

THE IMPACT OF REVERSE LOGISTICS, SUSTAINABLE PROCUREMENT, ETHICAL BRANDING, AND CONSUMER CONSCIOUSNESS ON MSME COMPETITIVENESS IN INDONESIA

Basneldi¹, Yusniar², Agung Zulfikri³

¹STP Aviasi, Indonesia

²STAI Tgk Chik Pante Kulu Banda Aceh, Indonesia

³Telkom University, Indonesia

Email: basneldi69@gmail.com

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Abstract. This study investigates the impact of reverse logistics, sustainable procurement, ethical branding, and consumer consciousness on the competitiveness of Micro, Small, and Medium Enterprises (MSMEs) in Indonesia. Using a quantitative approach with Partial Least Squares Structural Equation Modeling (PLS-SEM) via SmartPLS, data were collected from 210 MSMEs across various sectors. The results reveal that all three independent variables—reverse logistics, sustainable procurement, and ethical branding—significantly influence MSME competitiveness. Moreover, consumer consciousness not only has a direct positive effect on competitiveness but also moderates the relationships between each sustainable practice and competitiveness, strengthening their effects. These findings underscore the strategic importance of integrating sustainability into MSME operations and highlight the role of socially and environmentally aware consumers in amplifying business outcomes. The study contributes to the growing literature on sustainable business strategies in emerging economies and offers practical insights for MSMEs seeking to remain competitive in a value-driven market environment.

Keywords: Reverse Logistics, Sustainable Procurement, Ethical Branding, Consumer Consciousness, Competitiveness, MSMEs

Abstrak. Penelitian ini mengkaji pengaruh reverse logistics, pengadaan berkelanjutan, branding etis, dan kesadaran konsumen terhadap daya saing Usaha Mikro, Kecil, dan Menengah (UMKM) di Indonesia. Dengan pendekatan kuantitatif menggunakan model Structural Equation Modeling Partial Least Squares (PLS-SEM) melalui SmartPLS, data dikumpulkan dari 210 UMKM yang tersebar di berbagai sektor. Hasil penelitian menunjukkan bahwa ketiga variabel independen—reverse logistics, pengadaan berkelanjutan, dan branding etis—berpengaruh signifikan terhadap daya saing UMKM. Selain itu, kesadaran konsumen tidak hanya berpengaruh langsung terhadap daya saing, tetapi juga memoderasi hubungan antara setiap praktik keberlanjutan dengan daya saing, sehingga memperkuat pengaruhnya. Temuan ini menegaskan pentingnya integrasi strategi keberlanjutan dalam operasional UMKM serta menyoroti peran konsumen yang sadar sosial dan lingkungan dalam memperkuat hasil bisnis. Penelitian ini memberikan kontribusi pada literatur strategi bisnis berkelanjutan di negara berkembang dan memberikan wawasan praktis bagi UMKM yang ingin tetap kompetitif di pasar yang semakin berbasis nilai.

Kata Kunci: Reverse Logistics, Pengadaan Berkelanjutan, Branding Etis, Kesadaran Konsumen, Daya Saing, UMKM

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INTRODUCTION

The rapid evolution of global markets, coupled with heightened environmental and ethical awareness, has significantly reshaped consumer behavior and business practices. Today's consumers are increasingly conscious of the environmental and social impact of their purchasing decisions. This shift has compelled businesses of all sizes, including micro, small, and medium enterprises (MSMEs), to reconsider their operational strategies. In the Indonesian context, MSMEs play a vital role in the national economy, contributing to over 60% of the GDP and absorbing approximately 97% of the workforce (Masudin et al., 2025; Nindiya & Kusumastuti, 2025). However, despite their economic significance, MSMEs often face challenges in remaining competitive in an era that demands sustainability, ethical responsibility, and operational transparency.

One way MSMEs can enhance their competitiveness is by adopting reverse logistics practices. Reverse logistics, which involves the process of planning, implementing, and controlling the flow of goods from the point of consumption back to the point of origin for proper disposal or reuse, is increasingly recognized as a key component of sustainable supply chain management (Sugandini et al., 2020). In Indonesia, where waste management remains a critical issue, reverse logistics can offer MSMEs not only an opportunity to minimize environmental harm but also to reduce costs and create value through product returns, remanufacturing, and recycling. However, the adoption of reverse logistics among MSMEs is still limited due to infrastructure constraints, lack of awareness, and financial limitations (BOLAJI, 2024).

Another critical element that influences the competitiveness of MSMEs is sustainable procurement. This concept refers to purchasing processes that consider environmental, social, and economic impacts, aiming to reduce the negative footprint of business operations (HASHOM, 2023). In Indonesia, sustainable procurement is gradually gaining attention, particularly among businesses that aim to integrate sustainability into their core strategy. However, MSMEs often lag in adopting such practices due to limited access to green suppliers, high costs of sustainable materials, and inadequate institutional support (Sabar et al., 2024). Despite these challenges, sustainable procurement offers MSMEs the potential to differentiate themselves in an increasingly competitive market, appeal to environmentally conscious consumers, and comply with evolving regulatory standards.

Ethical branding, which involves aligning a brand's identity with ethical values such as fairness, transparency, and environmental responsibility, is also becoming a crucial factor in determining business competitiveness. In the digital era, consumers have more information

than ever and are more inclined to support brands that reflect their values (Hakimi, 2024). For MSMEs in Indonesia, ethical branding represents an opportunity to build trust and loyalty among consumers, especially millennials and Gen Z, who are more attuned to ethical concerns. However, establishing an ethical brand requires consistent commitment and strategic communication, which can be challenging for MSMEs with limited marketing resources and branding expertise.

Consumer consciousness, defined as the degree to which consumers consider ethical, environmental, and social factors in their purchasing decisions, serves as a pivotal mediator in the relationship between business practices and competitiveness (Al Farizi, n.d.). Indonesian consumers are increasingly aware of the impact of their consumption choices, driven by education, media, and global sustainability movements. This growing consciousness translates into demand for products and services that reflect sustainability and ethical values. As such, MSMEs that align their operations with these consumer expectations are more likely to achieve competitive advantage. However, not all MSMEs recognize or capitalize on this trend, often due to a lack of understanding of consumer behavior and limited market research capacity (Musari et al., 2025).

Although the importance of reverse logistics, sustainable procurement, and ethical branding in achieving competitiveness is well acknowledged globally, there is limited empirical research exploring their integrated impact on the competitiveness of MSMEs in Indonesia, particularly when moderated by consumer consciousness. Given the pivotal role MSMEs play in the Indonesian economy, this research gap represents a critical oversight. Many MSMEs in Indonesia remain focused on short-term profitability and lack strategic direction in sustainability-related practices. Moreover, despite the rise in consumer consciousness, it is unclear how this awareness translates into actual support for MSMEs that implement sustainable and ethical practices. Without a comprehensive understanding of how these variables interact, policymakers and MSME stakeholders may miss opportunities to design effective interventions to boost competitiveness in a rapidly evolving business landscape. This study aims to examine the impact of reverse logistics, sustainable procurement, and ethical branding on the competitiveness of MSMEs in Indonesia, with consumer consciousness serving as a moderating variable.

METHOD

This study employed a quantitative research design using a survey-based approach to analyze the relationships between reverse logistics, sustainable procurement, ethical branding,

consumer consciousness, and MSME competitiveness. The quantitative method was chosen for its effectiveness in testing hypotheses and identifying causal relationships among variables in a large population. The target population consisted of owners and managers of MSMEs operating in various sectors such as food and beverage, fashion, craft, and services across Indonesia. Respondents were selected using a purposive sampling technique, specifically targeting MSMEs that have adopted or are aware of sustainability practices. A total of 300 questionnaires were distributed both online and offline, and 238 valid responses were collected for analysis, exceeding the minimum sample requirement for structural equation modeling (SEM) techniques (F. Hair Jr et al., 2014).

The primary data collection instrument was a structured questionnaire comprising closed-ended questions using a five-point Likert scale ranging from "strongly disagree" to "strongly agree." The questionnaire was divided into six sections: demographic profile, reverse logistics, sustainable procurement, ethical branding, consumer consciousness, and MSME competitiveness. The items in each construct were adapted from previous validated studies to ensure content validity. For instance, items on reverse logistics were adapted from Tibben-Lembke & Amato (2001), sustainable procurement from (Walker & Brammer, 2009), ethical branding from (Dangmei & Singh, 2022), consumer consciousness from (Roberts, 1996), and MSME competitiveness from related works by Sastradinata et al. (2024). A pilot test involving 30 MSME actors was conducted to assess the instrument's reliability, resulting in Cronbach's alpha values above 0.70 for all constructs, indicating acceptable internal consistency.

Data analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS software. PLS-SEM was selected due to its suitability for complex models involving multiple constructs and moderating effects, particularly in exploratory studies and those with relatively small to medium sample sizes. The analysis process included evaluating the measurement model to assess construct validity and reliability, followed by structural model testing to examine the hypothesized relationships. The moderating effect of consumer consciousness was tested using interaction terms in the model. In addition, bootstrapping with 5,000 resamples was performed to test the significance of path coefficients. The results provided insights into the direct and indirect effects of sustainability-oriented practices on MSME competitiveness, offering empirical evidence for both academic and practical implications.

RESULTS

Measurement Model Evaluation

To assess the measurement model, indicator reliability, internal consistency, and convergent validity were examined. Indicators with loadings below 0.700 were removed. The results of the outer loadings, composite reliability (CR), average variance extracted (AVE), and Cronbach’s alpha (CA) are shown below:

Table 1. Convergent Validity and Reliability

Construct	Indicator	Outer Loading	Cronbach’s Alpha	Composite Reliability	AVE
Reverse Logistics (RL)	RL1	0.811	0.826	0.884	0.657
	RL2	0.837			
	RL3	0.793			
	RL4	0.809			
Sustainable Procurement (SP)	SP1	0.821	0.834	0.890	0.670
	SP2	0.835			
	SP3	0.797			
	SP4	0.802			
Ethical Branding (EB)	EB1	0.812	0.816	0.879	0.646
	EB2	0.819			
	EB3	0.782			
	EB4	0.793			
Consumer Consciousness (CC)	CC1	0.826	0.847	0.898	0.687
	CC2	0.842			
	CC3	0.828			
	CC4	0.803			
Competitiveness (CP)	CP1	0.845	0.862	0.910	0.717
	CP2	0.869			
	CP3	0.832			
	CP4	0.823			

Source: Data Analysis

All constructs showed $CR > 0.7$, $CA > 0.7$, and $AVE > 0.5$, confirming internal consistency and convergent validity.

Discriminant Validity (Fornell-Larcker Criterion)

Table 2. Fornell-Larcker Criterion

Construct	CC	CP	EB	RL	SP
CC	0.829				
CP	0.641	0.846			
EB	0.519	0.588	0.804		
RL	0.468	0.541	0.477	0.811	
SP	0.537	0.606	0.522	0.493	0.819

Source: Data Analysis

The square roots of AVE (diagonal values) are higher than the inter-construct correlations, indicating acceptable discriminant validity.

Structural Model Evaluation

The structural model was assessed through path coefficients, t-values, and p-values obtained via bootstrapping (5000 subsamples). The R² value for MSME competitiveness (CP) was 0.582, indicating that the model explains 58.2% of the variance in competitiveness.

Table 3. Path Coefficients and Significance

Hypothesis	Path	Coefficient (β)	t-value	p-value	Decision
H1: RL → CP	RL → CP	0.182	2.748	0.006	Supported
H2: SP → CP	SP → CP	0.243	3.571	0.000	Supported
H3: EB → CP	EB → CP	0.211	3.228	0.001	Supported
H4: CC → CP	CC → CP	0.251	3.898	0.000	Supported

Source: Data Analysis

All direct paths were statistically significant at **p < 0.05**, confirming that reverse logistics, sustainable procurement, ethical branding, and consumer consciousness significantly affect MSME competitiveness.

Moderating Effect of Consumer Consciousness

To test the moderating effect, interaction terms were created (e.g., RL*CC → CP). The results are shown below:

Table 4. Moderating Effects

Interaction Path	β	t-value	p-value	Decision
RL × CC → CP	0.104	2.031	0.043	Supported
SP × CC → CP	0.116	2.209	0.028	Supported
EB × CC → CP	0.127	2.390	0.017	Supported

Source: Data Analysis

Consumer consciousness significantly moderated the relationship between each independent variable and MSME competitiveness, indicating that the more conscious consumers are, the stronger the impact of sustainability practices on competitiveness.

DISCUSSION

The findings of this study provide a nuanced understanding of how sustainability-driven strategies—namely reverse logistics, sustainable procurement, and ethical branding—contribute to MSME competitiveness in Indonesia, particularly in the presence of consumer consciousness as a moderating factor. These results offer both theoretical and practical insights, especially considering the critical role MSMEs play in the national economy and the growing demand for environmentally and ethically responsible business practices in Indonesia.

To begin with, the significant positive relationship between reverse logistics and MSME competitiveness confirms that environmentally conscious operational strategies are no longer exclusive to large-scale industries. This supports previous studies (Al Farizi, n.d.; Fahmi et al., 2023; Musari et al., 2025) that emphasize how reverse logistics contributes to cost savings, resource recovery, and improved brand reputation. In the context of Indonesian MSMEs, adopting reverse logistics practices—such as facilitating product returns, recycling materials, and reusing packaging—can improve not only operational efficiency but also appeal to environmentally aware consumers. The significance of this variable suggests that even small enterprises can create value and competitive advantage by embedding circular economy principles into their operations, despite the common perception that such initiatives require high initial investment and technical know-how. MSMEs that manage to implement basic

reverse logistics mechanisms often differentiate themselves in local markets where consumers increasingly value sustainability.

The influence of sustainable procurement on competitiveness was also statistically significant, further validating the importance of environmental and ethical considerations in supply chain decisions. This finding aligns with the work of Walker & Brammer (2009), who argue that sourcing responsibly helps businesses maintain compliance, reduce reputational risks, and build stronger relationships with stakeholders. For Indonesian MSMEs, this may involve selecting suppliers who prioritize environmentally friendly materials, fair labor practices, and transparency. By integrating sustainable procurement, MSMEs can position themselves as ethical businesses and potentially gain access to niche markets, particularly among green-conscious consumers and institutional buyers. However, it is important to recognize that many MSMEs face systemic barriers such as limited access to certified suppliers or higher costs for sustainable goods (Baktiono & Handini, n.d.). Therefore, capacity-building initiatives and supplier networks that support responsible sourcing should be promoted by both government agencies and industry associations.

Ethical branding emerged as another significant factor contributing to MSME competitiveness. This finding reinforces the idea that a brand's ethical image strongly influences consumer perceptions and loyalty, particularly among younger demographics that dominate Indonesia's consumer base. Ethical branding, as discussed by Dangmei & Singh (2022), entails consistent communication of values such as integrity, social justice, and environmental responsibility. For MSMEs, building an ethical brand does not necessarily require large marketing budgets. Instead, authenticity and transparency—such as sharing the stories behind their products, their community contributions, or how they minimize environmental impact—can effectively foster consumer trust. In a saturated market where price competition is intense, ethical branding can serve as a key differentiator, enabling MSMEs to command premium pricing or secure more loyal customer bases. Nevertheless, ethical branding must be substantiated by action; misleading claims or greenwashing practices can quickly backfire and erode consumer trust.

A particularly noteworthy result is the strong direct influence of consumer consciousness on MSME competitiveness. This supports the growing body of literature suggesting that conscious consumer behavior is reshaping market dynamics (Fahmi et al., 2023; Pratama, 2023; Utami et al., 2024). In Indonesia, increasing levels of education, internet access, and social media usage have made consumers more aware of sustainability issues. This awareness influences purchasing decisions, as consumers begin to favor brands that align with their

personal values regarding the environment, social equity, and ethics. The implication here is twofold: firstly, MSMEs must stay attuned to evolving consumer preferences and societal values, and secondly, they must find innovative ways to communicate their sustainability efforts effectively. Failing to engage with conscious consumers can render businesses obsolete in markets that are rapidly becoming values-driven.

Importantly, this study also revealed that consumer consciousness significantly moderates the relationships between all three sustainability practices (reverse logistics, sustainable procurement, ethical branding) and competitiveness. This finding provides strong empirical evidence that the impact of these practices on business performance is magnified when consumers are more environmentally and socially aware. In other words, the benefits of engaging in reverse logistics or ethical sourcing are more pronounced when consumers understand, appreciate, and actively seek out such values in the brands they support. This reinforces the idea that sustainability strategies cannot be implemented in isolation; they must be accompanied by robust communication strategies that educate and engage consumers. MSMEs that successfully bridge the gap between sustainability initiatives and consumer understanding are more likely to enjoy enhanced competitiveness.

From a theoretical perspective, this study extends the understanding of sustainability practices in the MSME context by incorporating consumer consciousness as a moderating variable. While previous research often treats sustainability efforts as purely internal processes, this study highlights the interactive role of external stakeholder awareness in amplifying the effects of internal strategies. It underscores the value of a stakeholder-oriented approach, suggesting that competitiveness is not only driven by what businesses do, but also by how those actions are perceived by and resonate with their target audiences. Future research could expand on this model by examining additional moderators such as government policy support, digital marketing capabilities, or entrepreneurial orientation, which may also shape the sustainability-competitiveness nexus.

CONCLUSION

This study concludes that sustainability-oriented practices—namely reverse logistics, sustainable procurement, and ethical branding—play a significant and positive role in enhancing the competitiveness of MSMEs in Indonesia. Moreover, the presence of consumer consciousness not only directly influences competitiveness but also strengthens the impact of these sustainability practices, demonstrating the critical role of informed and value-driven consumers in shaping market outcomes. The findings highlight that MSMEs can no longer rely

solely on price or traditional business models; instead, integrating environmentally and socially responsible strategies has become essential for differentiation, resilience, and long-term growth. By embracing sustainability and aligning their operations with evolving consumer expectations, Indonesian MSMEs can unlock new opportunities, improve stakeholder trust, and secure a competitive edge in an increasingly conscious marketplace. This research contributes to the broader discourse on sustainable business practices in emerging economies and calls for stronger support mechanisms—such as education, policy incentives, and infrastructure—to facilitate sustainable transformation across the MSME sector.

RECOMMENDATIONS

These findings offer several practical implications for Indonesian MSMEs. Firstly, business owners must begin to view sustainability not merely as a regulatory burden or philanthropic activity, but as a strategic asset that can drive innovation and differentiation. While resource constraints are a valid concern, particularly for micro and small enterprises, scalable approaches to sustainability—such as reusing materials, collaborating with ethical suppliers, or promoting locally sourced products—can be cost-effective and impactful. Secondly, there is a pressing need for capacity building, including training on sustainable business models, support in integrating reverse logistics systems, and tools for ethical brand development. Such interventions can be spearheaded by government institutions, non-governmental organizations, or business incubators.

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