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Product Differentiation Strategies in Indonesian Green MSMEs: An Integrated Marketing Mix Analysis

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Abstract

This study investigates product differentiation strategies employed by Indonesian green Micro, Small, and Medium Enterprises (MSMEs) through qualitative descriptive methodology. Semi-structured interviews were conducted with founder-owners of five green MSMEs in fashion and handicraft sectors across Java, analyzed using thematic coding (Braun & Clarke, 2006), SWOT-IFE/EFE evaluation, and QSPM prioritization. Findings revealed that effective differentiation requires holistic integration across Marketing Mix elements, characterized by three core dimensions: universal natural and upcycled material sourcing (100% adoption), premium pricing with 2 to 5 times markups, and export-oriented positioning with 70 to 90 percent international revenue. Strategic analysis positioned enterprises in the "Hold and Maintain" quadrant (IFE = 2.63; EFE = 2.55), suggesting selective growth. The study identifies three structural paradoxes constraining development: certification barriers, premium pricing traps excluding mass markets, and digital hesitancy limiting e-commerce engagement. Strategic priorities include Green Export Acceleration (TAS 2.60), National Standard Harmonization with Subsidized Certification (TAS 2.54), and Tiered Product Development (TAS 2.52). These findings extend differentiation theory (Porter, 1985; Barney, 1991) by demonstrating that resource constraints fundamentally alter differentiation mechanisms for green enterprises in emerging economies.

KEYWORDS

product differentiation; green msmes; sustainable entrepreneurship; indonesia; triple bottom line.

Introduction

The accelerating shift toward sustainable consumption patterns presents both opportunities and challenges for green Micro, Small, and Medium Enterprises (MSMEs) seeking to establish competitive positions in crowded markets. Product differentiation, whereby firms create distinctive value propositions that justify premium pricing or expanded market share, assumes particular importance for environmentally focused enterprises operating with constrained resources (Porter, 1985; Barney, 1991; Ji et al., 2024). While conventional differentiation theory emphasizes functional product attributes, green enterprises must additionally communicate environmental and social dimensions to increasingly skeptical consumers who demand credible evidence of sustainability claims (Rodrigues & Franco, 2023; Dangelico & Vocalelli, 2017; Ottman, 2011).

Theoretically, this study draws upon two complementary frameworks. The Resource-Based View (RBV), as articulated by Barney (1991), posits that sustained competitive advantage derives from firm resources that are valuable, rare, inimitable, and non-substitutable. Hart (1995) extended this perspective through the Natural Resource-Based View (NRBV), arguing that competitive advantage increasingly depends on a firm's relationship with the natural environment through pollution prevention, product

stewardship, and sustainable development capabilities. For green MSMEs, environmental commitment and sustainable production capabilities represent potentially valuable strategic resources. However, the extent to which these resources translate into competitive advantage within emerging market contexts, where institutional support structures differ fundamentally from developed economies, remains insufficiently theorized. The Triple Bottom Line framework (Elkington, 1994) provides additional grounding by emphasizing the simultaneous pursuit of economic prosperity, environmental quality, and social equity as foundational to sustainable enterprise development.

Indonesia provides a theoretically strategic empirical context for investigating green MSME differentiation strategies due to structural contradictions between environmental policy ambitions and market development realities. MSMEs constitute 99% of Indonesian business entities, contribute 61% to GDP, and employ 97% of the national workforce (Ministry of Cooperatives and SMEs, 2024). Despite this economic significance, systematic research on how Indonesian green MSMEs differentiate their offerings remains limited. Existing studies predominantly focus on developed market contexts (Dangelico & Vocalelli, 2017; Hockerts & Wustenhagen, 2010; Belz & Peattie, 2012) or large corporations (Klewitz & Hansen, 2014), leaving substantial knowledge gaps regarding differentiation practices among resource-constrained enterprises in emerging economies. Recent ASEAN regional studies have begun addressing sustainable entrepreneurship (Taufique et al., 2022), yet Indonesia-specific mechanisms remain underexplored, making this empirical context both theoretically valuable and practically urgent.

Recent policy developments heighten investigation relevance but simultaneously reveal implementation fragmentation. Bank Indonesia's Green Financing Incentive (KLM) and Inclusive Financing Ratio (RPIM) programs aim to channel capital toward sustainable enterprises. The Financial Services Authority (OJK) published Green Taxonomy guidelines for categorizing environmentally beneficial activities. The Ministry of Environment established eco-labeling frameworks through national standards. However, fragmentation across these initiatives creates confusion about what constitutes "green" enterprise status (Geissdoerfer et al., 2018). This regulatory dissonance disrupts signaling mechanisms essential for product differentiation: when multiple, conflicting certification standards exist, consumer trust erodes and green enterprises cannot credibly communicate environmental claims, directly hindering competitive positioning. As Ottman (2011) observed, credibility represents the most critical asset for green marketers, yet institutional fragmentation in emerging markets systematically undermines this credibility.

Furthermore, green consumer behavior in emerging economies presents unique characteristics that complicate differentiation strategies. Unlike consumers in developed markets who may accept moderate premiums for sustainable products (Yadav & Pathak, 2016), Indonesian consumers demonstrate highly price-sensitive purchasing patterns alongside growing but still limited environmental awareness. Research indicates that while global consumers report willingness to pay approximately 10 to 12 percent premiums for sustainable products, this willingness varies dramatically across economic contexts and product categories (Jaiswal et al., 2020). For green MSMEs in Indonesia, the gap between stated consumer preferences and actual purchasing behavior creates a persistent market challenge.

This study addresses three research questions: (1) How do Indonesian green MSMEs differentiate their products within competitive markets? (2) What internal strengths and external opportunities enable effective differentiation? (3) What weaknesses and threats constrain differentiation efforts? Through qualitative inquiry combined with SWOT-IFE/EFE analysis and QSPM prioritization, we develop empirically grounded strategic recommendations for enhancing green MSME competitiveness while contributing to theoretical advancement in sustainable entrepreneurship and product differentiation literature.

Methods

Research Type

This investigation employed qualitative descriptive methodology grounded in interpretivist epistemology, consistent with established protocols for examining complex organizational phenomena (Creswell & Poth, 2018; Yin, 2018). This approach was selected because product differentiation strategies emerge from entrepreneurial sensemaking processes that quantitative methods cannot adequately capture. Semi-structured interviews enable exploration of tacit knowledge, contextual factors, and strategic reasoning underlying differentiation decisions. The research design prioritized depth of understanding over statistical generalization, aligning with qualitative research protocols recommended by Eisenhardt (1989) for building theory from case studies.

To strengthen trustworthiness, we employed multiple validation strategies: credibility was established through triangulation across multiple data sources (interviews, documents, and direct observations); transferability was supported through detailed contextual description enabling informed judgments about applicability to other settings; dependability was achieved through systematic documentation of all analytical procedures; and confirmability was maintained through reflexive journaling and peer debriefing sessions with colleagues not directly involved in data collection (Creswell & Poth, 2018).

Population and Sample/Informants

Purposive sampling identified five Indonesian green MSMEs meeting specific criteria: (1) classification as "Eco-Entrepreneur" or higher under Bank Indonesia's green MSME framework (TKBI), indicating advanced sustainability integration; (2) categorization as "Small Enterprise" based on employee count (11 to 50) or revenue thresholds according to Government Regulation No. 7/2021; (3) operation in fashion or handicraft sectors, where material choices directly impact environmental footprints and differentiation opportunities are prominent; (4) geographic diversity across Java region to capture varied business ecosystems; and (5) minimum two years operational history demonstrating business model viability and sustained commitment to environmental practices.

The sample comprised five enterprises offering complementary analytical dimensions. Arae specializes in eco-printed apparel based in Bogor with 11 to 50 employees. Tinctory produces natural-dyed textiles in Central Java with approximately 50 employees. Palemcraft manufactures natural fiber home decor in Yogyakarta employing 77 direct workers plus approximately 500 artisan partners in surrounding communities. PasteLab transforms recycled plastic into consumer products in Jakarta with 18 employees. Ecollabo8 creates waste-derived furniture in Jakarta with 50 employees. This composition provided thematic saturation across key analytical dimensions: material types (natural fibers, natural dyes, recycled plastics), market orientations (export-dominant versus domestic-focused), and institutional support levels (independently operated versus program-affiliated). While five cases limit statistical generalizability, this sample size aligns with established qualitative research protocols for intensive case analysis (Eisenhardt, 1989; Yin, 2018) and proved sufficient for identifying recurring patterns and generating

theoretical insights.

Research Location

The study was conducted across Java, Indonesia's economic heartland hosting approximately 60% of national MSMEs. Specific locations included Bogor (West Java), Central Java province, the Special Region of Yogyakarta, and the Jakarta Capital Region. This geographic scope captured diverse business ecosystems ranging from traditional craft centers with deep artisanal heritage (Yogyakarta) to metropolitan commercial hubs with stronger connections to international markets (Jakarta). Java's concentration of both green MSMEs and supporting infrastructure, including universities, non-governmental organizations, and government programs, provided rich contextual depth for examining differentiation dynamics within Indonesia's most economically developed region.

Instrumentation or Tools

Data collection employed semi-structured interview protocols organized around an extended Marketing Mix framework. The interview guide contained open-ended questions across eight dimensions: the traditional 7Ps, namely Product, Price, Place, Promotion, People, Process, and Physical Evidence (Booms & Bitner, 1980), expanded to include Planet (environmental practices beyond operational process) and Profit (financial sustainability metrics). This expansion follows recommendations in sustainability marketing literature (Belz & Peattie, 2012) acknowledging that green MSME differentiation requires explicit attention to environmental performance documentation (Planet) and long-term viability metrics (Profit) beyond traditional marketing elements. The Planet dimension captured waste management practices, energy sources, and environmental documentation activities, while Profit examined cost structures, revenue patterns, and tensions between sustainability commitments and profitability requirements.

Complementary analytical tools included SWOT matrices for identifying internal strengths and weaknesses alongside external opportunities and threats, Internal Factor Evaluation (IFE) matrices for quantifying organizational capabilities, External Factor Evaluation (EFE) matrices for assessing environmental conditions, and Quantitative Strategic Planning Matrix (QSPM) for prioritizing strategic alternatives based on Total Attractiveness Scores (David & David, 2017)

Data Collection Procedures

Primary data collection occurred through 60 to 90 minute semi-structured interviews conducted during March and April 2025. Founder-owners or senior management personnel served as key informants, given their comprehensive understanding of strategic decision-making and operational practices. Following recommendations by Creswell and Poth (2018), interviews were conducted in Bahasa Indonesia at enterprise premises or neutral locations according to participant preference, creating comfortable environments conducive to candid discussion.

All interviews were audio-recorded with explicit participant consent and transcribed verbatim by trained research assistants. Transcripts were translated from Bahasa Indonesia to English by bilingual researchers with subject matter expertise, and back-translation verification was performed on 20% of transcripts to confirm accuracy. Field notes captured non-verbal cues, environmental observations, and immediate analytical reflections. Triangulation was achieved through three complementary approaches: source triangulation comparing founder accounts with documentary evidence including websites, certifications, and financial reports; method triangulation integrating interview data with observational field notes and archival materials; and investigator triangulation having multiple researchers independently code subsets of data to verify interpretive consistency.

Data Analysis

Analysis proceeded through three integrated stages. In the first stage, thematic coding followed Braun and Clarke's (2006) six-phase protocol: familiarization with data through repeated transcript reading, generating initial codes, searching for themes within each extended Marketing Mix dimension, reviewing themes against coded data and the full dataset, defining and naming themes, and producing the final analytical narrative. Codes were iteratively refined through constant comparison until reaching conceptual saturation, defined as the point where additional data yielded no substantively new themes or insights relevant to the research questions. Representative quotations were extracted to illustrate each theme. NVivo 12 software facilitated coding organization, retrieval, and systematic comparison across cases.

In the second stage, gap analysis was conducted for each Marketing Mix dimension by systematically comparing "current state" practices (what enterprises actually implement) against "desired state" aspirations (what enterprises articulate as goals). The benchmark for "desired state" emerged inductively from participant aspirations and deductively from sustainability best practices documented in the literature (Schaltegger et al., 2016; Belz & Peattie, 2012). This comparison identified performance gaps constraining competitive positioning and highlighted areas where strategic intervention could yield meaningful improvements.

In the third stage, SWOT-IFE/EFE analysis synthesized findings across participants. Comprehensive SWOT matrices were constructed following protocols established by David and David (2017). Internal Factor Evaluation (IFE) and External Factor Evaluation (EFE) matrices assigned weights ranging from 0.0 to 1.0 (summing to 1.0) reflecting relative importance, and ratings on a 1 to 4 scale indicating response effectiveness. Weighted scores were summed to calculate total IFE and EFE scores, positioning enterprises on the Internal-External (IE) matrix for strategic recommendation development

Ethical Approval

This research adhered to ethical principles for human subject research. All participants provided informed consent prior to interviews, with explicit permission for audio recording and data use for academic purposes. Confidentiality was maintained through anonymization of commercially sensitive information. Participants received transcripts for member checking, enabling correction of factual inaccuracies or withdrawal of sensitive statements. No vulnerable populations were involved. Enterprise names and identifying details are presented with participant permission as part of knowledge-sharing objectives aligned with their expressed advocacy for green business development in Indonesia.

Result and Discussion

Analysis of Indonesian green MSMEs' product differentiation strategies revealed systematic patterns across Marketing Mix dimensions, with integration challenges and strategic gaps constraining competitive positioning. Findings are organized across the extended framework corresponding to 8Ps.

Core Differentiation Dimensions: Product, Price, and Market Position

All five enterprises demonstrated unwavering commitment to environmental material sourcing (100% adoption rate), though specific approaches varied according to sector and material availability. Natural fiber processors such as

Palemcraft transformed banana palm sheaths, water hyacinth, bamboo, and shell materials into home decor items through proprietary compression techniques developed over multiple production cycles. Botanical dyeing enterprises including Tinctory and Arae employed plant-based colorants, predominantly Indigofera tinctoria, following traditional processes that have been refined for contemporary commercial application. Plastic waste transformers such as PasteLab and Ecollabo8 specialized in HDPE recycling, sourcing bottle caps from waste management partnerships established with local collection networks.

This finding resonates with Hart's (1995) Natural Resource-Based View proposition that product stewardship, extending environmental responsibility across the entire product lifecycle, constitutes a distinctive strategic capability. The universal adoption of sustainable materials across all sampled enterprises suggests that material commitment functions as a necessary condition for market entry in the green MSME space rather than a sufficient condition for differentiation. What distinguishes enterprises from one another is not the presence of environmental materials per se, but rather the degree of integration across the broader Marketing Mix, including how materials are sourced, processed, priced, communicated, and delivered to target consumers.

Premium Pricing with Market Constraints. All enterprises adopted premium pricing strategies, with substantial price premiums above conventional alternatives. Arae eco-printed silk scarves were priced at Rp 850,000 to Rp 1,200,000 compared to conventional equivalents at Rp 300,000 to Rp 500,000, representing a 2 to 2.4 times premium. Palemcraft natural fiber table lamps were priced at Rp 1,500,000 versus mass-produced alternatives at Rp 400,000 to Rp 600,000, yielding 2.5 to 3.75 times premiums. PasteLab recycled plastic coaster sets retailed at Rp 250,000 compared to conventional products at Rp 50,000 to Rp 75,000, creating 3.3 to 5 times premiums.

Four of five participants articulated specific cost drivers justifying these premiums. Tinctory's founder provided detailed pricing analysis: "Natural indigo dyeing requires 8 to 10 processing steps over 3 to 4 days versus synthetic dye's single-step overnight process. Labor costs are 4 to 5 times higher. Indigo cultivation and processing adds Rp 75,000 to Rp 100,000 per meter of fabric cost compared to Rp 15,000 for synthetic dyes." Beyond cost recovery, pricing reflected broader value propositions centered on durability. Arae, for example, positioned garments as investment pieces maintaining color integrity for 8 to 10 years compared to conventional products lasting 2 to 3 years.

However, premium pricing necessarily limited addressable markets. Target customers comprised upper-middle class urban professionals aged 25 to 45 who are environmentally conscious and value self-actualization over conspicuous consumption. One founder estimated: "In Indonesia, maybe 3 to 5 percent of consumers actively seek sustainable products and accept price premiums. Another 10 to 15 percent express interest but will not pay more than 20 to 30 percent premiums. The remaining 80 percent prioritize price above all else." These observations align with Yadav and Pathak's (2016) finding that green purchase intentions in developing nations are strongly moderated by perceived behavioral control, including financial capacity. The 2 to 5 times premiums observed in this study significantly exceed green premiums typically documented in developed markets (Dangelico & Vocalelli, 2017), where 15 to 30 percent premiums are more common. This suggests that emerging market green MSMEs face disproportionately steeper cost penalties from authentic environmental practices.

Export-Oriented Market Positioning. Distribution strategies heavily emphasized export markets, with leading enterprises achieving 70 to 90 percent revenue concentration internationally. Palemcraft maintained ongoing relationships with five major importers placing regular monthly or quarterly orders, providing baseline revenue predictability absent in domestic markets. This export orientation is consistent with findings from Rodrigues and Franco (2023), who identified that green SMEs in emerging markets often seek international customers to access segments willing to pay premiums that domestic markets cannot sustain.

Instagram emerged as the primary customer acquisition channel domestically, mentioned by four of five enterprises as generating 70 to 80 percent of initial domestic customer traffic. This reliance on visual social media platforms aligns with the narrative-driven marketing approaches described by Ottman (2011), where storytelling about environmental commitment replaces traditional advertising. E-commerce marketplace utilization remained surprisingly limited, however. Only two enterprises maintained presences on Tokopedia or Shopee, treating these as secondary channels due to concerns about commission structures of 15 to 20 percent compressing margins and price comparison dynamics undermining values-based positioning. Three of five founders explicitly rejected these marketplace platforms because algorithmic price-comparison features contradicted the storytelling approach central to their differentiation strategy. This observation extends Fauchart and Gruber's (2011) Entrepreneurial Identity Theory by demonstrating that "missionary entrepreneur" characteristics simultaneously create competitive advantages through authenticity and strategic vulnerabilities through commercial inflexibility.

Strategic Positioning: SWOT-IFE/EFE Analysis

Synthesized SWOT analysis combined with quantitative evaluation revealed moderate strategic positioning requiring selective growth rather than aggressive expansion. Complete IFE and EFE matrices are provided in Appendix A; key findings are summarized below.

Internal Factor Evaluation Internal Factor Evaluation revealed moderate organizational strength (IFE = 2.63 on a 1.0 to 4.0 scale), with strengths outweighing weaknesses but margins insufficient for aggressive expansion without addressing operational limitations. The leading strength was authentic environmental commitment through 100% natural or upcycled material utilization (weight 0.12, rating 4, score 0.48), representing a genuine competitive advantage that is difficult for conventional competitors to replicate given the tacit knowledge and supply chain relationships required (Barney, 1991). Export orientation constituted another major strength (weight 0.09, rating 4, score 0.36), reflecting proven capacity to meet international quality and sustainability standards.

Weaknesses centered on premium pricing market limitation (weight 0.10, rating 1, score 0.10), effectively excluding more than 90 percent of Indonesian consumers. Certification barriers emerged as the second critical weakness (weight 0.09, rating 2, score 0.18), with cost requirements of Rp 15 to 50 million per product category preventing most MSMEs from obtaining third-party environmental verification despite meeting substantive sustainability criteria. Additional weaknesses included fragmented supply chains dependent on seasonal natural material availability (weight 0.08, rating 2, score 0.16) and limited production capacity constraining response to demand fluctuations (weight 0.07, rating 2, score 0.14).

External Factor Evaluation indicated a favorable but competitive environment (EFE = 2.55 on a 1.0 to 4.0 scale), with opportunities outweighing threats but competitive pressures remaining substantial. Global green consumerism growth represented the largest opportunity (weight 0.11, rating 4, score 0.44), consistent with market projections suggesting a USD 12 trillion sustainable product market by 2030. Government pro-MSME policies provided support infrastructure (weight 0.09, rating 3, score 0.27), though implementation

gaps limited practical impact.

Threats centered on competition from conventional products at 50 to 70 percent lower prices (weight 0.10, rating 1, score 0.10). Green protectionism through mechanisms such as the European Union's Carbon Border Adjustment Mechanism (weight 0.09, rating 2, score 0.18) threatened export competitiveness by potentially imposing additional compliance costs. Additional threats included low domestic environmental awareness (weight 0.09, rating 2, score 0.18), inadequate renewable energy infrastructure (weight 0.07, rating 2, score 0.14), and standardization fragmentation across multiple government agencies (weight 0.05, rating 2, score 0.10).

Strategic Positioning Implications. Plotting IFE (2.63, horizontal axis) against EFE (2.55, vertical axis) positioned Indonesian green MSMEs in Quadrant V (Hold and Maintain) of the Internal-External matrix. This strategic position indicated moderate internal capabilities operating within a moderately attractive environment, suggesting selective growth through market penetration and product development rather than aggressive diversification or vertical integration strategies (David & David, 2017).

Strategic Priorities from QSPM Analysis

Quantitative Strategic Planning Matrix analysis prioritized alternative strategies based on Total Attractiveness Scores (TAS), revealing three first-tier strategic imperatives. Green Export Acceleration Program ranked highest (TAS 2.60), leveraging proven international market competitiveness and existing distribution networks. National Standard Harmonization and Subsidized Certification ranked second (TAS 2.54), addressing the fundamental certification barrier constraining market credibility. Tiered Product Development Program ranked third (TAS 2.52), proposing portfolio expansion through mid-tier product lines to escape premium pricing constraints while maintaining environmental integrity.

Interpretation of Core Findings

Our findings reveal that Indonesian green MSMEs differentiate products through integrated environmental-economic positioning rather than reliance on isolated product attributes. All five enterprises demonstrated 100% commitment to natural or upcycled materials, but this environmental authenticity alone proved insufficient for achieving competitive advantage. Effective differentiation required alignment across all Marketing Mix elements: sustainable materials justified premium pricing, communicated through impact storytelling to targeted affluent market segments, supported by inclusive employment practices, zero-waste production processes, and credible quality certifications. This integrated approach distinguished higher-performing enterprises such as Palemcraft and Arae (achieving 80 to 90 percent export concentration) from struggling competitors unable to coordinate across multiple dimensions simultaneously.

From a theoretical perspective, these findings extend Porter's (1985) classical differentiation framework and Barney's (1991) Resource-Based View by demonstrating how resource constraints fundamentally alter differentiation mechanisms in emerging markets. Porter's framework assumes firms can choose between cost leadership and differentiation strategies. Our findings demonstrate that green MSMEs in emerging markets face asymmetric constraints: authentic environmental practices necessarily increase costs relative to conventional competitors, eliminating cost leadership as a viable strategic option. Unlike developed market contexts where green differentiation can occur through marginal product modifications (Dangelico & Vocalelli, 2017), emerging market green MSMEs must adopt holistic environmental commitments because weak institutional verification systems offer no credible shortcut. When third-party certification remains inaccessible due to cost barriers of Rp 15 to 50 million, enterprises compensate through complete material transformation and transparent supply chain practices, which are costlier approaches than targeted eco-attribute modifications but generate stronger authenticity signals to discerning consumers.

Additionally, Hart's (1995) NRBV framework helps explain why environmental commitment functions as both a strength and a constraint. The pollution prevention and product stewardship capabilities that green MSMEs develop over time represent valuable, rare, and difficult-to-imitate resources. However, in the absence of institutional mechanisms to verify these capabilities externally, enterprises bear the full cost of signaling environmental authenticity, which creates the premium pricing trap identified in this study.

Three Structural Paradoxes Constraining Development, We propose that green MSME differentiation in emerging markets requires navigating three structural paradoxes that represent binding constraints distinguishing emerging market dynamics from developed market contexts examined in prior literature.

The first paradox involves certification. Enterprises that most need third-party verification to establish market credibility are precisely those unable to afford it, given that certification costs of Rp 15 to 50 million per product category represent a significant portion of annual revenue for small enterprises. This paradox perpetuates information asymmetry between producers and consumers, undermining the trust that is essential for green market development (Chen & Chang, 2013; Geissdoerfer et al., 2018).

The second paradox concerns premium pricing. Authentic sustainability practices drive production costs that necessitate premium pricing, which in turn excludes mass market consumers. This creates a self-reinforcing cycle where green enterprises remain confined to narrow affluent market segments, limiting scale economies that could eventually reduce per-unit costs. Research on green consumer behavior in developing economies (Jaiswal et al., 2020; Yadav & Pathak, 2016) confirms that affordability constraints remain the primary barrier to widespread sustainable consumption in these contexts.

The third paradox involves digital hesitancy. Founders demonstrated awareness of e-commerce growth opportunities but resisted engagement with mainstream platforms because algorithm-driven price comparison mechanisms contradicted the narrative-based differentiation central to their market positioning. Three of five founders articulated explicit concerns that marketplace dynamics would reduce their carefully crafted products to commodity status, thereby eroding the storytelling premium they had built over years. This paradox highlights tension between Chaffey and Ellis-Chadwick's (2019) arguments for digital marketing adoption and the realities of values-driven enterprise positioning.

Supporting Literature and Comparative Analysis

Our findings align with Rodrigues and Franco's (2023) identification of resource constraints limiting Portuguese green SMEs, but reveal that constraint hierarchies differ across institutional contexts. While Portuguese SMEs struggled primarily with financial capital and technical knowledge, Indonesian green MSMEs face more binding constraints from certification fragmentation and market development deficits. This suggests that emerging market green MSMEs confront distinctive challenges related to institutional infrastructure that extend beyond typical SME resource limitations documented in the European literature.

Results also resonate with Ji et al.'s (2024) demonstration that Chinese SMEs adopt green innovations in response to regulatory pressures, consumer demand, and reputation needs. We extend this work by identifying specific differentiation mechanisms deployed in contexts lacking strong regulatory enforcement, including premium pricing strategies

with 2 to 5 times markups, export orientation with 70 to 90 percent revenue concentration, and storytelling-based promotion through visual social media platforms. Where Chinese SMEs respond primarily to government mandates within a strong regulatory environment, Indonesian green MSMEs differentiate voluntarily through market-based positioning, creating fundamentally different strategic dynamics that require different theoretical explanations.

The policy implementation gaps we identified align with broader emerging market challenges documented by Taufique et al. (2022) across ASEAN contexts. However, our findings reveal that disconnects stem not merely from inadequate policy design but from fundamental misalignment between policy targets and intended beneficiaries. Four of five interviewed enterprises demonstrated limited awareness of Bank Indonesia's green financing frameworks (KLM, RPIM), suggesting that sophisticated policy instruments fail when dissemination mechanisms are directed at wrong stakeholder groups. This finding has practical implications for policy design across the ASEAN region, where similar structural disconnects between financial sector regulators and MSME operators likely exist. Additionally, our observation aligns with Rodriguez-Gutierrez et al.'s (2020) analysis of challenges and opportunities facing green entrepreneurship in developing countries, where institutional support gaps represent persistent barriers to enterprise development.

Furthermore, the sustainability marketing literature (Belz & Peattie, 2012; Ottman, 2011) emphasizes that successful green enterprises must move beyond narrow "eco-marketing" toward comprehensive sustainability marketing that integrates social and economic dimensions alongside environmental performance. Our findings confirm this proposition: the enterprises achieving strongest market positions (Palemcraft with 500 artisan partners, Tinctory with community-based dye cultivation) were those that most effectively communicated triple bottom line impact rather than environmental attributes alone. This observation reinforces Schaltegger et al.'s (2016) contention that sustainability-oriented business models create value simultaneously across economic, social, and environmental dimensions rather than trading off between them.

Implications and Recommendations

For policymakers, findings suggest three priority interventions. First, national certification harmonization with subsidized access could resolve certification paradoxes. Malaysia's MyHIJAU program demonstrates feasibility, as subsidized certification reduced MSME costs by 50 to 70 percent while establishing unified national standards recognized internationally (MyHIJAU, 2024). A comparable Indonesian program could address the verification gap constraining green enterprise credibility.

Second, tiered financing mechanisms with credit guarantees could address collateral barriers preventing green MSME capital access. Bangladesh's green refinancing schemes demonstrate that well-designed financial inclusion mechanisms substantially increase capital flows to underserved sustainable enterprises (Rahman et al., 2023). Evidence from broader emerging market contexts (Mirzaa et al., 2022; Narayanan, 2022) confirms that green lending instruments can simultaneously promote environmental sustainability and financial inclusion when properly structured.

Third, targeted MSME outreach programs could bridge awareness gaps separating policy intentions from practical implementation. Current dissemination channels through banking networks fail to reach micro and small enterprise operators who represent the primary target population. Direct engagement through local business associations, craft cooperatives, and digital information platforms would improve policy accessibility.

For practitioners, results indicate that green MSMEs should pursue selective growth strategies rather than aggressive market expansion. The "Hold and Maintain" strategic positioning suggests enterprises should strengthen existing export positions while selectively exploring adjacent opportunities including mid-tier products, government procurement channels, and hybrid digital distribution approaches. Attempting mass market penetration without first resolving certification barriers and cost structure challenges would likely prove unsuccessful. Effective differentiation requires founder clarity regarding non-negotiable environmental values versus flexible commercial tactics, financial buffer capacity for weathering short-term market pressures, and strategic market positioning enabling authentic sustainability practices to drive rather than hinder commercial success.

Limitations

Several limitations warrant acknowledgment. First, the qualitative design with five purposively sampled enterprises from fashion and handicraft sectors in Java limits statistical generalization to other sectors or regions. However, the depth and richness of qualitative data enable nuanced understanding of differentiation mechanisms and constraints that quantitative approaches would miss (Yin, 2018). Second, cross-sectional data collection captures conditions at a single time point rather than evolutionary trajectories, limiting understanding of how differentiation strategies develop and mature. Longitudinal studies tracking MSME development would enhance understanding of strategic evolution. Third, the supply-side focus examining MSME perspectives without parallel consumer research leaves demand-side factors incompletely understood. Future research integrating consumer segmentation analysis and willingness-to-pay experiments would strengthen findings. Fourth, self-selection bias may influence results toward relatively stronger performers, as struggling enterprises may have declined participation due to time constraints or reluctance to disclose operational challenges.

Conclusion

This study investigated product differentiation strategies employed by Indonesian green MSMEs, identifying enabling factors and constraining forces shaping competitive positioning. Findings demonstrated that effective differentiation requires holistic integration across all Marketing Mix elements rather than reliance on isolated environmental attributes. Three core dimensions emerged: universal natural material sourcing with zero-waste production orientation (100% adoption), premium pricing strategies generating 2 to 5 times price premiums, and export-oriented market positioning with 70 to 90 percent revenue concentration in international markets.

Strategic analysis revealed moderate organizational strength (IFE = 2.63) within a favorable but competitive environment (EFE = 2.55), positioning enterprises in the "Hold and Maintain" quadrant of the Internal-External matrix. This positioning suggests selective growth approaches emphasizing existing competitive advantages rather than aggressive diversification. Three structural paradoxes constrain development: certification barriers preventing enterprises most needing verification from accessing it, premium pricing traps where environmental integrity drives costs excluding mass market consumers, and digital hesitancy where narrative control concerns limit e-commerce engagement despite significant growth potential.

Strategic priorities ranked by Total Attractiveness Scores indicate three primary imperatives: Green Export Acceleration leveraging proven international market competitiveness (TAS 2.60), National Standard Harmonization combined with

Subsidized Certification to resolve fragmentation and cost barriers (TAS 2.54), and Tiered Product Development enabling escape from premium pricing constraints through strategic portfolio expansion (TAS 2.52). Supporting initiatives encompass green supply chain infrastructure platforms, enhanced financing mechanisms with credit guarantees, and national green MSME awareness campaigns.

Theoretically, this study contributes to sustainable entrepreneurship literature by extending classical differentiation theory (Porter, 1985) and the Resource-Based View (Barney, 1991; Hart, 1995) to account for the asymmetric constraints facing green enterprises in emerging economies. The three structural paradoxes identified provide a conceptual framework for understanding why differentiation mechanisms that function effectively in developed markets may require fundamental adaptation for emerging market application.

While this study provides valuable insights into green MSME differentiation dynamics, the identified limitations suggest important directions for future research. Longitudinal studies tracking MSME development trajectories would illuminate strategic evolution over time. Comparative international analyses across ASEAN contexts could reveal institutional factors moderating differentiation effectiveness. Quantitative validation with larger samples would test the generalizability of patterns identified here. Consumer segmentation research examining willingness to pay across different market segments would complement the supply-side perspective presented. Sectoral studies beyond fashion and handicraft would assess transferability to other green enterprise domains. Feasibility assessments examining implementation barriers for recommended strategies, particularly regarding certification subsidy programs and credit guarantee mechanisms, would strengthen policy relevance. With coordinated implementation addressing identified paradoxes, Indonesian green MSMEs could potentially strengthen their strategic positioning, though precise timeline and impact projections require further quantitative investigation beyond this study's qualitative scope.

Author contributions

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[Vaness Gaffar]: Strategic analysis, policy recommendations development, and manuscript editing.

All authors have read and approved the final manuscript.

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Conflict of interest

The authors declare no conflicts of interest. This research was conducted independently without any financial or personal relationships with entities that might unduly affect the objectivity or integrity of the study. The participating enterprises provided data voluntarily without any compensation or influence over research design, analysis, or publication decisions.

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