

Practice of Implementing Ecopreneur Values in MSMEs in Special Region of Yogyakarta

Lilia Pasca Riani¹, Endang Mulyani², Yuni Mariani Manik³, Supriyanto⁴, Sri Sumarsih⁵

¹²³⁴⁵Universitas Negeri Yogyakarta, Indonesia

Correspondent: yunimarianimanik@uny.ac.id³

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ABSTRACT: The growing urgency of sustainability challenges demands transformative entrepreneurial practices that integrate environmental responsibility into business operations. Study explores ecopreneurial values, drivers, and barriers in Yogyakarta culinary MSMEs. This study offers new empirical evidence that business scale, rather than age or capital, is the key determinant of sustainability integration among MSMEs. It further reveals that cognitive constraints—such as limited knowledge, awareness, and green literacy—exert a stronger influence than financial limitations in shaping ecopreneurial decision-making. This study employed a quantitative, cross-sectional survey of 100 culinary MSMEs in the Special Region of Yogyakarta. Data were analyzed using descriptive statistics, one-way ANOVA, post-hoc tests, and ANCOVA to assess the influence of MSME classification while controlling for business age and capital. Findings reveal significant differences across business classifications in adopting ecopreneurship values ($F = 56.622$; $p < 0.001$; $\eta^2 = 0.539$), with medium enterprises demonstrating the strongest implementation. The dominant barriers are lack of information (30%) and limited awareness (25%), while key drivers are market opportunity (28%) and autonomy motivation (25%). Ecopreneurship advancement among MSMEs is primarily capability-driven and shaped by motivational and informational factors rather than financial strength or experience. Policy interventions should therefore adopt classification-based strategies, focusing on green literacy, market access enhancement, and collaborative ecosystem development, especially for micro and small enterprises. The key implication is these findings suggest that national and regional policies should prioritize knowledge-based capacity building and ecosystem collaboration rather than merely providing financial incentives, ensuring a more inclusive and enduring green transformation of MSMEs.

Keywords: Ecopreneurship, MSMEs, Sustainability Adoption, Green Innovation, Yogyakarta.



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INTRODUCTION

Ecopreneurship is a form of entrepreneurship that emphasizes sustainability, integrating environmentally friendly values, green innovation, business ethics, local social empowerment, and long-term vision. MSMEs, particularly those in the culinary sector, have significant potential to implement ecopreneurship due to their close relationship with the community and direct involvement in the food supply chain. However, the implementation of ecopreneurial values often faces obstacles in the form of limited information, knowledge, awareness, and funding. They are also influenced by driving factors such as passion, green values, market gaps, basic necessities, and long-term vision.

Previous research confirms that business scale influences readiness to adopt green innovations (Schaltegger & Wagner, 2011; York & Venkataraman, 2010). However, there is still a gap in research regarding the differences in the implementation of ecopreneurial values across MSME classifications, particularly in the culinary sector, and the extent to which business duration and capital influence this implementation. Therefore, this study aims to analyze the barriers, drivers, and differences in the implementation of ecopreneurial values across MSME classifications in the culinary sector, by adding covariate analysis in the form of business duration and capital.

METHOD

This study used a quantitative approach (Dolnicar et al., 2024; Nurohman et al., 2021; Sorensen et al., 2021), involving 100 culinary MSME respondents. Data were collected through a Likert-scale questionnaire covering three main aspects: barriers, drivers, and the implementation of ecopreneurial values. MSMEs were classified into Micro, Small, and Medium based on capital and turnover criteria.

Data analysis was conducted in three stages. First, descriptive analysis was used to describe the distribution of barriers, drivers, and ecopreneurial values. Second, a one-way ANOVA was conducted to test differences in the implementation of ecopreneurial values across MSME classifications, followed by a post-hoc test using a Welch t-test with Bonferroni correction. Third, an ANCOVA was conducted, including business years and capital as covariates, to test whether MSME classification remained significant after controlling for other factors.

This study employed a quantitative approach with a cross-sectional survey design (Al-Naabi & Al-Abri, 2021; Hasan & Musleh, 2018; Lavrakas, 2013; Nurohman et al., 2021). The research focused on ecopreneur actors operating within micro, small, and medium enterprises (MSMEs) in Indonesia. Respondents were selected using a probability sampling technique to ensure representation across different business categories and regions. A structured questionnaire was utilized as the primary data collection instrument, designed to measure perceived barriers and drivers influencing environmentally friendly business practices.

Data were collected directly from ecopreneurs who possess relevant knowledge and experience regarding sustainable entrepreneurial behavior. The survey included items assessing causal relationships between independent variables (perceived drivers of ecopreneurship) and dependent

variables (perceived barriers impacting business sustainability). The instrument was tested for validity and reliability before full deployment.

A total sample size 100 respondents is planned based on population considerations and sample adequacy requirements for inferential statistics. The data will be analyzed using multiple regression within a causal-associative framework to examine the strength and direction of relationships among variables. Statistical analysis will be performed with the assistance of software such as SPSS/AMOS to support objective and accurate interpretation of findings.

The study population comprised micro, small, and medium enterprises (MSMEs) engaged in the culinary sector in the Special Region of Yogyakarta, Indonesia. Business owners or decision-makers who are actively involved in operational and strategic activities of their enterprises were considered eligible as respondents. To ensure diverse representation across districts, business scale, and market orientation, a probability sampling technique was employed to recruit participants for the quantitative survey.

A total of 100 ecopreneur respondents will be selected proportionally from five administrative areas in the region: Kota Yogyakarta, Sleman, Bantul, Kulon Progo, and Gunungkidul. These respondents are expected to provide relevant perceptions regarding drivers and barriers that influence the adoption of environmentally responsible business practices. Data were collected using structured questionnaires distributed directly to culinary MSME owners.

The study was conducted in the Special Region of Yogyakarta (DIY), an area recognized as a prominent culinary hub and a center of creative economy development in Indonesia. DIY encompasses both urban and peri-urban characteristics, providing a diverse business landscape for culinary MSMEs ranging from traditional food stalls to innovative eco-friendly cafés. This regional context supports an ideal setting for exploring perceived drivers and barriers in adopting sustainable business practices, particularly among ecopreneur actors striving to integrate environmental responsibility into their operations.

The research covered five administrative areas within DIY: Kota Yogyakarta, Sleman, Bantul, Kulon Progo, and Gunungkidul. These areas represent varying levels of market access, consumer behavior, and tourism activity, offering a comprehensive understanding of how contextual differences influence the development of green entrepreneurship in the culinary sector.

A structured questionnaire was developed to measure the perceived drivers and barriers in implementing ecopreneurial values among culinary MSMEs. The instrument consisted of validated indicators reflecting key dimensions of ecopreneurship, including environmental responsibility, green innovation, ethical business conduct, local social empowerment, and long-term sustainability vision. All items used a Likert-scale (Joshi et al., 2015; Mumu et al., 2022) format to assess respondents' perceptions and levels of implementation across the ecopreneurship constructs.

Data collection in this study was carried out through a structured survey administered directly to culinary MSME owners across the Special Region of Yogyakarta. The researcher began by identifying eligible respondents based on predetermined sampling criteria, followed by distribution of questionnaires both in person and through digital survey platforms to facilitate wider reach and participation. Prior to survey administration, respondents were informed about the research

objectives, confidentiality of responses, and voluntary participation, ensuring compliance with ethical research principles.

The questionnaire consisted of items measuring key ecopreneurship values (Guleria & Kaur, 2021; Gunawan et al., 2021; Parmawati et al., 2022; Yarmi et al., 2023) including environmental responsibility (Safi et al., 2023; Shah et al., 2021; Wang & Lv, 2023; Xu et al., 2022), green innovation (Ahmed et al., 2023; H. Y. Li et al., 2023; Lian et al., 2022; Ma et al., 2023; Salihi et al., 2024), ethical business practices (Aggarwal, 2023; Demuijnck & Murphy, 2022; Joseph et al., 2024; N. P. Nguyen & Hoai, 2023; Rezhin Dhahir Fatah, 2023), local social empowerment (Gautam & Bhalla, 2024; Rado & Nuchpam, 2024), and long-term sustainability vision (Bernal-Hernández et al., 2021; Perez-Guzman et al., 2023; Siegel et al., 2024). Respondents were instructed to rate each statement using a Likert scale to reflect their perceptions regarding drivers and barriers in adopting sustainable business practices. Assistance was provided when needed to ensure clarity and accuracy of responses.

Completed questionnaires were collected within a specified time frame, checked for completeness, and screened to remove invalid entries such as missing or inconsistent responses. All valid data were then coded and entered into statistical software for further analysis in accordance with the research objectives. The systematic procedure ensured that the information obtained represented authentic perceptions of ecopreneur actors within the culinary MSME sector in Yogyakarta.”

Quantitative data obtained from the questionnaire were processed and analyzed using statistical software. The analysis procedure began with data cleaning and coding to ensure completeness and accuracy, followed by descriptive statistical analysis to provide an overview of respondent characteristics and distribution of key variables related to ecopreneurial values in culinary MSMEs.

Reliability testing using Cronbach’s Alpha was conducted to ensure internal consistency of the measurement scales. Construct validity was further examined to confirm that the questionnaire items accurately represented the dimensions of environmental responsibility, green innovation, ethical business practices, local social empowerment, and long-term sustainability vision.

Inferential analysis was performed using difference tests to compare perceived drivers and barriers across different respondent groups, such as business scale, years of operation, and location within the Special Region of Yogyakarta. Independent samples t-test or One-Way ANOVA was applied depending on the number of groups being compared. A significance level of 0.05 was set to determine whether differences in perceptions among groups were statistically meaningful.

The results of the difference tests were used to identify variations in the implementation of ecopreneurial values and to determine specific segments of culinary MSMEs that may experience higher challenges or stronger motivations in practicing sustainable business principles.

RESULT AND DISCUSSION

Descriptive analysis shows that the main obstacles to ecopreneurial implementation are limited information (35%), followed by limited awareness (28%), limited knowledge and willingness to share (22%), and limited public funding (15%). The main drivers are passion (30%) and green

values (25%), followed by market gaps (20%), making a living (15%), and long-term vision (10%). The implementation of ecopreneurial values is most predominantly reflected in aspects of environmental friendliness (32%) and green innovation (25%), while aspects of business ethics, local social empowerment, and long-term vision remain relatively low.

ANOVA results indicate significant differences between MSME classifications with an F value of 56.622; $p < 0.001$; $\eta^2 = 0.539$ (large effect size). Further post-hoc testing confirmed that all groups differed significantly, with the largest difference between Micro and Medium Enterprises (Cohen's $d = -2.72$). ANCOVA analysis confirmed that the classification of MSMEs remained significant ($F = 4.048$; $p = 0.021$), while the length of business ($p = 0.969$) and capital ($p = 0.802$) did not have a significant effect on the implementation of ecopreneur values.

Tabel 1. Statistical Test Results (ANOVA)

Statistik	Nilai
ANOVA F	56.621793
ANOVA p-value	0.0
Eta Squared	0.53863
Levene p-value	0.628044
Kruskal-Wallis H	48.477437
Kruskal-Wallis p	0.0

Source: own elaboration (2025)

The results of the one-way ANOVA test showed a significant difference in the implementation scores of ecopreneur values between MSME classifications. The statistical value obtained was $F = 56.622$ with $p < 0.001$. The effect size calculated using eta squared was 0.539, indicating a large effect category. This means that approximately 53.9% of the variation in the implementation of ecopreneur values can be explained by differences in MSME classification (Micro, Small, Medium).

Tabel 2. Statistical Test Results (ANCOVA)

Faktor	sum_sq	df	F	PR(>F)
C (Classification)	820.2252	2.0	4.0478	0.0206
Length of Business	0.1521	1.0	0.0015	0.9692
Capital	6.4209	1.0	0.0634	0.8018
Residual	9625.2305	95.0	nan	nan

Source: own elaboration (2025).

To further test whether differences in the level of implementation of ecopreneur values between MSME classifications remained significant after considering other factors, an Analysis of Covariance (ANCOVA) was conducted with two covariates: business duration (in years) and capital size (in millions of rupiah).

The ANCOVA results showed that MSME classification remained significantly influential on ecopreneur value implementation scores, with an F value of 4.048 and p value of 0.021. This means that even after controlling for the effects of business duration and capital, differences in implementation between Micro, Small, and Medium MSMEs remained significant. In other words, MSME classification is the primary factor determining the extent to which ecopreneur values can be implemented.

Meanwhile, the results of the covariate tests showed that neither business duration nor capital size had a significant influence. The F value for business duration = 0.002 ($p = 0.969$) and F for capital = 0.063 ($p = 0.802$), indicating that these two factors do not directly contribute to variations in implementation scores. This means that even if an MSME has been established for a long time or has substantial capital, this does not necessarily guarantee a high level of ecopreneurial values if it is not supported by a higher business classification.

This finding reinforces the previous ANOVA results. MSME classification remains the dominant factor in explaining variations in the level of ecopreneurship implementation, while other factors such as business length and capital did not prove significant. Therefore, strategies for strengthening MSMEs in the context of ecopreneurship should focus more on increasing business scale capacity and mentoring according to classification, rather than solely on the length of operation or capital size.

The research results show that the distribution of ecopreneurial values among culinary MSMEs is divided into five main aspects. Environmental friendliness ranked highest at 32%, indicating that most MSMEs have made efforts to reduce their environmental impact, for example by using eco-friendly packaging, simple waste management, and energy efficiency in production processes.

The second most dominant value was green innovation, at 25%. This indicates that MSMEs have begun developing products based on local organic ingredients, diversifying into healthy products, and utilizing waste as a production additive. Business ethics contributed 18%, demonstrating business actors' awareness of honesty, transparency, and social responsibility in conducting business activities.

Next, local social empowerment emerged at 15%, where MSMEs involve local communities, such as women's groups (PKK) or youth groups, in production and distribution activities. This strengthens the social ecosystem while creating a positive impact on local communities. Finally, long-term vision accounted for 10%, which, while relatively lower, reflects the fact that some MSMEs have developed strategic business sustainability plans, including waste reduction targets and efforts to enter the broader green market. Overall, this distribution shows that ecopreneurial practices in culinary MSMEs are currently dominated by environmental friendliness and green innovation, while social empowerment and long-term vision still need to be strengthened. This indicates that the implementation of ecopreneurship is still in its early stages, focusing on practical actions, but has the potential to evolve into a more comprehensive sustainable strategy.

This study contributes to the theoretical advancement of ecopreneurship by extending the Natural Resource-Based View (NRBV) and stakeholder theory within the context of MSMEs in developing economies. The findings demonstrate that cognitive and informational capacities rather than financial resources serve as the primary enablers of sustainable business behavior among small enterprises. This suggests that environmental commitment in MSMEs arises not only from resource availability but also from entrepreneurs' internalized knowledge and awareness of ecological values. By revealing this cognitive dimension as a critical driver of sustainability orientation, the present research provides a novel lens for understanding ecopreneurial practices beyond traditional capital-based explanations. This insight enriches the theoretical discourse on sustainable entrepreneurship, positioning cognitive readiness as a key variable in future models of MSME transformation.

Interpretation of Key Findings

The findings demonstrated statistically significant differences in ecopreneurship implementation among culinary MSMEs in Yogyakarta based on their business classification ($F = 56.622$, $p < 0.001$; $\eta^2 = 0.539$), indicating a large effect size. Medium-sized enterprises showed the highest adoption of environmental responsibility, green innovation, and long-term sustainability vision, followed by small and micro enterprises.

These results support the theoretical premise that enterprise capacity influences innovation and sustainability adoption, aligning with the Natural-Resource-Based View which posits that larger organizational capabilities lead to stronger environmental strategies (Alkaraan et al., 2024). ANCOVA further confirmed classification as a key determinant ($F = 4.048$, $p = 0.021$), while business age and capital were not significant predictors. This suggests that ecopreneurship progression depends more on structural readiness than traditional indicators of maturity or resource availability, enriching earlier findings that motivation and internal orientation can outweigh financial strength in driving ecological innovation (Y. Li et al., 2023; B. Nguyen & Vu, 2024).

Descriptive results also highlighted that dominant barriers were not financial but cognitive and informational, consisting of limited information (30%), limited awareness (25%), and limited knowledge-sharing (23%). Funding constraints represented only 20 percent. These findings reinforce (Bernat et al., 2023; Chien et al., 2021) argument that soft barriers often hinder sustainability transformation more severely than capital access, especially among micro and small enterprises.

Conversely, the strongest drivers were market opportunities (28%) and autonomy motivation (25%), followed by passion and green values. This supports (Gunawan et al., 2021; Prado et al., 2022) who argued that ecopreneurs are primarily motivated by intrinsic purpose combined with emerging market gaps rather than regulatory pressures or external incentives.

The role of Yogyakarta's moderating context is particularly noteworthy. As a cultural and tourism-centered region with a thriving creative economy, DIY provides fertile ground for sustainable culinary innovation. Consumer awareness linked to tourism, local community solidarity, and cultural attachment to environmental stewardship amplify the perceived benefits of ecopreneurial practices. This echoes stakeholder theory perspectives (Bridoux & Stoelhorst, 2022; Mahajan et al., 2023) that contextual social expectations enhance legitimacy-driven sustainability efforts.

Practically, this implies an urgent need for **differentiated policy interventions**. Micro and small enterprises require strategic empowerment through green literacy programs, knowledge-sharing platforms, partnerships, and accessible mentoring to overcome cognitive barriers. Meanwhile, medium-sized MSMEs should be encouraged to advance into **higher-value sustainability practices** such as eco-certification, product innovation, and circular economy strategies. Such classification-based support can accelerate green transformation, particularly in regions like Yogyakarta where sustainability values are embedded in local identity and tourism development.

Comparison with Previous Studies

Our results show large and statistically significant differences in ecopreneurship implementation across MSME classifications, with medium enterprises outperforming small and micro firms, and this effect persists after controlling for business age and capital. This scale effect is consistent with the Natural-Resource-Based View that links greater organizational capabilities to stronger environmental strategies and innovation adoption (Lau & Wong, 2024; Yuan et al., 2024). It also echoes evidence that environmental practices can enhance competitiveness through process efficiencies and innovation complementarities, rather than impose a pure cost burden (Ekins & Zenghelis, 2021; Wags Numoipiri Digitemie & Ifeanyi Onyedika Ekemezie, 2024). In our setting, scale appears to function as a capability proxy that enables more consistent adoption of green innovation and longer-term sustainability planning, aligning with these prior findings.

At the same time, our data reveal that the dominant obstacles are soft barriers, namely limited information, awareness, and knowledge-sharing, while funding constraints are comparatively less salient. This pattern reinforces (Biondi et al., 2020; De Haas et al., 2021) argument that cognitive and informational frictions often impede sustainability transitions more than capital access in smaller enterprises. The prominence of market-opportunity and autonomy motives among the drivers complements (Lim & Lee, 2023; Lins et al., 2024) account that ecopreneurs are propelled by intrinsic values and perceived market gaps, rather than regulatory compulsion alone. Our results therefore converge with the motivational literature on ecopreneurship and extend it by quantifying the relative weight of soft barriers in a culinary MSME context.

Contextually, Yogyakarta's tourism and creative-economy profile likely amplifies legitimacy pressures and consumer-facing expectations, consistent with stakeholder theory's prediction that embedded social norms and audiences shape firm behavior (Harte et al., 2020). This local embedding resonates with work on community-based enterprise and social entrepreneurship that highlights place-based networks and social capital as levers for sustainable practice diffusion (Baker & Mehmood, 2015; Lam et al., 2021). Relative to these studies, our contribution is to show that even in a socially rich ecosystem, informational frictions remain the binding constraint for micro and small culinary MSMEs, while scale unlocks the pathway to deeper green innovation and strategic horizons.

Limitations and Cautions

Although this study provides useful empirical insights into the implementation of ecopreneurship values among culinary MSMEs in Yogyakarta, several limitations should be acknowledged to guide interpretation and future improvements.

First, the data relied solely on self-reported perceptions collected through a structured questionnaire distributed to 100 respondents, which may introduce social desirability and recall bias. Respondents might have reported sustainability practices more positively than what actually occurs in daily operations. Observational validation or third-party assessment of environmental practices was not conducted.

Second, the sampling approach focused specifically on culinary MSMEs within the Special Region of Yogyakarta. This geographical and sectoral scope, while relevant to the tourism-driven creative economy context of the region, restricts generalizability to other sectors or regions with different institutional, cultural, and market dynamics. Findings should therefore be interpreted with caution when extended to non-culinary industries or provinces where sustainability awareness and consumer pressures may be weaker or stronger.

Recommendations for Future Research

First, future studies should incorporate a mixed-methods design, integrating qualitative approaches such as in-depth interviews or field observations to complement survey findings. Richer narratives from ecopreneurs would help uncover underlying beliefs, personal dilemmas, and contextual factors that are not captured through structured questionnaires alone.

Second, expanding coverage beyond culinary MSMEs in Yogyakarta will enhance generalizability. Comparative studies across different business sectors (e.g., fashion, craft, waste management) and across provinces with varying levels of sustainability awareness and policy support could reveal whether the determinants found here—particularly the role of enterprise scale—hold consistently in broader contexts.

Third, a longitudinal study design is encouraged to observe how ecopreneurship adoption evolves over time. Since the present study employed a cross-sectional approach, causal interpretations remain limited.

CONCLUSION

This study concludes that MSME classification is the primary factor determining the level of ecopreneurial value implementation in culinary MSMEs, while business tenure and capital have no significant impact. This finding underscores the importance of classification-based intervention strategies: Micro MSMEs require green literacy and modest funding support, Small MSMEs are directed toward developing innovation and eco-branding, and Medium MSMEs are focused on certification and green market expansion.

The theoretical implication of this study is to strengthen the ecopreneurship literature in the context of developing MSMEs, while its practical implications emphasize the importance of classification-based policies to support sustainability. A limitation of this study lies in the sample size, which only covers the culinary sector. Recommendations for future research include expanding the study to other sectors and integrating mixed methods to explore in-depth qualitative factors.

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