

Enhancing Sustainable Business Practices: Triple-Layer Business Model Canvas Analysis of SEGITIGA Coffee

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This study explores how an MSME is able to develop its business sustainability. The increasing concern for environmental issues by consumers makes coffee shops need to take steps to accommodate this. This research focuses on a coffee shop, SEGITIGA Coffee, in Pontianak city that has been operating for 9 years by modifying its business model. This study combines PESTEL environmental scanning with IFE-EFE strategic analysis to refine the Triple Layer BMC model. The study captures first-hand perspectives from coffee shop entrepreneurs through in-depth qualitative research conducted during September–November 2024. The study found that SEGITIGA Coffee has successfully implemented initial eco-friendly practices—leveraging digital tools and recycled materials—demonstrating its commitment to sustainability. However, significant untapped potential remains, as these efforts operate below optimal efficiency and impact. This study demonstrates that strategic partnerships with external stakeholders can enhance SEGITIGA Coffee's sustainability performance. By systematically integrating eco-friendly practices into its core business model, the company can not only reduce its environmental footprint but also differentiate itself in an increasingly eco-conscious market. These improvements are not merely operational upgrades but represent a transformative opportunity to future-proof the business. This research helps small businesses adopt sustainability while staying profitable. It offers practical solutions for entrepreneurs, supports policymakers creating green business programs, and aids researchers studying sustainable models in developing economies.

1. Introduction

1.1 Background

Indonesia cannot be separated from the creative economy sector. This sector is one of the backbones of the economy, contributing Rp1.53 trillion to the national GDP [1]. The Ministry of Tourism and Creative Economy [2] states that the fashion, culinary, and craft subsectors are the subsectors with the highest value added. Despite its significant potential, the creative economy sector still faces challenges such as sustainability and innovation [3]. These challenges exist across all subsectors, including the culinary subsector.

One of the most promising culinary subsectors is the coffee shop industry. As one of the world's largest coffee producers [4], Indonesia's coffee consumption is projected to reach 365,268 tons by 2025 [5]. Indonesia ranks first in Southeast Asia in terms of annual revenue projections for the modern coffee market, estimated to reach US\$947 million [6]. The modern coffee market in Indonesia is dominated by coffee shops that are rapidly expanding throughout Indonesia [7].

However, the growth of coffee shops has raised environmental concerns due to increased energy and water consumption, as well as waste production [8].

The production of this waste is dominated by the use of plastic packaging for coffee and other products. Plastic packaging is chosen because it is more affordable for coffee shop owners [9]. However, the coffee production process, including packaging, contributes to water toxicity and toxicity to humans [10]. Therefore, coffee shops should be able to reduce their environmental impact through environmentally friendly practices. Customers' environmentally friendly behavior can be influenced by attitudes, perceptions of market influence, and the overall image of environmentally friendly coffee shops [11].

Coffee shops can reduce plastic packaging usage and promote sustainable practices through various strategies. However, while customers value price fairness and hygiene, eco-friendliness may not significantly affect reuse intention [12]. Innovative sustainable packaging practices are being adopted globally, but consumers may not be fully prepared to bear the associated costs [13]. Coffee shops can voluntarily phase out disposable products like plastic cups and straws to minimize environmental risks [11].

Shifting to sustainable business models is crucial for coffee shops' long-term success. Sustainable business models have gained global interest, with companies seeking to leverage sustainable performance and increase competitive advantage [14]. Implementing sustainable practices in supply chain management, including efficient food safety handling and adaptable purchasing policies, is essential for achieving sustainability in the coffee industry [15]. In addition, a co-creation approach involving stakeholders has proven effective in designing sustainable coffee supply chains, as demonstrated in Bandung Regency [16].

1.2 Problem Statement

The rapid growth of Indonesia's coffee shop industry has intensified environmental challenges, especially from plastic packaging and unsustainable practices. SEGITIGA Coffee, a local player in Pontianak city, faces pressure to remain competitive while adopting sustainable solutions. However, existing business models often fail to integrate environmental and social aspects effectively, and consumer price sensitivity further limits the adoption of eco-friendly alternatives. There is a lack of tailored frameworks that guide SMEs like SEGITIGA Coffee in building sustainable yet competitive operations.

To address this, the Triple-Layered Business Model Canvas (TLBMC)—which integrates economic, environmental, and social dimensions—offers a structured tool for designing sustainable business models. Yet, its application in Indonesia's coffee sector remains underexplored.

1.3 Objectives and Scope

This study aims to develop a sustainable business model for SEGITIGA Coffee by utilizing the Triple-Layered Business Model Canvas (TLBMC), which incorporates economic, environmental, and social dimensions. The goal is to enhance SEGITIGA Coffee's competitive advantage while promoting long-term sustainability in its operations. The research will explore how sustainable practices can be embedded into the business strategy to align with both market expectations and environmental responsibilities.

However, the study may encounter several limitations, including restricted access to detailed internal data such as financial and operational records, potential respondent bias during interviews or surveys with customers and stakeholders, and difficulties in measuring social and environmental impacts accurately within the local context. Additionally, resource constraints may limit the scope of benchmarking with other similar businesses. Despite these challenges, the study is expected to generate practical insights that support the adoption of sustainable business models by small and medium-sized coffee enterprises in Indonesia.

2. Literature Review

2.1 Related Work

The coffee industry faces significant environmental challenges that make it a prime candidate for sustainable business model innovation, with comprehensive reviews revealing that environmental concerns span from agricultural practices to packaging and waste management, highlighting the need for holistic approaches to sustainability [17]. Packaging sustainability has emerged as a critical concern, with studies showing that innovative packaging solutions can significantly reduce environmental footprint while maintaining product quality and consumer acceptance [18]. Research indicates that despite consumers expressed desire to support sustainability through their purchases, they remain cautious about sustainable coffee innovations, with taste and indulgence continuing to be the most prominent purchase factors over environmental considerations [19]. Studies examining willingness to pay for sustainable coffee products demonstrate that while environmentally conscious consumers are willing to pay premiums, the price sensitivity varies significantly across different market segments, with younger consumers showing higher acceptance of sustainable coffee alternatives but requiring clear communication of both environmental and quality benefits [20].

SMEs in the coffee sector face unique challenges in implementing sustainable practices, but research suggests that proactive business model innovation can serve as an effective strategy for navigating uncertainty and maintaining competitiveness while integrating sustainability considerations [21]. The Triple-Layered Business Model Canvas represents a significant evolution from Osterwalder and Pigneur's original Business Model Canvas, introduced by Joyce and Paquin (2016) as a tool for exploring sustainability-oriented business model innovation by extending the original canvas to incorporate environmental and social dimensions alongside economic considerations [22]. The framework's versatility has been further validated through diverse sector applications, with research identifying eight sustainable business model patterns that align with the TLBMC's comprehensive approach to sustainability integration [23].

The implementation of sustainable business models in the coffee industry faces significant challenges while requiring specific success factors for effective adoption. Cost considerations remain the primary barrier, particularly for smallholder farmers and SMEs who lack access to required knowledge, skills, and financial resources to engage effectively in sustainable practices within global markets [17]. Critical success factors for sustainability implementation include strong leadership commitment, as evidenced by the original sustainable coffee movement which required years of dedicated leadership from companies and NGOs to develop common goals, standards, and indicators [24]. Additionally, adopting digital organizational culture, promoting organizational learning, enhancing ethical sensitivity, and improving access to finance contribute to long-term business performance [25]. The implementation of sustainable practices, including the utilization of locally sourced ingredients and waste reduction strategies, not only appeals to environmentally conscious consumers but also strengthens the overall resilience of the business

[26].

2.2 Research Gap

Based on the literature review, several key research gaps emerge that justify this study. The primary gap is the limited application of the Triple-Layered Business Model Canvas (TLBMC) specifically within Indonesia's coffee sector, despite its validation across diverse industries globally. Additionally, there is insufficient research on SME-tailored sustainability frameworks that address the unique challenges faced by small coffee businesses in balancing competitiveness with environmental responsibility. Furthermore, there is limited guidance on adapting global sustainability frameworks to local Indonesian contexts, considering cultural, economic, and regulatory differences. Finally, while existing studies identify barriers to sustainability implementation (cost, knowledge, resources), there is insufficient practical guidance on step-by-step implementation strategies for coffee SMEs transitioning to sustainable business models. This study addresses these gaps by applying the TLBMC framework to SEGITIGA Coffee, providing both theoretical contributions and practical insights for similar Indonesian coffee enterprises seeking sustainable transformation.

3. Methodology

3.1 Data Collection

This research adopts a descriptive qualitative approach, employing interpretative methods to analyze and explain the phenomena under investigation [27]. A purposive sampling technique is applied, with participants selected based on predetermined criteria—in this case, the operational duration of modern coffee shop businesses. The study centers on SEGITIGA Coffee, a business located in Pontianak City that has been in operation for nine years. Data collection was scheduled to occur over a six-month period, from September to November 2024.

Primary data are gathered through interviews and direct observations. Semi-structured interviews were conducted with designated informants, specifically the owners of SEGITIGA Coffee, to explore their managerial practices, strategic decision-making, and approaches to sustaining their business. Furthermore, the interviews aim to uncover the underlying business models utilized. Observations complement the interviews by capturing real-time operational practices, providing a contextual understanding of how strategic initiatives are implemented in daily business activities.

3.2 Analysis Techniques

The qualitative data analysis in this study adopts the interactive model involving several key stages [27]. The process begins with the collection of primary data through verbatim transcriptions of interviews with four participants. The next step involves organizing and categorizing the data according to each participant's strategic approach. The information is then presented in a systematic format, followed by drawing conclusions, which are summarized in a table grouped by data sources.

To develop comprehensive and contextually appropriate strategic recommendations, the study employs a multi-layered analytical framework. PESTEL analysis is first conducted to systematically examine the Political, Economic, Social, Technological, Environmental, and Legal factors that influence SEGITIGA Coffee's operating environment, providing crucial external context for strategic decision-making. This external environmental assessment is then complemented by the Internal Factor Evaluation (IFE) and External Factor Evaluation (EFE) matrices, which comprehensively assess strengths, weaknesses, opportunities, and threats, while

the IE matrix plots the organization's strategic position based on these integrated scores [28,29]. This dual internal-external analysis ensures that strategic recommendations are grounded in both organizational capabilities and environmental realities.

The findings are then integrated into the nine building blocks of the Business Model Canvas (BMC) [30], which include customer segments, value propositions, channels, customer relationships, revenue streams, key resources, key activities, key partnerships, and cost structures. To provide a more holistic and sustainability-oriented perspective, the analysis is further enriched using the Triple Layer Business Model Canvas (TLBMC), which incorporates environmental and social layers alongside the economic dimension [22], ensuring that the resulting business model addresses the triple bottom line of people, planet, and profit.

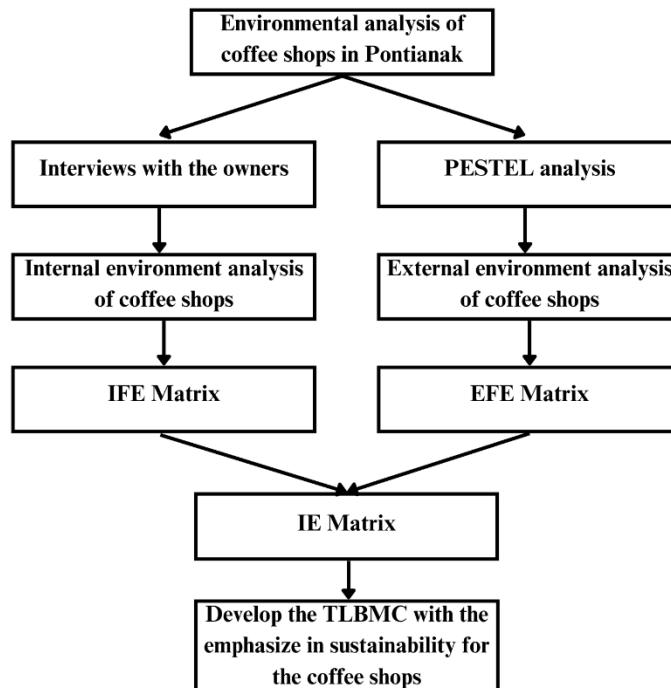


Figure 1. Research Framework

4. Results and Discussion

4.1 Key Findings

4.1.1 Environmental Analysis

Internal Environment Analysis

An Internal Factor Evaluation (IFE) analysis was conducted to assess the operational status of SEGITIGA Coffee based on the interview with the owners. The (IFE) matrix reveals a total weighted score of 2.54, indicating that the organization's internal strategic position is above average but requires significant improvement to achieve optimal performance. The organization demonstrates strong internal capabilities across several key areas, with operational excellence emerging as the primary strength. Emphasis on internal improvements to optimize services and operational systems stands out as the most significant contributor to organizational success, suggesting robust operational infrastructure and commitment to continuous improvement. Additionally, sustainability integration represents a competitive advantage through interior design utilizing recycled and sustainable materials, while market positioning strengths include a well-tailored brand tagline for local context and optimization of online food delivery platforms.

However, the analysis identifies several concerning weaknesses that require immediate attention, particularly in strategic planning deficiencies. The lack of structured customer retention and renewal plans represents the most critical gap in long-term sustainability strategy. Knowledge and implementation gaps are evident through insufficient knowledge regarding sustainable practices and unexpected costs during strategy implementation, suggesting inadequate planning and expertise. Furthermore, strategic monotony reflects limited innovation in strategic approaches, potentially hindering competitive differentiation and organizational growth.

Table 1. IFE Matrix of SEGITIGA Coffee

Internal Strategic Factor	Rating	Weight	Total
Strength			
Implementation of environmentally friendly packaging	3	0,05	0,15
Unique menu items with creative and original names	3	0,03	0,09
Optimizing online food delivery platforms to boost sales performance	3	0,07	0,21
Emphasis on internal improvements to optimize services and operational systems	4	0,13	0,52
Brand tagline tailored to the local context	4	0,08	0,32
Interior design that utilizes recycled and sustainable materials	4	0,12	0,48
Weakness			
No Wi-Fi connection for customers	2	0,10	0,20
Insufficient knowledge regarding sustainable practices	2	0,15	0,30
Lack of a structured plan for customer retention and renewal	1	0,17	0,17
Strategic approaches are monotonous	1	0,10	0,10
Total		1	2,54

External Environment Analysis

The PESTEL analysis provides valuable insights into the external factors that influence strategic decisions. The EFE matrix indicates that the organization is below average in its ability to respond to external factors, suggesting the company faces significant challenges in capitalizing on opportunities while managing external threats. The analysis reveals moderate opportunity potential with broad customer segments and shifting consumer habits representing the strongest opportunities, indicating market diversification potential and adaptability to changing preferences. Additionally, solid market demand foundation provides stability for growth initiatives, while environmental factors such as sustainable packaging trends and government plastic regulations offer modest opportunities.

The external environment presents substantial threats with several high-impact factors that require immediate attention. Consumer spending constraints emerges as the most critical threat, reflecting economic pressures that directly impact purchasing behavior and pose the greatest risk to revenue generation. Competition from non-coffee beverages and rising coffee bean costs pose significant operational challenges, while competitive brand strategies and coffee shop expansion intensify market competition. Notably, green packaging costs present the lowest threat, suggesting environmental initiatives may be more feasible than anticipated and could serve as a competitive differentiator.

Table 2. EFE Matrix of Segitiga Coffee

External Strategic Factors	Rating	Weight	Total
Opportunity			
Shifting consumer habits	3	0,07	0,21
Solid foundation of demand in the coffee market	3	0,05	0,15
Broad and varied customer segments	3	0,08	0,24
Growing environmental awareness	2	0,05	0,10
Rising popularity of sustainable packaging solutions	2	0,05	0,10
Local government regulation to limit plastic packaging	3	0,02	0,06
Threat			
Ongoing expansion of coffee shop businesses	2	0,08	0,16
Increasing cost of coffee beans	2	0,12	0,24
Competition from non-coffee drinks	2	0,15	0,30
Constraints in consumer spending	3	0,13	0,39
Creative strategies by competing brands	2	0,10	0,20
Elevated expenses associated with green packaging options	1	0,10	0,10
Total		1	2,25

IE Matrix

SEGITIGA Coffee is positioned in Cell V (Hold Strategy) with an IFE score of 2.54 and EFE score of 2.25. The moderate internal strengths, particularly in operational excellence and sustainability integration, are offset by challenges in responding to external environmental factors. The company faces significant external threats including consumer spending constraints and intense competition from both coffee and non-coffee beverages. This positioning suggests the company should focus on market penetration and product development rather than aggressive expansion strategies. Key priorities include addressing critical internal weaknesses such as the lack of structured customer retention plans and insufficient sustainability knowledge while defending current market position against competitive pressures.

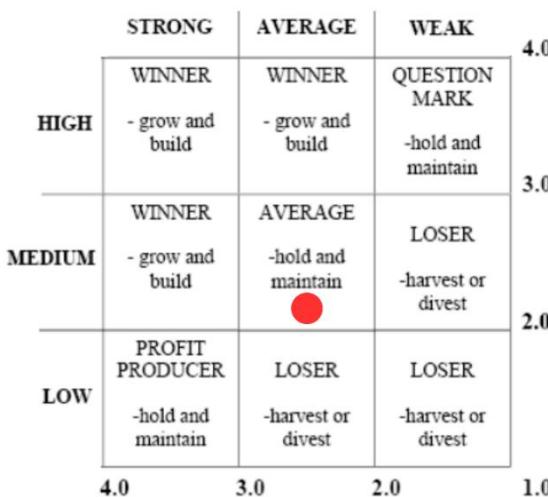


Figure 2. IE Matrix SEGITIGA Coffee

4.1.2 Triple Layer Business Model Canvas of SEGITIGA Coffee Economic Layer TLBMC

This Economic layer outlines SEGITIGA Coffee that positions itself as an authentic Indonesian coffee experience with an eco-conscious approach. The company operates through multiple revenue streams including coffee and beverage sales, coffee bean sales, and coffee courses, serving both individual consumers (workers, students, and coffee enthusiasts) and business clients (other coffee shops and offices). Their value proposition centers on providing authentic Indonesian coffee while serving as a knowledge center for local coffee culture.

The business model relies on key partnerships with coffee suppliers, building owners, and service providers, while maintaining critical resources like brand identity, recipes, production facilities, and skilled employees. They engage customers through various channels including social media, their physical store, delivery services, and word-of-mouth marketing, supported by customer relationship strategies like social media management and loyalty rewards. The cost structure encompasses production supplies, facility maintenance, employee salaries, research and development, and quality control management, creating a comprehensive framework for sustainable coffee business operations.

Key Partners	Key Activities	Value Proposition	Customer Relationship	Customers Segment
<ul style="list-style-type: none"> Coffee supplier Building owner Other ingredients supplier Banking Logistic/cashier application provider Internet provider Food delivery service 	<ul style="list-style-type: none"> Main activities (<i>Inbound-outbound logistic, operational, QC, marketing, services</i>) Supporting activities (<i>Firm infrastructure, technology development, procurement</i>) 	<ul style="list-style-type: none"> Authentic Indonesian coffee Eco-conscious coffee shop Center for Indonesian coffee knowledge in Pontianak 	<ul style="list-style-type: none"> Social media management Customer-oriented service Rewards for loyal customers 	<p>Business to consumers:</p> <ul style="list-style-type: none"> Workers Students Barista/coffee course seeker <p>Business to business:</p> <ul style="list-style-type: none"> Other coffee shops Office
Key Resources <ul style="list-style-type: none"> Brand Recipes Production facilities Internal managements Employees 			Channels <ul style="list-style-type: none"> Social media Store Delivery services Word-of-mouth 	
Cost Structure <ul style="list-style-type: none"> Production supplies Production facilities maintenance Employees salary Research and development costs Quality control management costs 			Revenue Streams <ul style="list-style-type: none"> Coffee and other beverages sales Coffee beans sales Coffee course 	

Figure 3. Economic Layer TLBMC of SEGITIGA Coffee

Environmental Layer TLBMC

This Environmental Layer analyzes the complete lifecycle of SEGITIGA Coffee, mapping environmental considerations from supply chain to end-of-life management. The business sources essential inputs like water, electricity, production facilities, and coffee beans, then transforms them through beverage production, coffee roasting, and educational courses. The functional value emphasizes eco-conscious product development and technology-based processes, while distribution relies on food delivery services and biodegradable packaging to minimize environmental footprint.

The framework clearly identifies both environmental challenges and solutions throughout the business operations. Major environmental impacts include waste from single-use containers, energy consumption from roasting and brewing processes, packaging waste from deliveries, and resource depletion from non-renewable sources. However, the business actively counters these impacts through comprehensive environmental benefits: implementing reusable cup programs, creating environmental awareness through eco-conscious products, conserving resources through durable recycled interior design, and providing community education about sustainability practices. The end-of-life strategy focuses on recyclable materials, remanufacturing partnerships, and waste management collaborations, while the use phase encourages sustainable behaviors like reusable cups and repurposing coffee grounds for composting.

Supplies & Out-sourcing	Production	Functional Value	End-of-Life	Use Phase
<ul style="list-style-type: none"> Water Electricity Production facilities Coffee beans Other ingredients 	<ul style="list-style-type: none"> Beverages making (coffee & non coffee) Coffee beans roasting Coffee course/class 	<ul style="list-style-type: none"> Eco-conscious product development Technology-based services/processes 	<ul style="list-style-type: none"> Using recyclable materials Creating products that can be remanufactured Partnering with waste management companies 	<ul style="list-style-type: none"> Encourage customers to use reusable cups Design durable interior furniture and fixtures from waste Sustainable practice coffee course Repurpose used coffee grounds for composting or local garden partnerships
Materials			Distribution	
<ul style="list-style-type: none"> Brand Recipes Production facilities Internal managements Employees 			<ul style="list-style-type: none"> Food delivery services Expedition services Biodegradable or compostable delivery containers 	
Environmental Impact <ul style="list-style-type: none"> Waste generation from single-use cups, packaging, and food containers Energy consumption from roasting processes, brewing equipment, and facility operations Packaging waste from delivery containers and take-out materials Resource depletion from non-renewable energy sources and raw material extraction 		Environmental Benefit <ul style="list-style-type: none"> Waste reduction through reusable cup programs Environmental awareness created through eco-conscious product development Resource conservation through durable interior design using recycled materials Community education about sustainability practices through coffee courses and workshops 		

Figure 4. Environmental Layer TLBMC of SEGITIGA Coffee

Social Layer TLBMC

This Social Layer maps the comprehensive social ecosystem of SEGITIGA Coffee, analyzing its relationships with various stakeholder groups and community impact. The framework identifies key local communities including workshop participants, customers, waste management networks, and environmentally-conscious communities, while highlighting the governance structure that ensures quality control, waste management policies, and community engagement protocols. The business employs production staff, coffee course instructors, and management personnel, creating direct employment opportunities while serving end-users ranging from coffee consumers to eco-conscious product users.

The canvas reveals both potential social challenges and positive contributions the business makes to society. Social impacts include concerns about skills displacement, economic dependency, access inequality, and employment pressure that must be carefully managed. However, these are counterbalanced by significant social benefits including enhanced community capacity, environmental and wellness improvements, social cohesion building, and local economic stimulus.

The social value centers on knowledge transfer, community building across Pontianak, and driving behavioral change toward sustainability, while fostering a societal culture focused on waste reduction mindset, community learning, and collective responsibility that extends beyond local communities to supply chain networks and sustainable practice demonstration.

Local Communities	Governance	Social Value	Societal Culture	End-user
<ul style="list-style-type: none"> Workshop/course participants Customers Local waste management and recycling networks Communities benefiting from reduced environmental impact 	<ul style="list-style-type: none"> Quality control for coffee beans and other ingredients Waste management policies and procedures Community engagement protocols 	<ul style="list-style-type: none"> Knowledge transfer to the communities Community building across Pontianak city Behavioral change of the consumers 	<ul style="list-style-type: none"> Waste reduction mindset Community learning Collective responsibility 	<ul style="list-style-type: none"> Coffee consumers Coffee course/class participants Eco-conscious product users
Employees <ul style="list-style-type: none"> Production staff (beverage making, coffee roasting) Course/class instructors (for coffee courses) Internal management personnel 		Scale of Outreach <ul style="list-style-type: none"> Local communities Supply chain networks Sustainable practice demonstration 		
Social Impact <ul style="list-style-type: none"> Skills displacement Economic dependency Access inequality Employment pressure 		Social Benefit <ul style="list-style-type: none"> Enhanced community capacity Environmental and wellness improvement Social cohesion building Local economic stimulus 		

Figure 5. Social Layer TLBMC of SEGITIGA Coffee

4.2 Interpretation of Results

The research findings demonstrate substantial achievement of the study's primary objective to develop a sustainable business model for SEGITIGA Coffee using the TLBMC framework. The comprehensive mapping of SEGITIGA Coffee's operations across all three layers of the TLBMC provides a holistic view of the business's sustainability potential. The economic layer revealed a diversified revenue structure encompassing coffee sales, bean sales, and educational courses, establishing a solid foundation for sustainable growth. The environmental layer successfully identified both existing challenges, such as waste from single-use containers and energy consumption, alongside current solutions including reusable cup programs and recycled interior design. The social layer highlighted the business's significant role in community building, knowledge transfer, and local economic stimulus, demonstrating the interconnected nature of sustainable business practices.

The strategic analysis through IFE-EFE matrices provided crucial insights into SEGITIGA Coffee's competitive position, revealing internal strengths with an IFE score of 2.54, particularly in operational excellence and sustainability integration, while simultaneously identifying external challenges reflected in an EFE score of 2.25. The positioning in Cell V (Hold Strategy) indicates that the company should focus on market penetration and product development rather than aggressive expansion, addressing critical weaknesses such as the lack of structured customer retention plans and insufficient sustainability knowledge while defending its current market position against competitive pressures.

From a theoretical perspective, this study makes significant contributions by addressing key research gaps in the application of the TLBMC framework within Indonesia's coffee sector. The research represents among the first attempts to adapt this global sustainability framework to local Indonesian contexts, considering unique cultural, economic, and regulatory factors. This application provides valuable insights into how international sustainability models can be effectively localized, offering a replicable framework for similar enterprises in developing economies. The study also contributes to the growing body of knowledge on SME-tailored sustainability frameworks, demonstrating how small coffee businesses can successfully balance competitive pressures with environmental responsibility.

The practical implications of the findings are particularly significant for SEGITIGA Coffee's future development. The research reveals that while the company has "successfully implemented initial eco-friendly practices," these efforts operate "below optimal efficiency and impact," indicating substantial untapped potential for improvement. The identified opportunities for enhanced utilization of digital tools, expanded use of recycled materials, and strengthened partnerships with external stakeholders provide a clear roadmap for sustainable development. The study demonstrates how systematic integration of eco-friendly practices into core business operations can serve as a competitive differentiator in an increasingly eco-conscious market, representing not merely operational upgrades but "a transformative opportunity to future-proof the business."

The strategic significance extends beyond immediate business improvements to encompass broader market positioning and risk mitigation strategies. The research shows how SEGITIGA Coffee can differentiate itself through authentic Indonesian coffee experiences combined with eco-conscious practices, effectively addressing growing environmental awareness among consumers while maintaining economic viability. The IE Matrix positioning provides strategic guidance for defending current market position while systematically addressing identified weaknesses, particularly in customer retention and sustainability knowledge gaps.

5. Discussion

5.1 Comparison with Prior Research

The findings strongly align with previous research on environmental challenges in the coffee industry. The identification of waste from single-use containers, energy consumption, and packaging waste directly supports comprehensive environmental concerns spanning from agricultural practices to waste management [17]. SEGITIGA Coffee's successful implementation of eco-friendly practices, including recycled interior design, demonstrates practical application of holistic sustainability approaches advocated in literature [18]. However, the study reveals contradictions regarding consumer behavior, as SEGITIGA Coffee's success with eco-conscious positioning suggests local market acceptance may differ from global patterns where taste and indulgence remain more prominent purchase factors than environmental considerations [19].

The research validates previous findings on SME sustainability implementation challenges while revealing important contradictions about cost barriers. The identification of "insufficient knowledge regarding sustainable practices" and "unexpected costs during strategy implementation" as significant internal weaknesses supports barriers noted in literature regarding SMEs' limited access to required knowledge, skills, and financial resources [21]. However, the finding that "green packaging costs present the lowest threat" contradicts previous emphasis on

cost considerations as the primary obstacle [17], suggesting that local contexts and implementation approaches may significantly influence commonly cited barriers' impact on coffee sector SMEs.

Consumer acceptance findings present notable contradictions with previous research. While literature suggested limited consumer preparedness to bear costs associated with sustainable innovations [13], SEGITIGA Coffee's positioning across multiple customer segments while maintaining eco-conscious practices indicates greater market acceptance than previously reported. The identification of "broad and varied customer segments" as a significant opportunity (weighted score of 0.24) suggests sustainability-oriented businesses may find more favorable reception than studies emphasizing consumer resistance to sustainable alternatives, though this aligns with research on price sensitivity variations across market segments [20].

The successful application of the TLBMC framework validates Joyce and Paquin's assertion that it provides effective tools for exploring sustainability-oriented business model innovation [22]. The comprehensive mapping across economic, environmental, and social layers demonstrates the framework's versatility and supports research identifying its applicability across diverse sectors [23]. The study particularly validates critical success factors for sustainability implementation, as the identification of "emphasis on internal improvements to optimize services and operational systems" as the highest-weighted strength aligns with findings about leadership commitment being essential for sustainable coffee movement success [24], while revealing gaps in organizational learning and access to finance that remain significant SME challenges [25].

5.2 Limitations

This study faces several methodological and contextual limitations that may affect the generalizability of findings. The research is constrained by its focus on a single case study (SEGITIGA Coffee), which limits the ability to draw broader conclusions about Indonesian coffee SMEs. Data collection relied primarily on interviews with business owners, potentially introducing respondent bias and limiting access to comprehensive financial and operational data. The six-month data collection period may not capture seasonal variations or long-term sustainability impacts. Additionally, the study's geographical limitation to Pontianak city may not reflect diverse regional contexts across Indonesia, and resource constraints prevented extensive benchmarking with similar businesses or comprehensive stakeholder analysis beyond the immediate business environment.

5.3 Future Research

Future research should expand this framework through extended studies tracking sustainability implementation outcomes over extended periods to assess long-term effectiveness and financial performance impacts. Comparative studies across multiple Indonesian cities and coffee SMEs would enhance generalizability and identify regional adaptation strategies. Research incorporating comprehensive stakeholder perspectives—including customers, suppliers, and community members—would provide more holistic insights into social and environmental impacts. Additionally, quantitative studies measuring the financial returns of sustainable practices, development of industry-specific sustainability metrics, and investigation of digital technology integration in sustainable coffee business models would strengthen the theoretical framework. Cross-sector applications of the TLBMC in other Indonesian creative economy subsectors could further validate and refine the sustainability implementation approach for developing economy contexts.

6. Conclusion

This study successfully addresses the critical challenge of integrating sustainability into Indonesia's rapidly expanding coffee shop industry by applying the Triple-Layered Business Model Canvas (TLBMC) to SEGITIGA Coffee in Pontianak. Using a qualitative approach with semi-structured interviews, direct observations, and comprehensive strategic analysis through PESTEL, IFE-EFE matrices, the research reveals that while SEGITIGA Coffee has implemented initial eco-friendly practices such as including recycled interior design and sustainable packaging, these efforts operate below optimal efficiency with significant untapped potential for improvement. The TLBMC analysis across economic, environmental, and social layers demonstrates how systematic integration of sustainability can serve as a competitive differentiator while addressing the triple bottom line of people, planet, and profit. This research makes a significant theoretical contribution by being among the first to adapt the TLBMC framework to Indonesia's coffee sector context, providing a replicable model for SMEs in developing economies to balance environmental responsibility with competitive pressures, ultimately offering practical guidance for entrepreneurs, policymakers developing green business programs, and researchers studying sustainable business models in emerging markets.

7. Recommendation

SEGITIGA Coffee should prioritize developing structured customer retention and renewal strategies while investing in comprehensive sustainability knowledge training to address identified internal weaknesses. The company should leverage its positioning in the IE Matrix Cell V by focusing on market penetration through enhanced digital marketing and expanding strategic partnerships with local suppliers and environmental organizations to optimize resource utilization and reduce operational costs. Implementation of systematic sustainability metrics and performance tracking systems will enable better measurement of environmental and social impacts while supporting continuous improvement initiatives. For broader industry application, Indonesian coffee SMEs should adopt the TLBMC framework as a strategic planning tool, supported by government policies that provide financial incentives and technical assistance for sustainable practice adoption. Policymakers should establish certification programs and green business networks to facilitate knowledge sharing and resource access among coffee sector SMEs, while academic institutions should develop specialized sustainability training programs tailored to local cultural and economic contexts to support the transition toward sustainable business models in Indonesia's creative economy sector.

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