

Application of Green Practices and Circular Economy in Culinary SMEs in Bandung City

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ABSTRACT

The growing need for sustainable business practices makes green practices and circular economy (CE) principles increasingly relevant for small and medium enterprises (SMEs), yet how culinary SMEs apply them across business functions is still insufficiently understood. This study aims to explore how culinary SMEs in Bandung, Indonesia, implement green practices and CE principles in marketing, operations, finance, and risk management, and which barriers shape the implementation. A qualitative multiple-case study design was used with three culinary SMEs: Moms Bakery, Hutanika, and Canaya Resort. Data were collected through semi-structured interviews, open-ended questionnaires, and direct observation, then analyzed using content and thematic analysis supported by NVivo. The findings show that environmental awareness is present in all three cases, but implementation remains selective and is not yet integrated into business systems. Key constraints include the high cost and limited availability of environmentally friendly materials, dependence on third parties, consumer preferences, and limited government support. The study concludes that the gap between environmental intent and execution remains wide, and it recommends eco-innovation, stronger sustainability literacy, supply chain collaboration, and accessible incentives, including green financing.

Keywords: Circular Economy; Green Finance; Green Marketing; Green Operations; Green Practice; Green Risk Management

JEL Classification: Q56

INTRODUCTION

The implementation of environmentally friendly practices, or green practices, across various aspects of business operations has increasingly become a key focus in supporting sustainability and inclusive economic growth. For small and medium enterprises (SMEs) in Indonesia, the implementation of green practices in marketing, operations, finance, and risk management can contribute significantly to the development of a circular economy (CE). SMEs are an initiative that can provide various forms of financial assistance, contribute to increasing individual incomes, create greater employment opportunities, and promote economic development (Yustitia & Adriansah, 2022).

In this context, environmentally friendly practices adopted by SMEs not only contribute to reducing environmental impacts but can also improve operational efficiency, strengthen market positioning, and manage risks associated with business sustainability. Therefore, understanding how green practices can influence these aspects is important for strengthening the capacity of SMEs to address the challenges and opportunities of the CE. SMEs represent small- and medium-scale economic activities within local communities and require protection to safeguard them against unfair business competition (Widiastoeti & Sari, 2020).

Growing concern for environmental sustainability has increased public awareness worldwide regarding the importance of consuming environmentally friendly products (green products) (Prayoga et al., 2026; Setyaningsih et al., 2026). To date, environmentally friendly products have largely remained a strategy adopted by certain companies and have become a consideration when companies offer products to consumers under the green product label (Harsono et al., 2023). However, businesses play an important role in increasing public awareness and supporting environmental sustainability. This situation presents an opportunity for SMEs.

According to data from the Ministry of Cooperatives and SMEs, approximately 64.2 million MSME units were recorded in Indonesia in 2020 (Nasrida et al., 2023). This indicates the potential for SMEs to address environmental issues by applying green practices throughout their business activities, from upstream to downstream and across various business functions, thereby contributing to environmental sustainability. One of the green practices is implemented through green innovation, the development or adoption of environmentally friendly technologies, products, and processes that minimize negative environmental impacts while improving resource efficiency and supporting more sustainable business practices (Sabiaini et al., 2026).

Studies on the implementation of green practices in SMEs remain limited in developing countries such as Indonesia. Therefore, this study focuses on SMEs and their implementation of green concepts in conducting business activities. Specifically, this study examines green practices from the marketing perspective through the green marketing mix, from the operational perspective through sustainable supply chain management (SSCM), and from the financial perspective through green financing implemented by SMEs. The CE promotes resource efficiency through reuse, recycling, and extending product life cycles (Aroonsrimorakot & Laiphrakpam, 2024).

From an operational perspective, the implementation of green practices throughout the product supply chain, beginning with the use of raw materials and continuing through production and product distribution, can contribute to the development of SSCM. This approach can improve the productivity, effectiveness, and efficiency of products and

production processes, while also generating long-term impacts on business performance (Tapia et al., 2021).

From a financial perspective, the implementation of green practices through the effectiveness of green financing schemes for SMEs can provide benefits to businesses that adopt environmentally friendly practices. It can also provide insights for policymakers regarding improvements that can be made to green financing schemes in the future to encourage sustainable development and the creation of a green economy in Indonesia. To support the development of a green economy, financial institutions, particularly banks, are encouraged to develop green financing schemes to provide financing or working capital loans to businesses, including SMEs.

With increasing environmental awareness over approximately the past decade, the concept of green marketing has gained considerable attention. As more companies consider the environmental impacts of their business operations, consumers have also become increasingly aware of the importance of protecting the environment through the products they choose. A study conducted in Malaysia found a significant relationship between managers' awareness of green concepts and green practices within companies. The study also identified a relationship between managerial awareness and the implementation of green concepts in the companies' marketing mix (Osman et al., 2016).

The implementation of green practices in risk management plays a crucial role in supporting the development of a CE. In this context, sustainability-oriented risk management aims not only to reduce environmental impacts but also to mitigate external risks that may threaten business continuity, such as raw material availability and climate change. By integrating green practices into risk management, businesses can become more adaptive to existing environmental and social challenges while creating new opportunities through CE-based business models. Therefore, it is important to understand how the implementation of green practices in risk management can strengthen business competitiveness and sustainability in response to global changes that are increasingly oriented toward sustainability. Several challenges must be addressed in promoting sustainable mindsets, including the need for cross-sector collaboration to mitigate and adapt to climate change. Such collaboration is essential to ensure that supporting investments meet sustainability criteria by integrating environmental, social, and governance (ESG) aspects (Financial Services Authority [Otoritas Jasa Keuangan/OJK], 2021).

Adopting the CE as part of green practice efforts is an important step in ensuring that Indonesia's future economic growth remains aligned with environmental preservation. Through innovation, technology, and cross-sector collaboration, a more sustainable, inclusive, and environmentally friendly economy can be developed. This study therefore examines the integration of the CE into marketing, operations, finance, and risk management to support more sustainable and environmentally friendly economic growth in Indonesia.

Despite this growing attention, several aspects remain insufficiently understood. Studies of culinary and food SMEs in Indonesia have largely relied on survey-based designs and structural modeling to test how CE policies or green entrepreneurial orientation relate to green innovation and sustainable performance (Megawati et al., 2024; Musfar et al., 2025). Such studies show whether relationships hold on average across many firms, but they say little about how individual SMEs turn environmental intent into everyday practice. Qualitative multiple-case work on food-processing and food-service enterprises has begun to examine green practices, yet it has focused mainly on production residues as a secondary resource (Roslan et al., 2026). Meanwhile, studies on green marketing

(Osman et al., 2016) and green financing (Yuliawati et al., 2017) usually address one business function at a time. To the authors' knowledge, little is known about how the marketing, operational, financial, and risk management dimensions of green practices unfold together within the same culinary SMEs, and which conditions determine whether these practices extend into CE practices.

The research problem is that the implementation of green practices and CE principles among SMEs in Indonesia remains limited and is not yet fully integrated across key business functions. In particular, there is a need to understand how SMEs implement green practices in marketing, operations, finance, and risk management, as well as the challenges they face in adopting environmentally sustainable business practices.

This study aims to explore how culinary SMEs in Bandung implement green practices and CE principles in marketing, operations (through SSCM), finance, and risk management, and to identify the challenges and opportunities that shape this implementation. Three research questions guide the analysis. First, how do the three SMEs apply green practices in marketing, supply chain operations, finance, and risk management? Second, how are these practices connected to CE practices such as reuse, recycling, and waste management? Third, what barriers and enabling conditions influence the extent of implementation?

This study makes three contributions. First, it provides a cross-functional, multiple-case account of green practices in culinary SMEs, which complements the single-function and survey-based studies noted above. Second, drawing on the patterns across the three cases, it uses the notion of an implementation gap, namely the distance between environmental intent and consistent execution, as an analytical lens to understand why awareness does not always become circular practice. Third, it offers context-specific insights for policymakers, financial institutions, and SME owners about where support is most needed. Given the very large number of SME units in Indonesia (Nasrida et al., 2023), such insights are significant for designing support that fits the realities of small businesses.

LITERATURE REVIEW

Green Practice

Green practices are a popular approach among manufacturers: economically viable, socially responsible, and environmentally friendly practices that minimize negative environmental impacts. Through these practices, products are designed to reduce harm, impacts are assessed using Life Cycle Analysis, eco-friendly raw materials are prioritized, regular environmental audits are conducted, and eco-conscious policies are adopted (Yacob et al., 2017). They represent a strategic construct where companies intentionally engage in environmental protection, including recycling, waste reduction, energy efficiency, eco-product usage, carbon emission reduction, and environmental management policies.

Green Marketing Mix

The green marketing concept seeks to fulfill consumer needs, wants, and desires regarding environmental preservation and health. Supported by growing public awareness, applying green marketing is highly effective in driving purchase intent; one implementation is the creation of green products (Febriani, 2019).

Green products are designed and processed to minimize polluting effects across production, distribution, and consumption. They are safe for humans and the environment, resource-efficient, non-wasteful, and cruelty-free (Febriani, 2019).

Meanwhile, eco-friendly products aim to minimize negative environmental impacts and reduce excessive natural resource usage during production (Santoso & Fitriani, 2016).

Sustainable Supply Chain Management (SSCM)

SSCM is a supply chain concept that expands upon the traditional supply chain framework (Panigrahi et al., 2019). This concept emphasizes the sustainability of a product's supply chain. The idea of sustainability inspires companies to implement activities that support the creation of sustainability within the supply chain. In line with this, companies can enhance their commitment to implementing a sustainable supply chain by adopting a green concept to produce eco-friendly products (green product). The main functions of SSCM evaluated in this study are supplier selection, logistics optimization, collaboration among supply chain actors, certification, eco-innovation, knowledge sharing, and customer engagement (Panigrahi et al., 2019).

Green Financing

Green financing refers to financial investments directed toward sustainable development projects, environmental initiatives, and policies that foster sustainable economic growth (Höhne et al., 2012). Under this scheme, businesses must satisfy the "reduce, reuse, recycle" criteria to receive eco-friendly financing or loans. Consequently, banks incorporate environmental viability and impact mitigation into their credit analysis. To promote sustainable development and a green economy in Indonesia, the government encourages banks to offer green financing schemes to all business actors, including SMEs (Yuliawati et al., 2017), ultimately aiming to achieve sustainable economic growth while preserving the environment.

Small and Medium Enterprises (SMEs)

SMEs are a vital component of a country's or region's economy. As small- and medium-scale community economic activities, SMEs require protection against unfair business competition (Widiastoeti & Sari, 2020). Rapidly growing across Indonesia, SMEs provide financial assistance, raise individual incomes, expand job opportunities, and advance monetary development (Yustitia & Adriansah, 2022). Contributing significantly to Indonesia's economic growth, SME expansion now spans various sectors, including the culinary industry.

Risk Management

Research on risk management within circular activities is expanding through two primary approaches (Sarkar et al., 2022). The first adopts a general risk perspective rooted in traditional linear economy (LE) views to improve business management. In this context, the COSO & WBCSD international guidelines provide criteria and frameworks for identifying and managing risks, incorporating ESG aspects. The second approach focuses on CE strategies to mitigate external risks, particularly those related to raw material availability and environmental impacts (Gennari, 2024).

Circular Economy (CE)

Unlike the linear model's "take, make, dispose" approach, CE promotes resource efficiency by reusing, recycling, and extending product lifecycles (Aroonsrimorakot & Laiphrakpam, 2024). It is a regenerative approach aimed at closing resource loops, thereby reducing waste and conserving natural resources.

The main pillars of CE include (Tapia et al., 2021): Reducing Resource Use: Minimizing raw material extraction; Recycling and Reusing: Enhancing material recovery; Extending Product Lifespan. For businesses, adopting CE practices ensures long-term economic and environmental sustainability, aligning with global goals such as the Sustainable Development Goals (SDGs). Thus, CE integrates policies and strategies for efficient

energy, material, and water consumption while minimizing environmentally harmful waste.

Previous Studies and Relationships Among Constructs

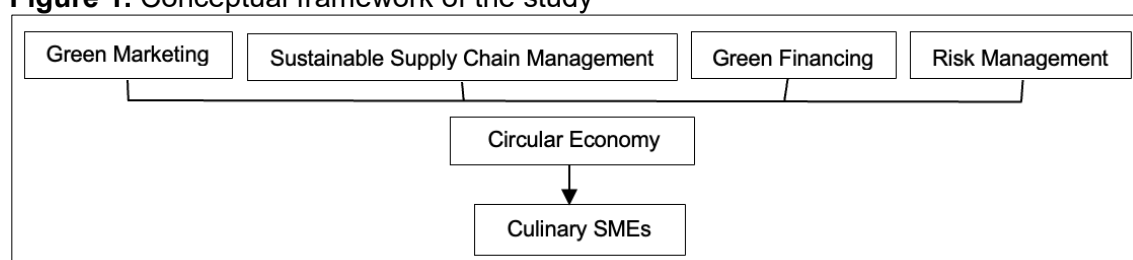
Existing studies suggest that green practices in individual business functions are connected to CE outcomes through several relationships. In marketing, managerial awareness of green concepts has been linked to the adoption of green elements in the marketing mix (Osman et al., 2016), and green marketing is expected to drive purchase intention when consumers care about environmental preservation (Febriani, 2019). In operations, SSCM extends the traditional supply chain by embedding environmental considerations from sourcing to distribution (Panigrahi et al., 2019), and integrative frameworks position green supply chain management as a pathway toward CE (Aroonsrimorakot & Laiphrahpam, 2024; Tapia et al., 2021). In finance, green financing is intended to channel funds toward environmentally sound business activities, including those of SMEs (Yuliawati et al., 2017). In risk management, CE strategies are associated with mitigating external risks such as raw material availability (Gennari, 2024).

Recent evidence from Indonesian food-related SMEs adds nuance. In a survey of 200 culinary SMEs in Surabaya, Megawati et al. (2024) found that CE and social security policies enhanced green business innovation, whereas digital economy policies did not, and that green innovation in turn improved sustainable performance. Musfar et al. (2025), studying 225 food SMEs in Riau, reported that green entrepreneurial orientation improved sustainable business performance directly and through green innovation, while green marketing did not have a significant effect. In a qualitative multiple-case study of food-processing and food-service enterprises in Kendari, Roslan et al. (2026) showed that the presence of production residues does not by itself make an enterprise a ready supplier of secondary resources, because quality, supply consistency, and partner networks still need strengthening. Together, these studies point to the importance of policy, innovation, and supply conditions, but they do not examine how the four business functions are implemented jointly within the same firms.

Conceptual Framework

Building on these relationships, this study adopts the framework in Figure 1. Green practices in four business functions (the green marketing mix, SSCM, green financing, and green risk management) are examined in relation to CE practices.

Figure 1. Conceptual framework of the study



Because the study is qualitative and exploratory, it does not formulate hypotheses for statistical testing. Instead, three analytical propositions guide the coding and the later interpretation. First, managerial environmental awareness is associated with the adoption of green practices in business functions, but awareness alone may not ensure consistent implementation (Osman et al., 2016). Second, the cost and availability of green materials and the quality of coordination with supply chain actors shape how far green practices extend into CE practices (Roslan et al., 2026; Tapia et al., 2021). Third, institutional support, including policy and financing, shapes the capacity of SMEs to sustain these practices (Megawati et al., 2024; Yuliawati et al., 2017). These propositions

serve as sensitizing devices and are examined interpretively in the Discussion rather than tested.

RESEARCH METHOD

Research Design

This study employed a qualitative, exploratory multiple-case study design to examine how green practices are implemented in marketing, operations, finance, and risk management, and how they relate to CE practices, among culinary-sector SMEs in Bandung, West Java, Indonesia. A qualitative design was chosen because the study seeks to understand how and why SMEs implement, adapt, or postpone green practices, which requires rich, context-specific accounts rather than statistical generalization. This is not a mixed-methods study: all data, including the questionnaire responses, are textual and were analyzed qualitatively, without inferential statistics or statistical software.

Population and Sampling

Three SMEs were selected as cases: Moms Bakery, Hutanika, and Canaya Resort. They differ in scale and business model (a small market-oriented bakery, a mainly dine-in business, and a resort on a large site), which allows comparison of how similar environmental aims are pursued under different operating conditions. Cases were selected through purposive sampling, in which participants are chosen deliberately for their ability to provide information-rich accounts. The criteria were that the business (1) operates in the culinary sector in Bandung, (2) is an SME, (3) has undertaken some form of environmental practice, and (4) is willing to participate. Three SMEs met these criteria. Informants were representatives knowledgeable about each business's marketing, operational, financial, and environmental decisions. Because the aim is analytical rather than statistical generalization, the number of cases is deliberately small, and the findings are treated as case-based insights.

Data Collection

Data were collected through three instruments, enabling triangulation. First, a semi-structured interview guide covered five themes: the green marketing mix; SSCM; green financing; risk management; and CE practices, including reuse, recycling, biodegradable materials, and waste management. Interviews were transcribed and provided the principal evidence on practices and constraints. Second, a questionnaire of open-ended questions addressed the same five themes to allow comparison across cases; responses were treated as textual data and coded alongside the interview transcripts, without scoring. Third, direct observations were documented in field notes to record visible environmental practices and to contextualize the reported practices.

Data Analysis

Data were analyzed using content and thematic analysis (Stemler, 2015). Thematic analysis involved coding the data, identifying recurring patterns, and grouping related codes into broader themes, which were then reviewed and refined (Clarke & Braun, 2017). NVivo 12 Plus, the only analytical software used, supported the analysis of transcripts, questionnaire responses, and field notes in four stages. First, coding was conducted through initial, axial, and selective coding to identify concepts, establish relationships among categories, and integrate them around core categories (Belgrave & Seide, 2019). Second, analytical maps visualized relationships among themes and their supporting data. Third, matrix coding queries were used to systematically compare categories and identify patterns across themes (Bazeley & Jackson, 2015). Finally, framework matrices consolidated findings from multiple sources into tables to facilitate interpretation. The conceptual framework in the previously presented Figure 1 guided the initial themes, while additional codes were allowed to emerge from the data.

Qualitative validity was addressed by ensuring that the findings accurately reflected the phenomenon under study (Creswell & Miller, 2000), supported by triangulation of interviews, questionnaire responses, and observation. Reliability was supported through systematic data transcription and coding.

RESULTS

Overview of the Evidence

This section presents the findings by theme and by case, namely Moms Bakery, Hutanika, and Canaya Resort. Five themes emerged from the NVivo analysis and correspond to the conceptual framework: the green marketing mix, SSCM, green financing, risk management, and CE practices. Each theme is summarized with evidence that shows the findings for each case, followed by a short description. Interview and questionnaire responses are reported together as informant accounts, because the questionnaire used open-ended questions on the same themes as the interviews, and observation notes were used to contextualize these accounts. Interpretation and comparison with previous studies are reserved for the Discussion.

Table 1. Evidence on the Green Marketing Mix by Case

Indicator	Moms Bakery	Hutanika	Canaya Resort
Perception of green product quality	Good quality; competitive with conventional products	Quality not the sole consideration; environmental awareness, added value, brand image, long-term sustainability	Same as Hutanika
Constraints on green products	Limited supply, high prices; no green alternatives for some materials and equipment	Limited supply and distribution for large, consistent volumes; high prices	Limited supply and distribution; high prices
Price	Considers target market, brand positioning, and corporate social responsibility (CSR)	Prices must remain realistic; excessive prices reduce purchase interest	Considers market segmentation; consumers have relatively high purchasing power
Promotion	No similar strategy	Sustainability promotions (tote bags, proceeds donated); no significant sales increase; strengthens brand positioning	No coupons or free samples for green products; digital promotion to attract customers
Place (distribution)	No special distribution system	Attempts to improve accessibility; mainly dine-in; cost constraints	On-site customer experience; digital promotion to the location
Education and community	Consumer guidance not a priority; sorts and labels waste; no seminar participation or public education program	Staff education; campaigns on waste sorting and eco-enzyme; seminars with government and NGOs; social media	Workshops on waste processing and organic fertilizer; community education programs

According to Table 1, all three SMEs were aware of environmentally friendly product alternatives, although their assessments of product quality differed. Moms Bakery regarded green products as comparable in quality to conventional products, whereas Hutanka and Canaya Resort emphasized environmental awareness, added value, brand image, and long-term sustainability. All three businesses identified limited supply, relatively high prices, and the lack of suitable green alternatives for some materials as constraints.

Pricing reflected consumers' purchasing power in all cases. Promotion specifically for green products remained limited: Hutanka's sustainability-related promotions had not significantly increased sales but supported its environmental positioning, while the other two SMEs reported no comparable strategy. Distribution was not optimized, and Hutanka and Canaya Resort remained focused on direct, on-site experiences. Hutanka and Canaya Resort integrated environmental education into their activities, whereas Moms Bakery did not treat consumer guidance as a primary focus because of its small scale and market-oriented approach.

Table 2. Evidence on SSCM by Case

Indicator	Moms Bakery	Hutanka	Canaya Resort
Green materials and circular supply chain	Not adopted; cost constraints and focus on operational efficiency	Attempted; limited availability and high prices; 3R concept consistent with values but hard to implement fully	Attempted; limited availability and high prices; considers cost tolerance in choosing materials
Supplier selection	No specific environmental criteria	Quality and service; considers suppliers' environmental management	Price, quality, service, availability, and environmental characteristics
Logistics optimization	No specific sustainability-oriented optimization	Compares supplier prices; seeks alternative suppliers, including recyclable packaging	Improves equipment and operational resource efficiency
Collaboration with supply chain actors	Separated waste may be mixed again during external collection	About 80% of processes involve third parties; delayed waste collection and waste accumulation	Supplier delays can disrupt operations
Eco-innovation investment	None	Integrated system linking user requests and purchasing	Integrated operational system; solar-powered lights in public areas
Sustainability certification	None	None for sustainability; holds occupational safety certification; unsure which institution certifies SME environmental practices	None

Knowledge sharing	No specific mechanism	No dedicated platform or formal report; communicates through marketing	Social media (tree planting, renewable energy)
Customer engagement	No formal mechanism	Comments, direct interaction, complaint channels	Customer feedback system
Contribution to profitability	No answer provided	Relatively small	Direct savings: less tissue use, electric instead of LPG-based equipment, electric vehicles

As presented in Table 2, the high costs and limited availability of environmentally friendly materials were major obstacles to adopting circular supply chain practices. Hutanika and Canaya Resort had attempted to use greener materials but faced supply and cost constraints, whereas Moms Bakery had not adopted a circular supply chain approach. Environmental considerations had entered supplier selection at Hutanika and Canaya Resort but had not been formalized, while Moms Bakery reported no specific environmental criteria for selecting suppliers.

Weak collaboration among supply chain actors was a recurring challenge in all three cases. Hutanika estimated that about 80% of its processes involve third parties, which creates delays in waste collection and waste accumulation despite internal sorting. Moms Bakery experienced the mixing of internally separated waste during external collection, and Canaya Resort reported that supplier delays can disrupt operations.

Eco-innovation investment, certification, and knowledge sharing were uneven. Hutanika and Canaya Resort had invested in integrated operational systems, and Canaya Resort had also invested in renewable energy through solar-powered lights, whereas Moms Bakery had made no such investment. None of the three SMEs held a sustainability certification. In terms of profitability, only Canaya Resort identified direct operational savings, Hutanika considered its financial contribution relatively small, and Moms Bakery did not answer.

Table 3. Evidence on Green Financing and Investment Decisions by Case

Indicator	Moms Bakery	Hutanika	Canaya Resort
Energy and carbon footprint	Carbon-footprint reduction efforts remain limited	Replaced several gas-fueled kitchen appliances with electric equipment	Electric kitchen equipment and electric vehicles
Water management	Considered relatively insignificant; limited to operational needs	Not incorporated into investment decisions	Limited weight in decisions despite some water-saving practices
Funding as a constraint	Not the primary obstacle; consumer behavior and profit margins matter more	Funding and high cost of green materials are significant constraints	Funding and high cost of green materials are significant constraints
Community engagement	Income opportunity for a neighboring family through parking management	Collaboration with communities and external parties	Involves local farmers and craftspeople;

			promotes local products to guests
Occupational health and safety (K3)	Compliance with K3 requirements; BPJS coverage for internal employees	Periodic K3 training, safety equipment, and BPJS Employment coverage	Safety inspections, work-area audits, evacuation and emergency training

The findings in [Table 3](#) concern environmentally oriented investment decisions within the three businesses. The data did not indicate the use of formal green financing products from banks or other financial institutions. Energy-related investments received the most attention. Hutanika and Canaya Resort had replaced gas-powered or conventional equipment with electric alternatives, whereas Moms Bakery reported limited efforts to reduce its carbon footprint. Water management received less attention across all three businesses.

Funding and the high cost of green materials were significant constraints for Hutanika and Canaya Resort, while Moms Bakery did not regard funding as its primary obstacle. Community engagement and occupational health and safety (OHS, locally known as K3) were treated as components of investment evaluation. Each business reported safety practices such as training, equipment, or inspections, and Hutanika and Moms Bakery also reported employee coverage under the national social security program (BPJS).

Table 4. Evidence on Risk-Related Issues by Case

Indicator	Moms Bakery	Hutanika	Canaya Resort
Government and policy support	Support is limited and largely administrative; no tax difference for green practices	Support is limited and largely administrative; no subsidies	Support is limited and largely administrative; no subsidies
Third-party dependence	Waste mixed during external collection	About 80% of processes involve third parties	Supplier delays disrupt operations
Reputational and quality risk	Not reported	Not reported	Lower-quality recycled materials may affect guests' perception
Market and consumer risk	Customers prioritize quality and taste; reusable straws discontinued	Consumers prioritize financial and functional attributes	Demand for recycling-based products remains low
Workplace safety	Clean and orderly workplace; no specific policy for supplier workers	Safety training, first-aid kits, fire extinguishers, sanitation education	Protective fencing, inspections, audits, and emergency training because of terrain risk

A common issue across the three businesses was limited government support. Informants indicated that financial, regulatory, and technical support remains limited and, although agencies such as the local environment and sanitation agency (DLHK) exist, they perceived it as largely administrative rather than tangible assistance or subsidies. Moms Bakery also noted the absence of any difference in tax policy for businesses applying green practices.

Other risks described by informants were operational, reputational, and market-related. Dependence on third parties created operational risk (see [Table 4](#)). Canaya Resort

stressed the reputational risk of lower-quality recycled materials in the hospitality sector. Informants also described consumer preferences as a market risk, since customers were seen to prioritize quality, taste, price, and convenience. Occupational safety practices were relatively well developed in all three businesses.

Table 5. Evidence on CE Practices by Case

Indicator	Moms Bakery	Hutanika	Canaya Resort
Reuse	Wooden straws for take-away; additional cost passed to customers	Used cooking oil processed into aviation fuel and cosmetic waste into resalable products with third parties; some reusable assets	Eco-enzyme processing system within the resort
Recycled materials	Reusable washable straws were discontinued	Generally not used; economic value not yet attractive	Limited; quality and reputation concerns
Biodegradable materials	Food ingredients naturally biodegradable; packaging and non-organic waste not addressed	Many biodegradable food materials; affordable eco-friendly packaging hard to obtain	Substantial use; limited market availability
Consumer interest and awareness	Customers see environmental practice as added value; reusable straws seen as less clean and practical	Low awareness not the primary obstacle; emphasizes long-term market education	Awareness influenced by company image and communication of green values
Recycling facility location	Not an obstacle; relies on third-party waste management	Not an obstacle; emphasizes cost efficiency	Not an obstacle; centralized collection point

All three businesses had implemented some form of reuse, although in different ways (see Table 5). Hutanika collaborated with third parties to process used cooking oil and cosmetic waste, Moms Bakery used wooden straws for take-away service, and Canaya Resort operated an eco-enzyme processing system. The use of recycled products remained limited. Hutanika did not consider recycled production materials economically attractive, and Canaya Resort was concerned about quality and reputation.

Biodegradable food materials were widely used, but environmentally friendly packaging remained difficult to obtain at affordable prices. Low consumer interest in recycled products also affected circular initiatives, as shown by Moms Bakery's discontinued reusable straws, which customers perceived as less clean and practical than single-use alternatives. The location of recycling facilities was not considered a major obstacle by any informant as long as waste management remained efficient.

The NVivo analysis indicates that green practices and CE implementation in the three SMEs are developing but uneven. Environmental awareness is generally present, whereas implementation is constrained by high costs, limited availability of environmentally friendly materials, consumer preferences, supply chain coordination, and limited government support. CE practices such as reuse, recycling, biodegradable materials, and waste management are present but selective rather than integrated.

The three SMEs show different levels and forms of implementation. Hutanika and Canaya Resort show broader involvement in environmental education, collaboration, innovation, and community activities, while Moms Bakery generally applies simpler practices consistent with its business scale and market orientation. Sustainability does not consistently generate direct financial returns: some businesses see its value in brand positioning and reputation, while Canaya Resort identified operational savings. Formal sustainability certification and structured knowledge-sharing systems remain limited in all three.

DISCUSSION

This study explored how culinary SMEs in Bandung implement green practices and how these practices relate to CE implementation. The findings indicate that environmental awareness exists across all three cases, but the extent to which awareness translates into consistent practices differs. This pattern suggests that environmental commitment alone is insufficient to establish circular business practices. Instead, implementation depends on whether businesses can integrate environmental priorities into everyday decisions concerning marketing, sourcing, waste management, investment, and risk. Because the study examines three cases qualitatively, these findings provide context-specific analytical insights rather than evidence of statistically significant or causal effects.

Green Marketing Practices and Consumer Responses

Regarding green marketing, awareness of environmentally friendly alternatives did not consistently translate into extensive promotion, distribution, or observable sales benefits. This finding relates to [Osman et al. \(2016\)](#), who examined the relationship between managerial awareness and green practices in the marketing mix. In the present cases, awareness was evident, but practical implementation remained constrained by the availability and cost of environmentally friendly products and materials. Hutanika's experience suggests that sustainability-oriented promotion may strengthen brand positioning, although the business did not report a notable increase in sales. This observation is consistent with the issue discussed by [Musfar et al. \(2025\)](#), but the present study cannot establish a causal relationship between sustainability promotion and sales performance. This distinction is important because environmental communication and commercial outcomes are not interchangeable: communicating environmental values does not, by itself, establish that consumers will purchase more products. For these SMEs, green marketing may therefore require both credible environmental practices and an understanding of customers' priorities concerning price, quality, and convenience.

SSCM and Operational Constraints

In operations, the findings demonstrate that SSCM depends not only on a business's internal practices but also on coordination with external actors. Although waste may be separated internally, its potential circular value can be undermined when external collectors mix the waste or delay collection. This observation is consistent with the conceptual relationship between green supply chain management and CE discussed by [Aroonsrimorakot and Laiphrakpam \(2024\)](#), as well as the broader attention to resource recovery in [Roslan et al. \(2026\)](#). The cases suggest that circular practices cannot be assessed solely by examining what an individual business does within its premises; the subsequent handling of materials also matters. Hutanika and Canaya Resort demonstrated broader involvement in partnerships and operational initiatives, whereas Moms Bakery relied more heavily on external waste handling. Nevertheless, the practices remained largely informal, with no sustainability certification reported among the three businesses. This indicates that existing initiatives do not necessarily amount to a fully coordinated or formally managed circular supply chain.

Financial Constraints and Access to Green Financing

Financial constraints further help explain the uneven implementation of green practices. The cost and limited availability of environmentally friendly materials restricted the options available to the businesses, while formal green financing products were not reported in the data. This distinction is important: investment in environmentally oriented equipment or activities should not automatically be interpreted as evidence of access to formal green financing. Although policy initiatives promote sustainable finance in Indonesia (OJK, 2021; Yuliawati et al., 2017), the experiences reported in these cases suggest that the availability of policy frameworks does not necessarily mean that SMEs experience support as accessible or practically useful. The findings suggest a potential gap between broader green-finance objectives and the financial and operational constraints reported by the three businesses. However, these cases do not establish whether this gap is representative of culinary SMEs more broadly. However, because the study did not directly examine lending criteria or financial institutions' decisions, it cannot establish whether the reported constraints result from financing eligibility, limited awareness of available schemes, or other barriers.

Risk Management in CE Implementation

Risk management was also largely practical rather than formalized. The businesses' concerns centered on costs, the availability of materials, dependence on external parties, and reputational considerations. These concerns are relevant to the discussion of risk in CE strategies presented by Gennari (2024), but the cases did not indicate the use of formal environmental risk assessment measures. The findings therefore suggest that sustainability-related risks may already affect business decisions even when they are not managed through a structured environmental risk management system. Greater awareness of these risks could help SMEs identify operational vulnerabilities, although the development of formal systems would need to reflect their available resources and organizational scale (Yacob et al., 2017).

The Cross-Functional Implementation Gap and Theoretical Contribution

Across the four business functions, the central finding is an implementation gap between environmental intent and consistent execution. This gap helps explain why awareness and isolated initiatives do not necessarily lead to integrated CE practices. Financial capacity, supplier and waste-collector coordination, consumer responses, and institutional support appear to shape the extent to which environmental priorities can be sustained in daily operations. Hutanika and Canaya Resort showed broader involvement in collaboration, environmental education, and operational initiatives, while Moms Bakery applied simpler practices consistent with its business scale and market orientation. These differences should not be interpreted as a definitive ranking of environmental performance; rather, they illustrate how the form and extent of implementation vary across the three cases.

The findings contribute a cross-functional perspective by examining green practices in marketing, operations, finance, and risk management within the same study of culinary SMEs. Rather than treating these functions as independent activities, the cases suggest that their practical implications are interconnected. For example, the benefits of internal waste separation depend partly on external collection arrangements, while investment in environmentally preferable materials is affected by cost and availability. Similarly, green marketing may communicate environmental commitment, but its commercial value depends on consumer responses that cannot be assumed from awareness alone. The implementation-gap perspective therefore directs attention to the conditions that enable environmental intentions to become sustained operational practices.

Practical Implications

In practical terms, SMEs may benefit from prioritizing feasible improvements in resource and energy efficiency, strengthening coordination with suppliers and waste-handling partners, and communicating environmental initiatives in ways that reflect customer priorities. Government agencies and financial institutions could support these efforts through accessible incentives, practical guidance, and green financing schemes suited to SME circumstances. These implications should be understood in light of the study's scope: the three cases offer contextual insights into implementation challenges, but further research involving more businesses and stakeholder perspectives is needed to determine how widely these patterns apply.

CONCLUSION

This study explored how three culinary SMEs in Bandung, namely Moms Bakery, Hutanika, and Canaya Resort, implement green practices and CE principles in marketing, operations, finance, and risk management. The findings indicate that environmental awareness was present across all three cases, but implementation remained selective and uneven. The businesses reported constraints related to the cost and availability of environmentally friendly materials, coordination with external supply-chain actors, consumer preferences concerning price, quality, and convenience, and limited practical support. These findings suggest that the translation of environmental intentions into consistent CE practices may depend on organizational capacity, supply-chain collaboration, market conditions, and institutional support. However, the findings are specific to the three cases and should not be interpreted as evidence of causal relationships or as statistically generalizable results.

Hutanika and Canaya Resort, which have broader capacity and partnerships, showed wider involvement in education, collaboration, eco-innovation, and community activities, whereas Moms Bakery applied simpler practices consistent with its scale. Some businesses reported benefits such as operational savings and stronger brand positioning; however, these reported benefits varied across the cases and were not independently measured by the study. The cases point to an implementation gap between environmental intent and execution, and where this gap was narrower, green practices were more visibly connected to circular practices such as reuse and waste processing. These conclusions are specific to the three cases and do not constitute statistical or causal findings.

In practical terms, the government is encouraged to provide fiscal and non-fiscal incentives and to make support for SMEs more tangible, and financial institutions are encouraged to develop green financing schemes that SMEs can access. SMEs are encouraged to innovate in green products, improve energy and material efficiency, strengthen collaboration with waste-handling partners and environmental communities, and build sustainability literacy among staff and customers.

For future research, studies could include more SMEs, other sectors, and other cities, adopt longitudinal designs, and use a mixed-methods approach that adds a validated questionnaire and quantitative analysis to test the relationships explored here.

LIMITATION

This study has several limitations. It is based on only three culinary SMEs in Bandung, an urban setting with its own regulatory and market conditions, so the scope of transferability is limited, and the findings are not statistically generalizable to other SMEs, cities, or sectors whose scale, business model, and resources may differ. The evidence also rests on informants' own accounts from interviews and questionnaires, which may

be affected by recall and social desirability, while observation was limited in time and scope. Interpreting qualitative data involves the researchers' subjectivity, which triangulation, systematic transcription, and coding reduce but cannot eliminate. In addition, informants discussed firm-level investment rather than formal green financing products, so the findings on financing remain limited. Future research could include more cases across cities and culinary subsectors, add perspectives from employees, suppliers, consumers, financial institutions, and government agencies, examine access to green financing directly, and combine qualitative and quantitative approaches to test the propositions developed here.

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DECLARATION OF CONFLICTING INTERESTS

The authors declare that there are no conflicts of interest related to the research, authorship, or publication of this article.

REFERENCES

- Aroonsrimorakot, S., & Laiphrakpam, M. (2024). Green supply chain management (GSCM) and circular economy (CE): A rapid review of their conceptual relationships. *Asia Social Issues*, 17(3), e259742-e259742. <https://doi.org/10.48048/asi.2024.259742>
- Bazeley, K., & Jackson, P. (2015). *Qualitative Data Analysis with NVivo* (2nd ed.). Taylor & Francis.
- Belgrave, L. L., & Seide, K. (2019). Coding for Grounded Theory. In *The SAGE Handbook of Current Developments in Grounded Theory* (pp. 167–185). SAGE Publications Ltd.
- Clarke, V., & Braun, V. (2017). Thematic analysis. *The Journal of Positive Psychology*, 12(3), 297–298. <https://doi.org/10.1080/17439760.2016.1262613>
- Creswell, J. W., & Miller, D. L. (2000). Determining validity in qualitative inquiry. *Theory Into Practice*, 39(3), 124-130. https://doi.org/10.1207/s15430421tip3903_2
- Febriani, S. (2019). Pengaruh green marketing mix terhadap green product purchase intention pada produk Innisfree di Jakarta dengan consumer's attitude sebagai variabel mediasi. *Jurnal Manajemen Bisnis Dan Kewirausahaan*, 3(1). <https://doi.org/10.24912/jmbk.v3i1.4925>
- Financial Services Authority (Otoritas Jasa Keuangan/OJK). (2021, January 15). *Roadmap Keuangan Berkelanjutan Tahap II (2021-2025)*. OJK. [https://ojk.go.id/id/berita-dan-kegiatan/publikasi/Pages/Roadmap-Kuangan-Berkelanjutan-Tahap-II-\(2021-2025\).aspx](https://ojk.go.id/id/berita-dan-kegiatan/publikasi/Pages/Roadmap-Kuangan-Berkelanjutan-Tahap-II-(2021-2025).aspx)
- Gennari, F. (2024). Strategic risk-based approach for the circular economy. *European Journal of Business and Management Research*, 9(3), 24-32. <https://doi.org/10.24018/ejbmr.2024.9.3.2294>
- Harsono, R. A., Ariyanto, H. H., & Peranginangin, P. (2023). Pengujian isu-isu lingkungan dan merek terhadap minat pembelian produk ramah lingkungan: Kerangka Theory of Planned Behavior. *Wahana: Jurnal Ekonomi, Manajemen dan Akuntansi*, 26(1), 155-174. <https://doi.org/10.35591/wahana.v26i1.818>
- Höhne, N., Taylor, C., Elias, R., Den Elzen, M., Riahi, K., Chen, C., ... & Xiusheng, Z. (2012). National GHG emissions reduction pledges and 2 C: Comparison of

- studies. *Climate Policy*, 12(3), 356-377.
<https://doi.org/10.1080/14693062.2011.637818>
- Megawati, S., Herdiansyah, H., Machmud, A., Antriandari, E., & Sudirman, S. (2024). Integrating circular economy, digital economy, and social protection policies to drive green business innovation: Insights from Indonesia's culinary SMEs. *Problems and Perspectives in Management*, 22(4), 368-381.
[https://doi.org/10.21511/ppm.22\(4\).2024.28](https://doi.org/10.21511/ppm.22(4).2024.28)
- Musfar, T. F., Zulkarnain, Alwie, A. F., & Wijayanto, G. (2025). Enhancing sustainable business performance through green entrepreneurial orientation in circular economy food SMEs. *Environmental Economics*, 16(4), 15–29.
[https://doi.org/10.21511/ee.16\(4\).2025.02](https://doi.org/10.21511/ee.16(4).2025.02)
- Nasrida, M. F., Pandahang, A., & Febrian, D. (2023). Perkembangan UMKM di Indonesia dan potensi di Kota Palangka Raya. *JUMBIWIRA: Jurnal Manajemen Bisnis Kewirausahaan*, 2(1), 45–49. <https://doi.org/10.56910/jumbiwira.v2i1.548>
- Osman, A., Othman, Y. H., Salahudin, S. N., & Abdullah, M. S. (2016). The awareness and implementation of green concepts in marketing mix: A case of Malaysia. *Procedia Economics and Finance*, 35, 428–433. [https://doi.org/10.1016/S2212-5671\(16\)00053-8](https://doi.org/10.1016/S2212-5671(16)00053-8)
- Panigrahi, S. S., Bahinipati, B., & Jain, V. (2019). Sustainable supply chain management. *Management of Environmental Quality: An International Journal*, 30(5), 1001–1049. <https://doi.org/10.1108/MEQ-01-2018-0003>
- Prayoga, I. M. S., Usadi, P. P., & Diputra, I. K. S. (2026). From personal and environmental values to green beauty loyalty: The role of satisfaction and green reward. *International Journal of Applied Business & International Management*, 11(1), 20–39. <https://doi.org/10.32535/ijabim.v11i1.4499>
- Roslan, A. H., Syahrir, Hasidin, M. H., Sahrul, & Ahmed, B. D. (2026). Green transformation of MSMEs as secondary resource suppliers in a circular economy: A triple bottom line approach. *Al-Kharaj: Journal of Islamic Economic and Business*, 8(3). <https://doi.org/10.24256/kharaj.v8i3.12465>
- Sabihaini, S., Prasetyo, J. E., Ladiqi, S., Hamizah, A. R., & Rusdiyanto, R. (2026). The mediating role of environmental sustainable development between corporate social responsibility and green innovation. *International Journal of Accounting and Finance in Asia Pacific*, 9(2), <https://doi.org/10.32535/ijafap.v9i2.4402>
- Santoso, I., & Fitriani, R. (2016). Green packaging, green product, green advertising, persepsi, dan minat beli konsumen. *Jurnal Ilmu Keluarga dan Konsumen*, 9(2), 147–158. <https://doi.org/10.24156/jikk.2016.9.2.147>
- Sarkar, B., Debnath, A., Chiu, A. S. F., & Ahmed, W. (2022). Circular economy-driven two-stage supply chain management for nullifying waste. *Journal of Cleaner Production*, 339, 130513. <https://doi.org/10.1016/j.jclepro.2022.130513>
- Setyaningsih, D. R., Sabihaini, S., & Kristanto, H. (2026). Innovation capability, green innovation, and property business performance: The mediating role of competitive advantage. *International Journal of Applied Business & International Management*, 11(2), 1036–1055. <https://doi.org/10.32535/ijabim.v11i2.4664>
- Stemler, S. E. (2015). Content analysis. In *Emerging Trends in the Social and Behavioral Sciences* (pp. 1–14). Wiley. <https://doi.org/10.1002/9781118900772.etrds0053>
- Tapia, U., Francisco, J., Isbej, M., & José, A. (2021). Greening factor framework integrating sustainability, green supply chain management, and circular economy: The Chilean case. *Sustainability*, 13(24), 13575. <https://doi.org/10.3390/su132413575>
- Widiastoeti, H., & Sari, C. A. E. (2020). Penerapan laporan keuangan berbasis SAKEMKM terhadap kualitas laporan keuangan pada UMKM kampung kue di Rungkut Surabaya. *Jurnal Ekbis*, 21(1), 1. <https://doi.org/10.30736/je.v21i1.319>

- Yacob, P., Jaganathan, M., Zakaria, N., Keong, L. E., Nodeson, S., Fong, Y. C., & Fared, M. (2017). Green initiatives adoption: Perspective of E&E manufacturing SMEs sustainability. *International Journal of Economic Research*, 14, 2017.
- Yuliawati, T., Rani, A. M., & Assyofa, A. R. (2017). Efektivitas Implementasi Green Financing Sebagai Alternatif Pembiayaan Berkelanjutan Bagi UMKM Sektor Industri Pengolahan Alas Kaki Di Kota Bandung. *Jurnal Manajemen dan Bisnis Performa*, 14(2), 152-162. <http://dx.doi.org/10.29313/performa.v0i2.3561>
- Yustitia, E., & Adriansah, A. (2022). Pendampingan Penentuan Harga Pokok Produksi (HPP) dan Harga Jual pada UMKM di Desa Sawahkulon. *Jumat Ekonomi: Jurnal Pengabdian Masyarakat*, 3(1), 1–9. https://doi.org/10.32764/abdimas_ekon.v3i1.2506

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