



Green Marketing and Sustainability Policies: Impact on Consumer Behaviour in Developed and Developing Nations

Muh Nur Ihwan Natsir

Hasanuddin University, Makassar, Indonesia
nur.ihwan@pln.co.id

Abstract. This study examines the impact of corporate green marketing initiatives and government sustainability policies on consumer behaviour across three countries: the United States, Germany, and Indonesia, over the period 2014–2023. Using a quantitative approach, including descriptive statistics, ANOVA, and regression analysis, the findings reveal that green marketing efforts significantly increase consumer awareness of sustainability, particularly in developed nations. Government policies, such as carbon emission reduction and renewable energy incentives, further strengthen the relationship between green marketing and consumer behaviour. However, the effectiveness of these initiatives varies significantly between developed and developing countries. Consumers in developed nations, such as the United States and Germany, exhibit higher awareness of sustainability issues compared to those in Indonesia. These results underscore the importance of adapting green marketing strategies to local contexts and enhancing government policies to accelerate sustainability adoption in developing economies. The study also highlights the need for future research to explore consumer motivations and barriers to sustainable consumption, especially in emerging markets.

Keywords: Green Marketing, Consumer Behaviour, Sustainability Policies.

1 Introduction

Climate change, environmental degradation, and resource depletion are global challenges that require serious attention from governments, industries, and consumers alike. As sustainability becomes a core focus across various sectors, marketing strategies have also evolved to incorporate environmental concerns. Green marketing refers to the promotion of environmentally friendly products and business practices aimed at reducing negative environmental impacts throughout the entire supply chain [1].

As consumers become more conscious of their environmental impact, particularly in developed countries, companies are increasingly adopting green marketing strategies to meet this growing demand. For instance, firms in Europe such as BMW and Siemens have initiated sustainable innovations, including electric vehicle production and the adoption of renewable energy sources [2]. Similarly, Unilever and Starbucks in the

United States have focused on plastic reduction and recycling programmes as part of their broader sustainability initiatives [11].

Green marketing is not just a means to enhance corporate image; it provides a competitive edge in markets where sustainability is becoming an essential factor for consumer decision-making. Studies show that companies effectively implementing green marketing gain a competitive advantage, especially as consumers in developed countries increasingly prioritise sustainability [3]. However, successful green marketing strategies are often dependent on the regulatory frameworks provided by governments. In developed nations like Germany and the United States, proactive environmental policies have been crucial in encouraging companies to adopt sustainable practices [8].

Government intervention plays a pivotal role in shaping the effectiveness of green marketing initiatives. For example, Germany's government has reinforced policies supporting renewable energy, while in the United States, the Environmental Protection Agency (EPA) has introduced stringent regulations aimed at reducing carbon emissions and limiting plastic usage [4]. These policies provide the necessary incentives for corporations to innovate and produce more sustainable products, which, in turn, positively influences consumer behaviour and increases demand for eco-friendly goods [9].

In contrast, the adoption and implementation of green marketing strategies in developing countries face significant challenges. For instance, while Indonesia has begun introducing sustainability policies, the execution of these initiatives is often hampered by infrastructural limitations and weak regulatory enforcement [9]. Consumers in developing economies, unlike their counterparts in more advanced markets, have yet to fully embrace sustainability as a core component of their purchasing decisions [15]. This discrepancy highlights a critical gap in the literature, as most green marketing studies focus predominantly on developed countries [14].

The limited consumer adoption of sustainable products in developing countries can be attributed to various factors, including lower awareness, economic constraints, and limited access to eco-friendly products. Zhang et al. (2021) noted that in markets like Indonesia, many consumers perceive environmentally friendly products as more expensive and less accessible compared to conventional options [15]. This underscores the need for a deeper understanding of local contexts when implementing green marketing strategies in developing nations.

Previous studies have demonstrated that green marketing is most effective when accompanied by strong government policies. For example, in Europe and the United States, policies incentivising renewable energy use and regulating carbon emissions have amplified the success of green marketing campaigns [7]. In contrast, developing countries often lack the necessary regulatory support and infrastructure to implement such policies effectively, limiting the potential benefits of green marketing initiatives [9]. A study by Smith et al. (2019) further highlighted that in emerging markets, the successful implementation of green marketing strategies is often contingent on greater government intervention and public awareness [9].

Cross-national comparisons of green marketing reveal that cultural, economic, and regulatory differences greatly influence the effectiveness of these strategies. In developed countries, consumers are more likely to adopt green products due to heightened environmental awareness and better access to sustainability education [14]. Conversely,

in developing countries, economic challenges and a lack of environmental education continue to be significant barriers to the adoption of green products [13]. Ginsberg and Bloom (2004) argued that consumers in developed nations are more open to eco-friendly products because they are more exposed to sustainability issues and have access to well-established recycling and waste management systems [7].

While companies in developing countries face significant challenges, there is also a growing recognition of the importance of tailoring green marketing strategies to local conditions. As Ottman et al. (2006) pointed out, one of the risks of green marketing is “green marketing myopia,” where companies fail to address the practical needs of consumers in their efforts to promote sustainability [2]. This is particularly relevant in developing economies, where product affordability and accessibility often take precedence over environmental concerns [13].

Future research must address the gap in understanding how green marketing and government policies interact across both developed and developing countries. While numerous studies have focused on green marketing in advanced economies, relatively few have examined how these strategies function in emerging markets, where economic and infrastructural challenges can impede the implementation of sustainable business practices [9]. Further investigation could also explore the long-term impacts of green marketing strategies on consumer behaviour, particularly in countries undergoing rapid economic development.

This study aims to fill that gap by conducting a cross-national analysis that compares the effects of green marketing and government policies on consumer awareness and behaviour across Germany, the United States, and Indonesia from 2014 to 2023. By focusing on three countries with different levels of economic development, this research provides a comprehensive understanding of how green marketing strategies and sustainability policies can work synergistically to influence consumer behaviour.

In conclusion, green marketing offers substantial opportunities for businesses in both developed and developing countries. However, the effectiveness of these strategies is highly dependent on local contexts, particularly the regulatory frameworks and consumer awareness levels in each market. In developed countries, where consumers are more environmentally conscious and government policies support sustainable practices, green marketing tends to be more successful. Conversely, in developing countries, where economic and social challenges remain, both companies and governments must work together to overcome barriers and promote sustainability more effectively [14].

2 Literature Review

Green marketing has become an essential strategy for companies striving to align with consumers’ growing demand for environmentally friendly practices. Ottman (2011) defines green marketing as marketing efforts that not only improve a company’s image but also promote sustainability across product life cycles through the use of recycled

materials and carbon emission reductions [1]. Implementing green marketing also requires clear communication with consumers about how a product supports sustainability efforts, helping to build consumer trust and loyalty [2].

Multinational corporations such as Unilever, BMW, Siemens, and Coca-Cola have leveraged green marketing strategies to enhance their competitive advantage in the global market. Unilever's Sustainable Living Plan integrates sustainability into every step of the supply chain, including reducing plastic use and increasing the use of recycled materials [11]. Similarly, in Germany, companies like BMW and Siemens have introduced electric vehicles and incorporated renewable energy into their production processes, positioning themselves as leaders in environmental innovation [3].

In the United States, corporations such as Coca-Cola and Starbucks have taken similar steps by reducing plastic usage and launching recycling programmes aimed at encouraging consumer participation in sustainability efforts [4]. These initiatives align with the Environmental Protection Agency (EPA) regulations that promote reducing carbon emissions and plastic waste [4]. According to Rex and Baumann (2007), these examples highlight how green marketing can achieve both environmental impact and commercial success [3].

The Theory of Planned Behaviour (Ajzen, 1991) provides a useful framework for understanding consumer attitudes toward green marketing [12]. The theory suggests that consumer behaviour is influenced by three main factors: attitudes towards the behaviour, subjective norms, and perceived behavioural control. In the context of sustainability, consumers with a positive attitude toward eco-friendly products and who perceive social support for sustainability are more likely to purchase these products. In developed countries, such as Germany and the United States, where environmental awareness is higher, consumers are more responsive to green marketing initiatives [6].

Despite growing environmental awareness, the adoption of green marketing in developing countries faces significant challenges. Zhang et al. (2021) found that in countries such as Indonesia, limited access to eco-friendly products and the perception that these products are more expensive deter consumer participation in sustainable consumption [15]. Furthermore, studies suggest that economic and social barriers such as inadequate infrastructure and lack of education regarding sustainability contribute to the slower uptake of green marketing in these regions [13].

Government policies play a critical role in facilitating or hindering the effectiveness of green marketing. In countries with strong environmental regulations, such as Germany and the United States, companies are encouraged to adopt green marketing practices more rigorously. Leonidou et al. (2013) observed that firms in countries with robust regulatory frameworks are more likely to innovate and commit to sustainable business practices [8]. This regulatory environment has provided a conducive atmosphere for companies like BMW and Siemens to pioneer green products and processes [3].

However, in developing countries such as Indonesia, the effectiveness of green marketing depends significantly on how well government policies are enforced. Smith et al. (2019) found that while policies such as plastic reduction initiatives and green economy policies exist in Indonesia, their impact is often limited by poor enforcement and

infrastructural constraints [9]. These findings suggest that a stronger regulatory framework and better implementation are required to maximise the benefits of green marketing in developing economies [9].

In comparing consumer attitudes toward green marketing in developed and developing countries, it becomes clear that strategies must be tailored to local contexts. Ginsberg and Bloom (2004) noted that in developed countries, consumers are more likely to adopt green products because they are exposed to better environmental education and have greater access to eco-friendly products [7]. On the other hand, in developing countries, higher prices and lack of access to eco-friendly products remain significant barriers to adoption [13].

Research by Ottman et al. (2006) further highlights the importance of avoiding “green marketing myopia,” where companies fail to account for consumer needs when promoting environmentally friendly products [2]. In both developed and developing markets, green marketing strategies must consider factors such as product affordability and accessibility to ensure broad consumer engagement [1].

Cross-national studies, such as those conducted by Chan et al. (2018), emphasise that cultural differences also play a role in how consumers perceive green marketing initiatives [6]. In their analysis of green marketing practices across Asia, they found that consumer responses varied significantly between countries, underlining the need for localised marketing strategies that resonate with diverse consumer attitudes and expectations [6].

Furthermore, understanding how government policies interact with corporate green marketing efforts is key to enhancing their effectiveness. Studies show that the success of green marketing often hinges on government incentives, such as subsidies for renewable energy or carbon reduction schemes [8]. In the United States, the EPA’s regulations have been instrumental in encouraging companies to adopt sustainable practices and develop products that align with environmental standards [4].

The gap in the literature regarding green marketing in developing countries suggests that further research is needed to understand how these strategies can be tailored to meet the needs of emerging markets. Smith and Brown (2019) noted that most studies focus on green marketing in developed countries, leaving a significant gap in understanding its application in developing regions [14]. Future research could explore the long-term impact of government policies on green marketing and consumer behaviour in these economies [14].

In conclusion, green marketing offers substantial opportunities for companies to align with growing consumer demand for sustainability. However, its success depends not only on corporate strategies but also on the broader regulatory and economic contexts in which it is implemented. In developed countries, where regulatory support and consumer awareness are higher, green marketing is more likely to succeed. In contrast, developing countries face barriers such as high costs and weak regulatory frameworks, which must be addressed to achieve greater consumer participation in sustainability efforts [13]. Based on this review, the research proposes three main hypotheses:

H1: Corporate green marketing initiatives have a significant positive impact on increasing consumer awareness of sustainability.

H2: Government sustainability policies strengthen the relationship between green marketing initiatives and consumer behaviour.

H3: There are significant differences in the effectiveness of green marketing and sustainability policies between developed countries (Germany, the United States) and developing countries (Indonesia).

3 Method

This study employed a quantitative approach to evaluate the impact of green marketing and government policies on consumer awareness across three countries: Germany, the United States, and Indonesia, over the period 2014 to 2023. The data used in this research were secondary data obtained from corporate annual reports, government policy documents, and consumer surveys. Large corporations such as BMW, Siemens, Unilever, and Coca-Cola were the subjects of analysis concerning their green marketing initiatives, while policy data were sourced from official publications such as the Environmental Protection Agency (EPA) in the United States and the Ministry of Environment in Indonesia. A longitudinal design was also employed to observe changes in consumer awareness over time, along with a cross-national comparison approach to examine the effectiveness of green marketing and sustainability policies [10].

In this study, corporate green marketing initiatives and government sustainability policies acted as independent variables, while consumer awareness of sustainability served as the dependent variable. To analyse the relationship between these variables, multiple linear regression analysis was used, allowing for the simultaneous evaluation of the impact of both independent variables on consumer awareness.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \epsilon$$

In this model, Y represents consumer awareness of sustainability, which serves as the dependent variable. The variable X_1 refers to corporate green marketing initiatives, while X_2 denotes government sustainability policies, both of which act as the independent variables. The coefficients β_1 and β_2 are regression coefficients that quantify the influence of the independent variables (corporate green marketing initiatives and government policies) on the dependent variable (consumer awareness). Finally, ϵ represents the error term, which accounts for the variation in consumer awareness that is not explained by the model.

Additionally, an analysis of variance (ANOVA) was used to compare the impact of green marketing strategies and sustainability policies across the three countries. Time series analysis was also applied to identify trends in consumer awareness changes year by year [7].

4 Result and Discussion

In this study, we tested three main hypotheses regarding the influence of corporate green marketing initiatives and government policies on consumer awareness of sustainability. The first hypothesis (H1) posits that green marketing initiatives implemented by companies have a significant positive impact on increasing consumer awareness of

sustainability. To test this hypothesis, data were collected from three countries: Germany, the United States, and Indonesia, followed by descriptive and regression analyses.

The descriptive analysis results show variations in the percentage of consumers concerned about sustainability in each country. Table 1 presents the relevant statistical data.

Table 1. Descriptive Analysis

Country	Mean	Min	Max	Std Dev
United States	67.80	63	73	2.94
Indonesia	52.10	45	58	3.87
Germany	56.56	50	63	4.07

Source: Data Processed (2024)

From Table 1, it can be observed that the average percentage of consumers concerned about sustainability in the United States reaches 67.80%, while in Germany and Indonesia, it is 56.56% and 52.10%, respectively. This indicates that strong green marketing initiatives in these countries contribute to higher consumer awareness. These findings support H1, as there is evidence that corporate efforts to reduce environmental impact through product innovation and sustainability promotion positively influence consumer concern.

Next, to test the second hypothesis (H2), which states that government sustainability policies strengthen the relationship between green marketing initiatives and consumer behaviour, ANOVA analysis was conducted. Table 2 shows the results of the ANOVA test.

Table 2. ANOVA Results

Source	Sum of Squares	df	F-value	P-value
C(Country)	1303.97	2	49.17	1.46e-09
Residual	344.72	26		

Source: Data Processed (2024)

The ANOVA results show a significant difference between country groups, with a very low p-value ($p < 0.001$). This finding indicates that government policies in each country play a crucial role in strengthening the relationship between green marketing initiatives and consumer awareness. In this context, policies supporting carbon emission reduction and the use of renewable energy can provide incentives for companies to invest more in sustainable practices, which in turn enhances consumer awareness and participation. Research by Smith and Brown (14) also noted that pro-environmental

policies encourage corporate initiatives and increase consumer awareness of sustainability.

The third hypothesis (H3) tests the significant differences in the effectiveness of green marketing and sustainability policies between developed countries (Germany, the United States) and developing countries (Indonesia). Table 3 presents the regression results, offering deeper insights into the influence of time and geographical location on consumer awareness.

Table 3. Regression Results

Coefficients	Value	Std. Err.	t-value
Intercept	62.43	0.43	145.236
C(Country)[T.Indonesia]	-15.70	0.44	-35.599
C(Country)[T.Germany]	-10.65	0.45	-23.438
Year	1.19	0.07	18.151

Source: Data Processed (2024)

From Table 3, it is evident that the positive coefficient for the variable "Year" (1.19) indicates that consumer awareness of sustainability increases over time. Meanwhile, the negative coefficients for Indonesia (-15.70) and Germany (-10.65) suggest that despite progress, consumers in these two countries still show lower levels of concern compared to the United States. These findings align with previous studies, which indicate that the effectiveness of green marketing and government policies varies depending on the social and economic context of each country (15).

5 Conclusion

This study evaluates the influence of green marketing initiatives and sustainability policies on consumer awareness in three countries: the United States, Germany, and Indonesia, over the period 2014 to 2023. Based on descriptive analysis, ANOVA, and regression, the results indicate that corporate green marketing initiatives have a positive and significant impact on increasing consumer awareness of sustainability. Furthermore, government policies related to sustainability, such as carbon emission reduction regulations and renewable energy incentives, also strengthen the relationship between green marketing strategies and consumer behaviour. However, the study also found significant differences in the effectiveness of green marketing and sustainability policies between developed countries (the United States and Germany) and developing countries (Indonesia). Consumers in developed nations exhibited higher awareness of sustainability issues compared to those in developing countries, although there has been a slow increase in awareness in Indonesia.

This study has several limitations that should be considered. First, it relies solely on secondary data, which may not fully reflect consumer behaviour towards eco-friendly

products across various market segments. Second, the focus on three countries means that the findings may not be generalisable to other nations with different economic and social contexts. Future research could expand the scope to include more countries or use primary data, such as consumer surveys, to gain a deeper understanding of the motivations and barriers consumers face when adopting eco-friendly behaviour. Additionally, future studies could explore other factors influencing consumer awareness of sustainability, such as the role of social media, the pricing of eco-friendly products, and environmental education, as well as delve deeper into sustainability's impact on different industrial sectors.

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