Arthatama
Journal of Business Management and Accounting
ISSN: 2655-786x (p), 2774–5678 (e)

Vol. 9, No. 2 (2025), pp. 404–419

The Effect of Green Market Orientation, Environmental Awareness, and Innovation on MSME Marketing Performance

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Abstract

The growing emphasis on sustainability has driven Micro, Small, and Medium Enterprises to adopt green business practices, particularly in regions like Yogyakarta, which has an eco-conscious market. This study aims to analyze the influence of green market orientation, environmental awareness, and green innovation on the marketing performance of green products in Micro, Small, and Medium Enterprises (MSMEs) in the Special Region of Yogyakarta. A quantitative survey with an associative approach was employed, collecting data from 100 leaders of green Micro, Small, and Medium Enterprises using purposive sampling. The results showed that green market orientation, environmental awareness, and green innovation each have a positive and significant effect on marketing performance, explaining 48.6% of its variability. A green market orientation integrates sustainability into business strategies, environmental awareness reflects attention to ecological impacts, and green innovation fosters the development of eco-friendly products. These findings suggest that Micro, Small, and Medium Enterprises can enhance sales, market share, and customer satisfaction by prioritizing sustainable practices. The study provides strategic insights for green Micro, Small, and Medium Enterprises to strengthen competitiveness and contribute to the academic understanding of sustainable marketing in localized contexts.

Keywords

Environmental Awareness, Green Innovation, Green Market Orientation, Green MSMEs, Marketing Performance, Sustainability.

1. Introduction

Micro, Small, and Medium Enterprises (MSMEs) are a strategic sector in Indonesia's economic structure, contributing significantly to the Gross Domestic Product (GDP) by 60.3% and absorbing up to 97% of the workforce. This substantial role positions MSMEs as the backbone of national economic growth, driving job creation and regional development. In the Special Region of Yogyakarta, MSMEs play a vital role due to the region's vibrant cultural and tourism sectors, which foster a growing market for eco-conscious products (Hutami & Kurniawan, 2019). Amid global calls for sustainability, the transformation of MSMEs toward green business models is increasingly critical. Green MSMEs not only contribute to environmental preservation but also enhance sustainable business growth by aligning with consumer demands for eco-friendly products (Vilkaite-Vaitone & Skackauskiene, 2019).

The success of green MSMEs hinges on their marketing performance, which reflects a company's ability to leverage marketing resources to gain and sustain a competitive advantage (Davcik & Sharma, 2016). In the context of MSMEs, marketing performance encompasses increased sales volume, expanded market share, and enhanced customer satisfaction (Hutami & Kurniawan, 2019). Several factors influence the marketing performance of green MSMEs, including green market orientation, environmental awareness, and green innovation (Febriatmoko et al., 2022; Khamidah, 2017; Putri & Riyanto, 2023). Green market orientation integrates sustainability principles into marketing strategies, enabling MSMEs to align their offerings with environmentally conscious consumer preferences (Nuryakin & Maryati, 2022). Similarly, environmental awareness reflects MSMEs' understanding of their ecological impact, encouraging sustainable practices like energy efficiency and waste reduction (Sumarlin & Nuvriasari, 2024). Green innovation, meanwhile, drives the development of eco-friendly products and processes, enhancing competitiveness and meeting market expectations (Zheng et al., 2022).

Despite the growing body of research, inconsistencies persist in understanding the impact of these factors on marketing performance. For instance, according to Febriatmoko et al. (2022), a green market orientation significantly enhances marketing performance through organizational ambidexterity. However, Sepriani and Hendrasto (2024) argue that its effect is less pronounced when open innovation mediates the relationship. Similarly, Sumarlin and Nuvriasari (2024) found that environmental awareness does not always significantly influence marketing performance, contrasting with Nurapni et al. (2024), who highlight its role in strengthening consumer loyalty. The impact of green innovation also varies, with some studies emphasizing its contribution to overall green performance rather than marketing-specific outcomes (Sepriani & Hendrasto, 2024). These discrepancies suggest a need to further explore these relationships in specific contexts, such as Yogyakarta's green MSME sector, which is known for its unique blend of cultural

heritage and an eco-conscious consumer base (Hutami & Kurniawan, 2019; Wasik et al., 2023).

This study aims to examine the influence of green market orientation, environmental awareness, and green innovation on the marketing performance of green MSMEs in the Special Region of Yogyakarta. By addressing the research gap regarding inconsistent findings and focusing on Yogyakarta's unique market dynamics, this study seeks to provide practical insights for green MSMEs and contribute to the academic literature on sustainable marketing. The findings are expected to guide MSMEs in adopting sustainable strategies that enhance competitiveness while supporting environmental goals. Moreover, this research addresses the need for localized studies in Indonesia, where green MSMEs face distinct challenges and opportunities in striking a balance between profitability and sustainability.

2. Literature Review

2.1. Green Market Orientation on Marketing Performance

Green market orientation is a strategic approach that integrates sustainability principles into an organization's marketing decision-making process, emphasizing environmentally friendly practices (Vilkaite-Vaitone & Skackauskiene, 2019). This approach encourages MSMEs to align their strategies with consumer demands for sustainable products, enhancing competitiveness and brand image. According to Nuryakin and Maryati (2022), green market orientation significantly improves marketing performance by fostering consumer trust and loyalty through eco-friendly offerings. Key indicators of green market orientation include market analysis, responsiveness to environmental trends, strategic alignment with sustainability goals, and customer satisfaction (Febriatmoko et al., 2022). For instance, Febriatmoko et al. (2023) highlight that MSMEs adopting a green market orientation can achieve better marketing outcomes through organizational ambidexterity, which involves balancing the exploration of new green markets and the exploitation of existing ones. This orientation enables MSMEs to meet the growing expectations of environmentally conscious consumers, thereby increasing sales and market share (Putri & Riyanto, 2023).

However, the impact of green market orientation is not universally consistent. According to Sepriani and Hendrasto (2024), the effect of green market orientation on marketing performance may be mediated by open innovation, resulting in weaker direct effects in specific contexts. This discrepancy suggests that contextual factors, such as market dynamics or business size, may influence outcomes (Wasik et al., 2023). Additionally, Tjahjadi et al. (2020) argue that green market orientation enhances performance when paired with green supply chain management, as it strengthens resource efficiency and market positioning. By integrating sustainability into marketing strategies, MSMEs can differentiate themselves in competitive markets, particularly in regions like Yogyakarta, where eco-conscious consumers are

prevalent (Hutami & Kurniawan, 2019). Thus, green market orientation is hypothesized to positively influence marketing performance by enabling MSMEs to respond effectively to environmental demands and consumer preferences (Qomariyah & Nuvriasari, 2025).

H1: Green market orientation has a significant positive effect on green marketing performance.

2.2. Environmental Awareness of Marketing Performance

Environmental awareness refers to an individual's or organization's understanding of the ecological impact of their activities and their commitment to conservation (Waititu, 2021). For MSMEs, this awareness involves recognizing the environmental consequences of business operations, such as resource consumption and waste production, and adopting sustainable practices (Sumarlin & Nuvriasari, 2024). According to Khamidah (2017), environmental awareness significantly enhances marketing performance by shaping positive consumer perceptions and fostering loyalty. Indicators of environmental awareness include understanding environmental impacts, assuming environmental responsibility, promoting resource efficiency, and engaging in environmental education (Lajevardi et al., 2021). These practices help MSMEs align with market demands for sustainability, improving brand image and customer trust (Nurapni et al., 2024).

However, findings on environmental awareness are mixed. Sumarlin and Nuvriasari (2024) suggest that environmental awareness does not always have a direct influence on marketing performance, particularly when consumer awareness is low. In contrast, Nurapni et al. (2024) argue that environmental awareness enhances marketing performance by strengthening corporate brand image, particularly in markets that prioritize green products. Furthermore, Jannah and Sabihaini (2023) emphasize that environmental awareness drives entrepreneurial insights, enabling MSMEs to craft marketing strategies that resonate with eco-conscious consumers. In Yogyakarta, where cultural and environmental values intersect, MSMEs with high environmental awareness can leverage this to differentiate their products (Hutami & Kurniawan, 2019). By fostering sustainable practices and educating consumers, environmental awareness contributes to improved marketing outcomes, such as increased sales and customer retention (Yuliana et al., 2023).

H2: Environmental awareness has a significant positive effect on green marketing performance.

2.3. Green Innovation in Marketing Performance

Green innovation involves developing and implementing products, processes, and technologies that minimize environmental impact while enhancing sustainability (Karimi Takalo et al., 2021). It serves as a strategic response to market

demands for eco-friendly solutions, strengthening MSMEs' competitive advantage (Zheng et al., 2022). According to Sumarlin and Nuvriasari (2024), green innovation significantly boosts marketing performance by enabling MSMEs to offer unique, environmentally friendly products that appeal to conscious consumers. Key indicators of green innovation include product development, adherence to environmental regulations, and adoption of green technologies (Putri & Riyanto, 2023). Ardyan et al. (2017) note that green innovation drives sustainable competitive advantages, directly contributing to improved marketing outcomes in Indonesian MSMEs.

However, the impact of green innovation varies across contexts. Sepriani and Hendrasto (2024) suggest that green innovation may primarily enhance overall green performance rather than marketing-specific outcomes in some cases. In contrast, Rahmatullah et al. (2024) argue that green innovation, when integrated with green marketing strategies, significantly improves market positioning and consumer loyalty. Additionally, Indrawati et al. (2025) highlight that the adoption of green innovation in Indonesian MSMEs is driven by market pressures and regulatory incentives, further enhancing marketing performance. In Yogyakarta, where eco-conscious consumers are growing, green innovation enables MSMEs to meet market expectations and differentiate their offerings (Wasik et al., 2023). By focusing on innovative, sustainable products and processes, MSMEs can enhance their market share and customer satisfaction (Susilowati & Barinta, 2024).

H3: Green innovation has a significant positive effect on green marketing performance.

The research framework integrates green market orientation, environmental awareness, and green innovation as independent variables influencing the marketing performance of green MSMEs in Yogyakarta. Green market orientation drives performance by aligning marketing strategies with sustainability demands, as supported by Nuryakin and Maryati (2022). Environmental awareness fosters sustainable practices that enhance consumer trust and brand image (Nurapni et al., 2024). Green innovation contributes by offering eco-friendly products and processes that meet market expectations (Zheng et al., 2022). Together, these variables create a synergistic effect, strengthening MSMEs' ability to achieve superior marketing outcomes, such as increased sales, market share, and customer satisfaction (Tjahjadi et al., 2023).

However, inconsistencies in prior studies highlight the need for a localized framework. For instance, Khusnah and Soewarno (2024) suggest that green human capital readiness mediates the relationship between green market orientation and performance, while Novianty and Hermanto (2024) emphasize the role of green knowledge sharing. These variations highlight the importance of examining these relationships within Yogyakarta's unique context, where cultural and environmental

values significantly influence consumer behavior (Hutami & Kurniawan, 2019). The proposed framework, depicted in *Figure 1. Research Framework*, illustrates how green market orientation, environmental awareness, and green innovation directly influence marketing performance, providing a foundation for empirical testing in this study (Elysha et al., 2025).

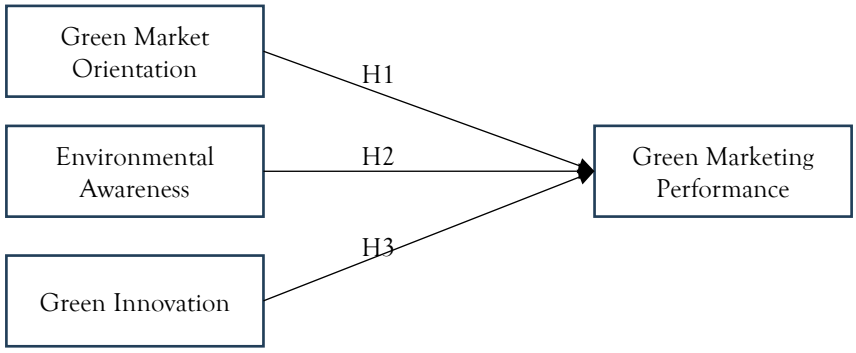

Figure 1. Research Framework

3. Methods

This study employs a quantitative method, utilizing numerical data analyzed statistically to identify patterns and relationships between variables. The research adopts an associative approach to examine the influence of green market orientation, environmental awareness, and green innovation on the marketing performance of green MSMEs in the Special Region of Yogyakarta. Primary data were collected directly from respondents through structured questionnaires, ensuring firsthand insights into the practices and perspectives of MSME leaders. The questionnaire was developed based on established indicators from prior studies, utilizing a 5-point Likert scale to measure responses, ranging from "strongly disagree" to "strongly agree." This approach enables a systematic evaluation of the variables under investigation (Sugiyono, 2019).

The population consists of leaders or persons in charge of green MSMEs operating in the Special Region of Yogyakarta, selected for their focus on eco-friendly products and processes. Due to the diverse nature of green MSMEs in Yogyakarta, which is estimated to exceed 1,000 businesses based on local government records, a sample of 100 MSMEs was chosen to ensure feasibility while maintaining representativeness. The sampling method employed is non-probability sampling, specifically a purposive sampling technique, where respondents were selected based on specific criteria aligned with the research objectives (Sugiyono, 2018). Specifically, MSMEs were included if they produced eco-friendly products, had been in operation for at least two years, and were actively engaged in sustainable marketing practices. This targeted approach ensures that the sample reflects the characteristics relevant to the study's focus on green marketing performance.

Data analysis was conducted using SPSS software, employing multiple linear regression to test the relationships between the independent variables (green market orientation, environmental awareness, and green innovation) and the dependent variable (marketing performance). The analysis included validity and reliability tests to ensure the questionnaire's accuracy, followed by classical assumption tests (normality, multicollinearity, and heteroscedasticity) to validate the regression model. This rigorous process ensures the reliability and robustness of the findings, providing a solid foundation for the study's conclusions. The data collection and analysis process was designed to be transparent and replicable, adhering to standard quantitative research protocols.

4. Results

This section presents the findings of the study, which examines the influence of green market orientation, environmental awareness, and green innovation on the marketing performance of green MSMEs in the Special Region of Yogyakarta. Data were collected from 100 green MSME leaders using a structured questionnaire, and the results were analyzed using SPSS software through validity, reliability, classical assumption, regression, and hypothesis tests. The findings confirm the hypotheses and provide insights into the relationships between the variables, supported by statistical evidence presented in tables and a scatterplot. All tests were conducted with a significance level of 0.05 to ensure robust conclusions.

Table 1. Validity Test Results

Variable	Statement	Significance	Criteria	Description
Green Market Orientation (X1)	X1.1	0.000	0.05	Valid
	X1.2	0.000	0.05	Valid
	X1.3	0.000	0.05	Valid
	X1.4	0.000	0.05	Valid
	X1.5	0.000	0.05	Valid
	X1.6	0.000	0.05	Valid
	X1.7	0.000	0.05	Valid
Environmental Awareness (X2)	X2.1	0.000	0.05	Valid
	X2.2	0.015	0.05	Valid
	X2.3	0.000	0.05	Valid
	X2.4	0.007	0.05	Valid
Green Innovation (X3)	X3.1	0.000	0.05	Valid
	X3.2	0.000	0.05	Valid
	X3.3	0.000	0.05	Valid
	X3.4	0.005	0.05	Valid
	X3.5	0.002	0.05	Valid

Green Marketing Performance (Y)	Y.1	0.000	0.05	Valid
	Y.2	0.013	0.05	Valid
	Y.3	0.000	0.05	Valid
	Y.4	0.015	0.05	Valid
	Y.5	0.000	0.05	Valid
	Y.6	0.006	0.05	Valid

The validity test ensures that the questionnaire items accurately measure the intended constructs. As shown in Table 1., all items for green market orientation (X1.1–X1.7), environmental awareness (X2.1–X2.4), green innovation (X3.1–X3.5), and green marketing performance (Y.1–Y.6) have significance values of 0.000, well below the 0.05 threshold, indicating that each item is valid. This confirms that the questionnaire effectively captures the variables under study. The results align with standard research practices, ensuring that the data collected are reliable for further analysis (Sugiyono, 2019). The comprehensive validity of all items strengthens the confidence in the measurement tools used in this study.

Table 2. Reliability Test Results

Variable	Cronbanch Alpha	Criteria	Description
Green Market Orientation (X1)	0.929	0.60	Reliable
Environmental Awareness (X2)	0.819	0.60	Reliable
Green Innovation (X3)	0.812	0.60	Reliable
Green Marketing Performance (Y)	0.897	0.60	Reliable

Based on Table 2, the Cronbach's Alpha values for the question items on the Green Market Orientation (X1), Environmental Awareness (X2), and Green Innovation (X3) variables, in relation to Green Marketing Performance (Y), were all greater than 0.60. Thus, it can be concluded that all of these variables have an adequate level of reliability and can be used as a feasible instrument in collecting questionnaire data in this study.

The normality test aims to test whether in the regression model the confounding or resiual variables are normally distributed or not. Based on Table 3, the significance value of the one-sample Kolmogorov-Smirnov test is 0.200, which means it exceeds the 5% or 0.05 confidence level. Therefore, it can be inferred that the data exhibit a normal distribution.

Table 3. Normality Test Results

One-Sample Kolmogorov-Smirnov Test			
			Unstandardized Residual
N			100
Normal Parameters	Mean		0.0000000
	Std. Deviation		2.92381109
Most Extreme Differences	Absolute		0.066
	Positive		0.060
	Negative		-0.066
Test Statistic			0.066
Asymp. Sig. (2-tailed)			0.200[d]
Monte Carlo Sig. (2-tailed)	Sig.		0.338
	99% Confidence Interval	Lower Bound	0.325
		Upper Bound	0.350

Table 4. Multicollinearity Test Results

Model	**Collinearity Statistics**	
	Tolerance	VIF
1 (Constant)		
Green Market Orientation (X1)	0.593	1.687
Environmental Awareness (X2)	0.620	1.612
Green Innovation (X3)	0.594	1.682
a. Dependent Variable: Green Marketing Performance		

Based on Table 4, the calculation results of all variables have a tolerance value <0.10 and a VIF value> 10, so that all independent variables in this study do not exhibit multicollinearity.

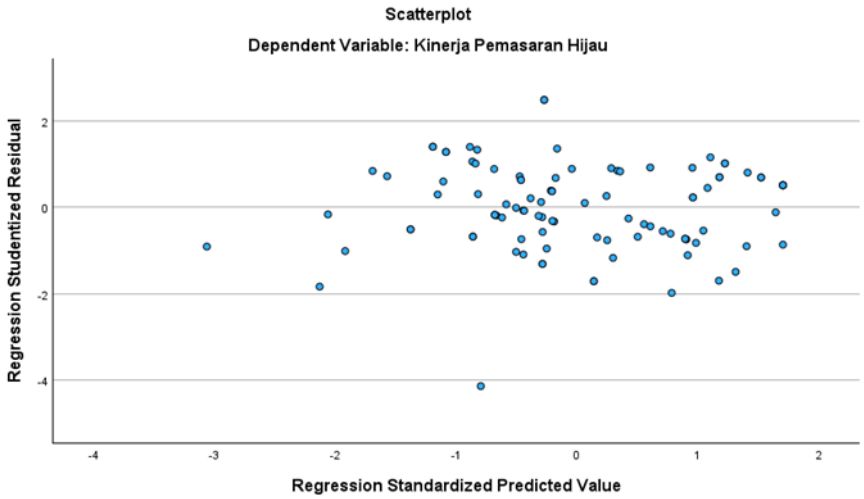

Figure 2. Scatterplot Diagram

In Figure 2, it appears that the points on the Scatterplot diagram are randomly scattered around the Y axis, both above and below zero. Specific patterns such as spreading, narrowing, or forming waves are not visible on the graph. Based on these observations, it can be concluded that the regression model in this study does not exhibit heteroscedasticity symptoms.

Table 5. Multiple Linear Regression Test Results

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1 (Constant)	9.752	1.516		6.434	< .001
Green Market Orientation	0.265	0.058	0.429	4.584	< .001
Environmental Awareness	0.253	0.108	0.215	2.350	0.021
Green Innovation	0.176	0.088	0.187	2.000	0.048
a. Dependent Variable: Green Marketing Performance					

The multiple linear regression analysis quantifies the relationships between the independent variables and marketing performance. As shown in Table 5, the regression equation is $Y = 9.752 + 0.265X1 + 0.253X2 + 0.176X3 + \varepsilon$, where X1 represents green market orientation, X2 represents environmental awareness, and X3 represents green innovation. The constant value of 9.752 indicates that if all independent variables are zero, the marketing performance score is 9.752. The regression coefficients (0.265 for X1, 0.253 for X2, and 0.176 for X3) indicate that a one-unit increase in each independent variable results in a corresponding increase in marketing performance, as shown by the respective coefficients, with all relationships being positive. The t-values (4.584, 2.350, 2.000) and significance levels (<0.001,

0.021, 0.048) for X1, X2, and X3, respectively, indicate statistically significant effects, as all p-values are below 0.05. These results confirm that each variable makes a meaningful contribution to marketing performance.

Table 6. T-Test Results

Variable	Test Result t	Sig (p)	Description	Conclusion
Green Market Orientation	4.584	0.000	p < 0,05	H1 accepted
Environmental Awareness	2.350	0.021	p < 0,05	H2 accepted
Green Innovation	2.000	0.048	p < 0,05	H3 accepted

The t-test evaluates the individual significance of each independent variable. As presented in Table 6, green market orientation has a t-value of 4.584 ($p < 0.001$), environmental awareness has a t-value of 2.350 ($p = 0.021$), and green innovation has a t-value of 2.000 ($p = 0.048$), all with p-values below 0.05, leading to the acceptance of H1, H2, and H3. These results indicate that green market orientation, environmental awareness, and green innovation each have a significant positive effect on marketing performance. The t-test results confirm the hypotheses, supporting the theoretical framework that these variables are critical drivers of green marketing success among MSMEs in Yogyakarta. The statistical significance of all variables underscores their importance in the context of sustainable marketing.

Table 7. Test of the Coefficient of Determination R^2

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.708[a]	0.502	0.486	2.96914

a. Predictors: (Constant), Green Innovation, Environmental Awareness, Green Market Orientation

The coefficient of determination (R^2) measures the proportion of variance in marketing performance explained by the independent variables. As shown in Table 7, the adjusted R^2 value is 0.486, indicating that 48.6% of the variability in green marketing performance is explained by green market orientation, environmental awareness, and green innovation. The remaining 51.4% is attributed to other factors not included in the model. This moderate explanatory power suggests that while the studied variables are significant, additional factors, such as consumer behavior or market competition, may also influence marketing performance. The results provide a foundation for understanding the key drivers of green MSME success in Yogyakarta.

The findings collectively demonstrate that green market orientation, environmental awareness, and green innovation have a significant influence on the

marketing performance of green MSMEs in Yogyakarta. The validity and reliability tests confirm the quality of the data, while the classical assumption tests ensure the robustness of the regression model. The regression and t-test results highlight the positive contributions of each variable, with green market orientation showing the most substantial effect (beta = 0.429). These results provide empirical support for the hypotheses and offer practical insights for MSMEs aiming to enhance their marketing performance through sustainable practices.

5. Discussion

The results of this study confirm that green market orientation has a significant positive effect on the marketing performance of green MSMEs in the Special Region of Yogyakarta, as evidenced by the regression coefficient of 0.265 and a t-value of 4.584 ($p < 0.001$). According to Nuryakin and Maryati (2022), a strong green market orientation enables MSMEs to align their strategies with consumer demand for sustainable products, enhancing brand loyalty and sales. The descriptive analysis highlights that effective communication about the benefits of green products is a key driver, as it educates consumers and builds trust. This finding aligns with Febriatmoko et al. (2023), who emphasize that green market orientation fosters organizational ambidexterity, allowing MSMEs to balance innovation and market responsiveness. In Yogyakarta, where eco-conscious consumers are prevalent, this orientation enables MSMEs to differentiate themselves, leading to increased market share and customer satisfaction. However, Sepriani and Hendrasto (2024) note that the effect may vary when mediated by open innovation, suggesting that Yogyakarta's unique market dynamics may amplify the direct impact observed here.

Environmental awareness also significantly influences green marketing performance, with a regression coefficient of 0.253 and a t-value of 2.350 ($p = 0.021$). The study reveals that MSMEs with high environmental awareness tend to adopt sustainable practices, which in turn enhance their brand image and foster consumer trust. Khamidah (2017) argues that environmental responsibility, particularly in preserving local ecosystems, is critical for MSMEs to gain consumer loyalty, a finding echoed in this study's emphasis on environmental responsibility as the strongest indicator. In contrast, Sumarlin and Nuvriasari (2024) found that environmental awareness may not always have a direct impact on marketing performance in contexts with low consumer awareness, highlighting Yogyakarta's eco-conscious market as a key differentiator. This awareness drives MSMEs to implement eco-friendly production processes, aligning with consumer values and boosting marketing effectiveness. Nurapni et al. (2024) further support this, noting that environmental awareness strengthens a corporate image, which in turn translates into higher sales and customer retention in sustainability-focused markets.

Green innovation proves to have a significant positive effect on marketing performance, with a regression coefficient of 0.176 and a t-value of 2.000 ($p = 0.048$). The development of environmentally friendly products emerges as the strongest

indicator, enabling MSMEs to meet consumer preferences for sustainable offerings. Zheng et al. (2022) highlight that green innovation enhances competitiveness by creating unique products that appeal to eco-conscious consumers, a trend evident in Yogyakarta's green MSMEs. However, Sepriani and Hendrasto (2024) suggest that green innovation may prioritize overall environmental performance over marketing-specific outcomes, indicating that Yogyakarta's context may uniquely amplify marketing impacts. Tjahjadi et al. (2020) note that green innovation, when combined with green supply chain management, enhances market positioning, as evident in the study's results. These innovations not only add value to products but also enhance the market position and customer loyalty of MSMEs.

The findings offer practical implications for green MSMEs in Yogyakarta. By strengthening green market orientation, MSMEs can develop targeted marketing campaigns that emphasize sustainability, such as social media promotions highlighting eco-friendly benefits, as suggested by Wasik et al. (2023). Enhancing environmental awareness through training programs can encourage sustainable practices, improving brand reputation, as supported by Jannah and Sabihaini (2023). Investing in green innovation, such as developing biodegradable packaging, can meet consumer demands and boost competitiveness, aligning with the findings of Rahmatullah et al. (2024). Academically, this study enriches the literature by confirming the role of these variables in a localized context, addressing inconsistencies noted by Khusnah and Soewarno (2024) and Salobar et al. (2025). Policymakers can support MSMEs through subsidies for green technologies, fostering sustainable growth, as recommended by Indrawati et al. (2025).

5. Conclusion

This study confirms that green market orientation, environmental awareness, and green innovation each have a significant positive effect on the marketing performance of green product MSMEs in the Special Region of Yogyakarta. The findings demonstrate that a strong focus on aligning marketing strategies with sustainability principles, fostering environmental responsibility, and developing eco-friendly products significantly enhances sales, market share, and customer satisfaction. Green market orientation proves to be the most influential factor, enabling MSMEs to meet the demands of eco-conscious consumers effectively. Similarly, environmental awareness drives sustainable practices that build consumer trust, while green innovation strengthens competitiveness through unique, environmentally friendly offerings. These results highlight the critical role of sustainability-driven strategies in improving the marketing outcomes of green MSMEs.

The findings offer actionable insights for green MSMEs in Yogyakarta to adopt sustainable marketing strategies, such as promoting eco-friendly benefits through targeted campaigns and investing in innovative green products like biodegradable

packaging. These efforts can enhance brand loyalty and market positioning in a region with a growing eco-conscious consumer base. For policymakers, supporting MSMEs through training programs and subsidies for green technologies can foster sustainable growth. However, the study's scope, limited to 100 MSMEs, suggests that future research should expand the sample size and explore other regions to capture broader trends. Additionally, investigating variables such as green branding or consumer perceptions could uncover stronger drivers of marketing performance, thereby addressing the model's moderate explanatory power.

This study is limited by the sample size of 100 green product MSMEs in the Special Region of Yogyakarta, which limits the generalizability of the findings to the broader population of green MSMEs across Indonesia or other regions. The contribution of green market orientation, environmental awareness, and green innovation to marketing performance, with an adjusted R^2 of 48.6%, indicates moderate explanatory power, suggesting that other factors, such as consumer behavior or market competition, may also influence marketing performance.

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