.786			
	GM07	0.825			
	GM08	0.801			
	GM09	0.777			
	GM10	0.744			
Environmental Knowledge (EK)	EK1	0.840	0.732	0.817	0.827
	EK2	0.894			
	EK3	0.832			
Purchase Intention (PI)	PI1	0.836	0.753	0.918	0.918
	PI2	0.858			
	PI3	0.885			
	PI4	0.874			
	PI5	0.883			

Source: Processed Data, 2026

Outer model testing of indicators from green marketing, environmental knowledge, and purchase intention variables based on convergent validity shows that all indicators have values above 0.70 (>0.70) thus fulfilling the requirements. Furthermore, based on construct validity and reliability, all variables have an average variance extracted value of more than 0.50 (>0.50), a Cronbach's alpha value of more than 0.70 (>0.70), and a composite reliability value of more than 0.70 (>0.70) thus fulfilling the requirements.

Table 4. Discriminant Validity Test Results

	GM	EK	PI
GM	0.771		
EK	0.553	0.856	
PI	0.760	0.594	0.868

Source: Processed Data, 2026

The outer model test based on discriminant validity using the Fornell-Larcker Criterion shows that the AVE root of each variable has a higher value than the correlation between variables, thus fulfilling the requirements.

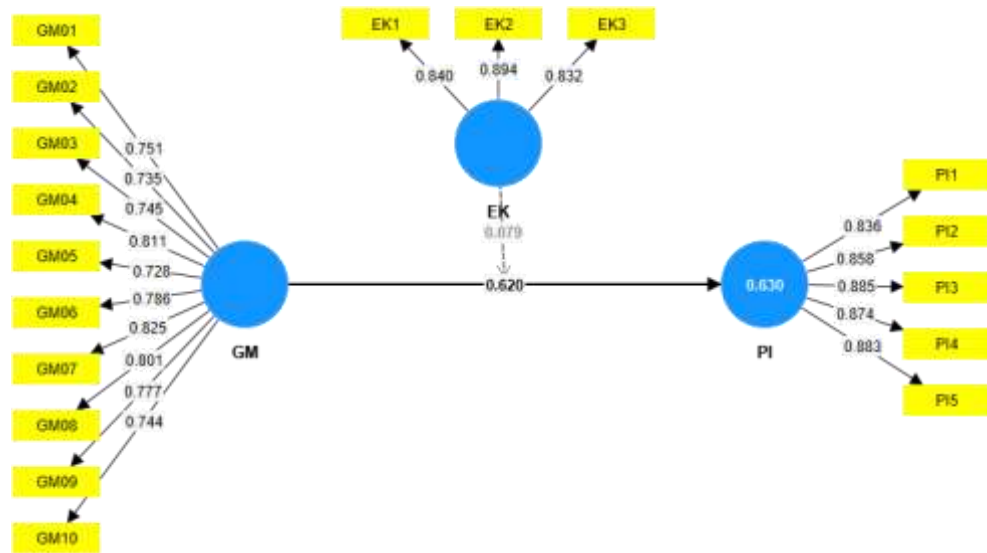


Figure 2 Model Path Diagram

The results of the determination coefficient test obtained an R Square value of 0.630, which indicates that the influence on purchase intention can be explained by 63.0 percent by green marketing with environmental knowledge as its moderation.

Table 5. Hypothesis Test Results

Influence	Path Coefficient	t	p	Ket.
GM -> PI	0.620	8.637	0.000	Significant
EK x GM -> PI	0.079	2.201	0.028	Significant

Source: Processed Data, 2026

The results of testing Hypothesis 1, regarding the influence of green marketing on purchase intention, obtained a path coefficient of 0.620 with a significance value of 0.000 ($p < 0.05$), indicating a significant positive effect. Moreover, Hypothesis 2, regarding the influence of green marketing on purchase intention with environmental knowledge as its moderator, obtained a path coefficient of 0.079 with a significance value of 0.028 ($p < 0.05$), indicating a significant positive impact. The results of the hypothesis testing indicate that green marketing has a significant positive impact on purchase intention, and environmental knowledge moderates by strengthening the impact of green marketing on purchase intention.

DISCUSSION

This research offers substantial contributions to existing theoretical frameworks. Based on the results, it was revealed that green marketing has positive impact on purchase intention. This is consistent with previous study which states that green marketing has a direct and significant effect on purchase intention (Abdullah & Donald, 2025). Findings and results of the study by Ashoush & Kortam (2022) also indicated that green marketing strategies does have a positive impact on consumers' purchase intention. This shows that the more a product implements a green marketing strategy, the more potential

consumers will be interested in buying the product. Green marketing strategies can be implemented through the implementation of green products, green prices, green places, and green promotions. These strategies will attract potential customers to learn about the product, consider purchasing it, develop an interest in it, seek information about it, and ultimately, purchase it. It is important for an eco-friendly product of MSMEs in Indonesia to pay attention to the green products strategy, by producing products made from recyclable materials, which do not damage the environment, can be used for a long time, and are environmentally friendly. The implementation of green prices also needs to be considered. Because environmentally friendly products typically have a high price, it's important to ensure that this high price includes environmental maintenance costs and is commensurate with the quality offered. Furthermore, a green places strategy needs to be implemented by ensuring that products are sold in environmentally conscious locations, such as those with a plastic bag-free policy. The product delivery process also needs to be carried out with environmental awareness. Finally, a green promotions strategy needs to be implemented intensively, campaigning for environmental issues whenever possible. Companies should also highlight the positive impacts of using environmentally friendly products in their advertisements.

Furthermore, environmental knowledge positively moderates relationship between green marketing and purchase intention. This is consistent with previous study by Astuti *et al.*, (2024) which states the green marketing mix significantly impacts purchase intention, with environmental knowledge acting as a moderator. The findings of the study reveals that the influence of green marketing on purchase intention is contingent upon the consumer's level of environmental knowledge. Specifically, the relationship becomes more pronounced as environmental knowledge increases, suggesting that consumer knowledge about the environment is a vital prerequisite for successful green marketing. The higher the consumer awareness of the environment, the more a person understands the environment, and the more a person understands environmental regulations, the greater the influence of green marketing on purchasing intentions.

The findings of this research extend to significant managerial implications. In the context of MSMEs in Indonesia, MSME managers need to pay attention to material use. MSMEs engaged in fashion and craft production need to pay attention to material use. Natural, recyclable materials are preferred over synthetic ones because they are environmentally friendly and more durable. Pricing also needs to be considered in accordance with the quality offered. MSMEs that promote an eco-friendly concept charge higher prices, but as long as the price includes the costs of maintaining an environmentally friendly concept, consumers will likely embrace this price without hesitation. Eco-friendly MSME business managers also need to pay attention to the marketing channels they use. If the MSME uses an online network, then when sending packages, it is important to pay attention to the use of environmentally friendly packaging. In terms of promotion, it is also important to pay attention to the campaigns carried out. MSME managers need to campaign on environmental issues on their channels.

CONCLUSIONS AND RECOMMENDATIONS

This research offers significant contributions to marketing literature, mainly on green marketing, consumer behavior, and MSMEs, offering meaningful direction for future researchers. According to the results and discussion, this study confirms that (1) green marketing has positive impact on purchase intention, and (2) environmental knowledge positively moderates relationship between green marketing and purchase intention.

It is important for MSMEs to pay attention to green marketing strategies that include green products, green prices, green places, and green promotions to attract potential customers to learn about the product, consider purchasing it, develop an interest in it, seek information about it, and likely to purchase it. MSMEs need to focus not only on selling environmentally friendly products but also on educating the market. Without environmentally conscious consumers, even the most expensive green marketing strategies will likely be in vain.

ADVANCED RESEARCH

This study has limitations, namely, it only examined eco-friendly MSMEs with products in the form of fashion, crafts, and skincare. It is recommended to conduct research on MSMEs in other sectors or other objects besides MSMEs. Large companies produce in large quantities, which will impact the amount of waste they produce. The impact of green marketing towards purchase intention may vary across different objects. Furthermore, this study focuses on the moderating variable of environmental knowledge. Further research is recommended to examine the moderating effect of other variables, such as social norms. It would be interesting to understand the influence of green marketing on purchase intention if consumers perceive that their social environment, whether friends, family, or social media, values their environmentally friendly behavior. It is also recommended to examine the phenomenon of greenwashing. How consumer suspicion of greenwashing affects purchase intention.

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