

Green SME Business Model in Bangka Belitung: A Value Chain Analysis Approach

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ABSTRACT

The objective of this research is to conduct a framework and business model study for Green SMEs by (1) identifying the definition, criteria, and indicators of Green SMEs based on the conditions in Bangka Belitung through a literature review and (2) developing and analyzing the Green SME business model by mapping Green SMEs under the supervision of the Customs and Excise Office of Type Madya Pabean C Pangkalpinang. The research methodology employed in this study is qualitative descriptive analysis, incorporating a literature review, presentation of field findings through tabulated data and descriptive information, and arguments based on previous research exploration. Subsequently, a Value Chain Analysis was conducted to map each primary activity and support the activity process. The results of the Green mapping indicate the following: there are ten respondents at the eco-traditional stage of Green SMEs, six respondents at the eco-adapters stage, three respondents at the eco-entrepreneur stage, and two respondents at the eco-innovators stage. Based on the existing Green practices in the Bangka Belitung Islands Province, critical points in Green practices were identified according to ideal Green indicators.

Keywords: Bangka Belitung Economic Development, Eco-friendly SMEs, Green Entrepreneurship, Green SME Business Model, Sustainable Small Businesses, Value Chain Analysis

INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) stand as vital pillars within the intricate framework of the Indonesian economy, weaving a tapestry of economic dynamism and resilience. The tangible impact of these enterprises on the nation's Gross Domestic Product (GDP) underscores their pivotal role in shaping its fiscal landscape.

According to data from 2018, meticulously analyzed through the lens of constant prices from 2000 by Hakimi (2018), MSMEs asserted their significance by constituting a formidable 57.24% of the GDP. This statistic alone is a testament to these enterprises' substantial economic imprint upon Indonesia.

Delving deeper into the temporal dynamics, examining the period from 2016 to 2018 reveals a noteworthy trend. Hidayati and Sitompul (2022) shed light on the fact that, when evaluated at current prices, the contribution of MSMEs experienced a commendable annual upswing. Within this temporal bracket, the percentage climbed from 59.84% to a more robust 61.07%, illuminating a trajectory of consistent growth and economic vitality.

Beyond the quantitative realm, the qualitative impact of MSMEs extends to employment—a critical dimension of socio-economic prosperity. In their multitude, MSME units collectively represent a staggering 99.99% of the total enterprises. Furthermore, their symbiotic relationship with employment is vividly apparent, as these enterprises contribute to 97% of the national employment landscape, as seen in Table 1.

**Table 1. Performance Trends of Micro, Small, and Medium Enterprises (MSMEs)
in the 2016-2018**

Indicator	Data					
	2016	%	2017	%	2018	%
Total MSMEs (in Million)	61.65	99.9 9	62.92	99..99	64.19	99.99
Employment (in Million)	112.89	97.0 4	116.67	97.02	116.98	97.00
GDP at Constant in 2000 Prices (IDR Billion)	5,171,063.6	57.1 7	5,425,414 .7	57.08	5,721,148. 1	57.24
GDP at Current Prices (IDR Billion)	7,009,283.0	59.8 4	7,704,635 .9	60.00	8,573,895. 4	61.07
Non-Oil and Gas Exports (IDR Billion)	255,126.1	14.3 8	298,208.7	14.17	293,840.9	14.37
Investment at Current Prices (IDR Billion)	2,057,972.0	57.8 7	2,236,739 .8	58.18	2,564,549. 5	60.42
Productivity of MSMEs (Per Business Unit) (in Million)	83.88		86.22		89.12	
Productivity of MSMEs (Per Employee) (in Million)	45.83		46.50		48.91	

Source: Ministry of Cooperatives and SMEs (2019)

Persistently grappling with low productivity, Micro, Small, and Medium Enterprises (MSMEs) find themselves entangled in a challenge that impedes their trajectory toward expanding and attaining a more substantial economic scale, as the Ministry of Cooperatives and SMEs pointed out in 2020. The intricacies of this struggle echo through the economic fabric, necessitating a strategic and transformative approach to usher MSMEs into a realm of heightened efficiency and sustainable growth.

In the pursuit of fostering a paradigm shift toward green MSMEs, it becomes imperative to instill a sense of ecological consciousness within these enterprises. This entails steering MSMEs toward the judicious utilization of sustainable resources, thwarting the ominous specter of natural resource exploitation. The significance of this paradigm shift is underscored not only by economic imperatives but also by an overarching commitment to environmental stewardship.

The cultivation of sustainable MSMEs unfolds through the prism of a circular economy approach. This approach intricately interweaves environmental sustainability with economic viability, creating a harmonious symbiosis between profit and the planet. At its core, the circular economy approach mandates optimizing raw materials, prudent stewardship of natural resources such as water and energy, and a comprehensive exploration of all potentials inherent in the MSME ecosystem.

A paramount objective of this approach is to elevate productivity by minimizing waste and maximizing resource efficiency. By championing a closed-loop system, where resources are regenerated and waste is repurposed, MSMEs mitigate their environmental footprint and cultivate a resilient and self-sustaining economic model.

This strategic pivot towards sustainability is not merely a conceptual aspiration but a tangible pathway for MSMEs to recalibrate their operational paradigms. It beckons them to embrace innovation, adopt eco-friendly practices, and forge partnerships that foster responsible resource management. In essence, the development of sustainable MSMEs through the circular economy lens represents a conscientious commitment to economic prosperity and environmental integrity—a testament to the transformative power embedded within the fusion of commerce and conservation.

In the wake of Elkington's groundbreaking elucidation of the "Triple Bottom Line" in 1994, a paradigm shift has unfolded across the business landscape, with major corporations and smaller enterprises embracing sustainable business practices. This conceptual framework posits that genuine sustainability demands the simultaneous pursuit of three overarching objectives: 1) economic viability, 2) social benefits, and 3) environmental responsibility. Central to this ideology is the compelling notion of achieving a harmonious triumvirate. This win-win-win scenario not only bolsters the economic standing of businesses but also generates positive social impact and champions environmental stewardship.

Scholarly discourse on this multifaceted paradigm has burgeoned, as evidenced by the works of Høgevoid et al. (2015), Padin et al. (2016), and Zaharia and Zaharia (2021). These researchers delve into the intricate intersections of economic, social, and environmental considerations within sustainable business practices, offering invaluable insights into the operationalization and impact of the Triple Bottom Line concept.

By championing economic viability, companies strive for profitability, sustained financial health, and resilience. Simultaneously, a commitment to social benefits involves fostering positive relationships with stakeholders, ensuring equitable practices, and contributing to the well-being of communities. Furthermore, environmental responsibility mandates a conscientious approach towards resource utilization, waste reduction, and overall ecological sustainability, underscoring the imperative for businesses to be custodians of the environment.

Therefore, the evolving landscape of sustainable business is characterized by an intricate balancing act, demanding astute managerial acumen and a nuanced understanding of the symbiotic relationships between economic, social, and environmental imperatives. The Triple Bottom Line framework guides businesses towards a holistic and responsible approach that transcends mere profit-making, encapsulating a broader commitment to society's well-being and preserving our planet's delicate ecosystems.

Large enterprises and Micro, Small, and Medium-sized Enterprises (MSMEs) wield considerable influence, not only in commerce but also in shaping the intricate tapestry of economic, social, and environmental landscapes within their operational spheres. This dynamic interplay of factors underscores the profound impact these entities exert on the fabric of their communities, making exploring their cumulative effects a crucial focal point in contemporary discourse on sustainable development (Hamdan, 2021).

At the nexus of this complex web lies the recognition that large enterprises and MSMEs are not merely economic entities but integral components of broader ecosystems. The economic ramifications extend beyond mere financial transactions, creating jobs, income distribution, and overall wealth generation. Concurrently, the social footprint of these entities is discernible in the relationships they forge with diverse stakeholders—employees, customers, suppliers, and the local community at large. In essence, they become societal actors, influencing cultural norms and social dynamics and contributing to the overall well-being of the communities in which they operate.

Environmental repercussions, too, are inherent in the operational footprint of these enterprises. From resource consumption to waste generation and emissions, their activities can significantly impact the ecological balance of their surroundings. Therefore, the pursuit of sustainable practices is not only a strategic imperative but an ethical responsibility for both large enterprises and MSMEs.

The significance of these impacts amplifies in the areas where these businesses choose to establish their production facilities or offer their products and services. Localized economies are intimately intertwined with the fortunes of these enterprises, and the degree of responsibility exercised in managing economic, social, and environmental impacts becomes pivotal for fostering sustainable development on a regional scale.

Hamdan (2021) underscores the urgency of scrutinizing and understanding these cumulative effects. As businesses navigate the intricate terrain of their societal and environmental responsibilities, a nuanced comprehension of the interdependencies and potential synergies between economic, social, and environmental dimensions is essential. This holistic perspective positions enterprises as contributors to economic growth and as stewards of social harmony and custodians of environmental integrity, thereby forging a path toward a more sustainable and resilient future.

The pivotal role of Green Micro, Small, and Medium-sized Enterprises (MSMEs) in the intricate nexus of economic growth and sustainability stands as a linchpin in contemporary discourse on responsible business practices (Alessandro, Maski, & Pangestuty, 2023; Pangarso, Sisilia, Setyorini, Peranginangin, & Awirya, 2022; Surya et al., 2021). This recognition emanates from a poignant acknowledgment that when left unchecked, conventional business activities often constitute a primary driver of environmental degradation, underscoring the imperative for a paradigm shift towards more environmentally conscious and sustainable business models (Sarango-Lalangui, Santos, & Hormiga, 2018).

The distinctive essence of Green MSMEs lies in their unwavering commitment to redress this imbalance. By intertwining environmental considerations into the fabric of their operations, they emerge as stalwarts in the quest for a more sustainable economic landscape. As noted by Saptaria et al. (2022), these enterprises transcend the conventional profit-driven narrative, assuming the mantle of catalysts for harmonious coexistence between human endeavors and the delicate balance of nature.

The crux of this motivation stems from the acknowledgment that the actions of businesses are not divorced from their broader societal and ecological contexts. Green MSMEs, therefore, embody a proactive approach that mitigates their environmental footprint and actively nurtures a synergy wherein human activities and natural ecosystems coalesce harmoniously. In this dynamic equilibrium, these enterprises become agents of positive change, fulfilling immediate economic objectives, broader societal needs, and environmental imperatives.

The symbiotic relationship between Green MSMEs and their surrounding ecosystems engenders a harmonious alignment that extends beyond the present generation. The ethos of sustainability inherent in their operations transcends temporal boundaries, catering to the needs of both current and future generations. This farsighted perspective is crucial in an ever-evolving global landscape, where the quest for sustainable development necessitates a delicate balance between economic prosperity, societal well-being, and environmental resilience.

In essence, the narrative surrounding Green MSMEs is a narrative of transformative potential—a narrative wherein economic growth is not at odds with environmental stewardship but rather intricately interwoven. The amalgamation of social, economic, and environmental considerations in the operational ethos of these enterprises signifies a paradigmatic shift towards a more holistic and sustainable trajectory for the benefit of current and posterity.

In the unique context of Indonesia, the pivotal role assumed by Green Micro, Small, and Medium-sized Enterprises (MSMEs) in the trajectory of green economic growth takes on heightened significance. These enterprises stand as flag bearers of a paradigm that transcends mere economic considerations, aligning themselves with the overarching goals of green economic growth—a holistic approach that conscientiously integrates environmental and social imperatives with economic pursuits (Ebrahimi & Mirbargkar, 2017; Koirala, 2019). This distinctive ethos positions MSMEs as economic entities and integral contributors to realizing a green economy and sustainable development.

Central to this discourse is the recognition that MSMEs, when operating through a green lens, emerge as potent solutions in navigating the complex terrain of green economic growth. Their nimble and adaptive nature allows them to be responsive to the intricacies of environmental stewardship and societal well-being. Consequently, the contributions of these enterprises extend beyond the conventional realms of economic development, encompassing a nuanced engagement with social and environmental issues that often languish in the peripheries of consideration.

This study's specific focus of inquiry pertains to unraveling the operational intricacies of the green MSME model within the Bangka Belitung Islands Province. This geographical specificity introduces a layer of context and nuance, acknowledging the unique challenges and opportunities inherent in the local milieu. The research problem crystallizes around the *modus operandi* of these enterprises, seeking to understand how they navigate the intricate interplay of economic, social, and environmental dimensions. Furthermore, the study adopts the Value Chain Analysis method as a robust analytical tool, delving into the sequential stages of the green MSME model to unravel its dynamics and impacts comprehensively.

This research aims to illuminate the 'what' and the 'how' of green MSMEs in a specific geographic context. By delving into the operational intricacies and employing a systematic analytical framework, it aspires to contribute valuable insights that can inform policies, strategies, and best practices for fostering green economic growth and sustainable development in the Bangka Belitung Islands Province and potentially serve as a blueprint for analogous regions grappling with similar challenges and aspirations.

LITERATURE REVIEW

Green MSMEs

Micro, Small, and Medium-sized Enterprises (MSMEs) emerge as a pivotal solution for fortifying and elevating the Indonesian economy, a narrative substantiated by the works of Adrian (2019), Anshari & Almunawar (2022), and Arie & Fikry (2021). The inherent resilience and adaptability of MSMEs, underscored by Suwarni & Handayani (2021), position them as formidable players capable of weathering economic storms and swiftly responding to dynamic market conditions.

In the legislative context, the Republic of Indonesia Law Number 20 of 2008 meticulously delineates Micro Enterprises as productive entities owned by individuals or individual business entities, adhering to specific criteria as outlined in the law (Candraningrat, Abundanti, Mujiati, Erlangga, & Jhuniantara, 2021; Goenadhi, Utami, Usman, Prayoga, & Rahmiati, 2023). This legal framework is a foundation for understanding and categorizing these enterprises, emphasizing their significance in the national economic tapestry.

A distinctive subset within the MSME domain, Green MSMEs or Green SMEs, assumes a dual role as economic contributors and environmental stewards. Research by Gunawan, Asyahir, and Sidjabat (2020), Kiranantawat and Ahmad (2022), and Verma and Nema (2019) accentuates the potential of Green MSMEs in mitigating pollution emissions and fostering a cleaner environment. The Department of MSME Development and Consumer Protection of Bank Indonesia, as of 2022, defines Green MSMEs as entities that not only espouse the green business concept but also manifest this commitment through the development of green processes and outputs. Their adherence to sustainability principles and circular economic value chains underscores a holistic approach to achieving economic, social, and environmental objectives (VOI, 2022).

The operationalization of the green business concept by Green MSMEs unfolds across diverse facets, encompassing production, marketing, human resources, and finance. Indicators within these realms serve as benchmarks, reflecting the commitment of these enterprises to environmental responsibility and sustainable business practices. Green MSMEs navigate the delicate balance between economic pursuits and environmental conservation as catalysts for change, embodying a transformative paradigm that aligns profit motives with ecological and social imperatives.

In this evolving landscape, the narrative of MSMEs, especially the green variant, transcends conventional economic discussions, weaving together threads of resilience, legal frameworks, and environmental stewardship. As contributors to economic growth and champions of sustainable practices, these enterprises stand poised at the intersection of economic viability, environmental responsibility, and societal well-being, symbolizing a potent force in shaping Indonesia's more balanced and sustainable future.

Green MSME Indicators

The classification of an MSME as green or sustainable hinges on its adept navigation of a delicate equilibrium among economic, social, and ecological dimensions, as expounded by Orth and Kohl (2013). Delving into the specifics, Renaldo et al. (2022) delineate economic indicators that pivot on the enterprise's economic feasibility. These indicators encapsulate the company's financial health, viability, and overall economic sustainability, establishing a critical foundation for its green credentials.

The social dimension of sustainability, as outlined by Renaldo et al. (2022), entails a multifaceted responsibility. It spans the company's commitment to operational environmental concerns, considerations for the welfare of employees and the broader community, adherence to human rights, and a nuanced evaluation of social impacts. This social facet underscores the intricate interplay between business operations and their broader societal implications, transcending profit-oriented perspectives to embrace a more holistic ethos.

In tandem, environmental indicators wield paramount importance in gauging an MSME's green or sustainable nature. As Maria, Góis, and Leitão (2020) articulated, these indicators delve into the company's impact on natural systems, encompassing a spectrum of metrics. The availability of renewable energy resources at the business unit location, assessment of global warming potential, scrutiny of potential solid waste, and evaluation of the density of final disposal sites constitute pivotal parameters. This comprehensive approach reflects the depth with which environmental considerations are integrated into the operational fabric of a green MSME.

Furthermore, as posited by Sarango-Lalangui, Santos, and Hormiga (2018), environmental indicators often manifest in per-product or per-production unit impact assessments. This granular scrutiny facilitates a nuanced understanding of the specific environmental implications associated with each facet of the business, fostering a targeted approach toward mitigating environmental harm.

The journey towards being a green or sustainable MSME traverses a multifaceted landscape. It involves a meticulous balancing act among economic viability, social responsibility, and ecological stewardship. By adhering to and measuring against these diverse indicators, MSMEs can enhance their green credentials and contribute substantively to a more sustainable and harmonious coexistence with the environment, society, and the economy.

Value Chain Analysis

Within the preliminary contours of the existing literature, a discernible gap emerges in applying value chain analysis to Micro, Small, and Medium-sized Enterprises (MSMEs) through an environmentally friendly and sustainable lens. The absence of studies delving into this specific intersection prompts a critical examination of pertinent theories and findings that have not explicitly introduced the concept of green MSMEs (refer to Figure 1).

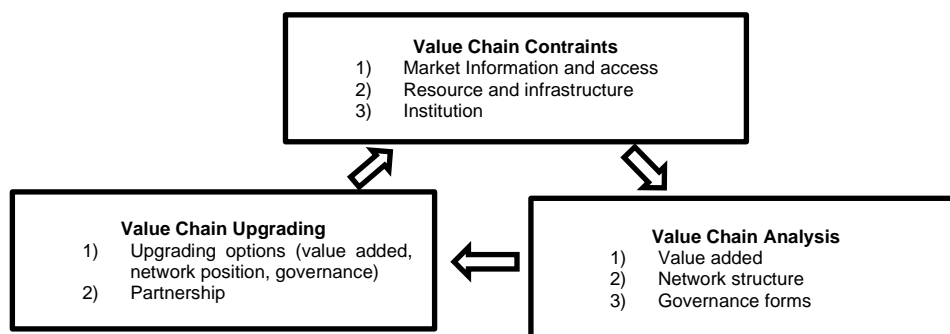
Value chain analysis, as a theoretical framework, traditionally elucidates the processes and activities involved in creating, delivering, and capturing value within a business. It has been a stalwart analytical tool in various sectors, offering insights into how businesses operate and create value. However, this analysis's environmentally friendly and sustainable dimensions have been somewhat overlooked in the context of MSMEs.

In this context, theories and findings about value chain analysis are brought to the fore with a nuanced lens that considers the environmental impact and sustainability practices. The aim is to lay the foundation for a more comprehensive understanding of how value chains can be scrutinized and optimized within the context of MSMEs while embracing green principles.

Figure 1, as depicted, serves as a visual guide to orient the audience toward the specific theories and findings discussed in this literature review. It encapsulates a roadmap for navigating the intricacies of value chain analysis in the context of MSMEs, delineating key touchpoints that warrant attention in the discourse of environmentally friendly and sustainable business practices.

As the narrative unfolds, the intent is not only to bridge the existing gap in literature but also to instigate a broader conversation around the incorporation of green principles within the operational frameworks of MSMEs. By merging the established foundations of value chain analysis with an eco-conscious approach, this exploration seeks to propel the discourse toward a more holistic understanding of how MSMEs can optimize their value chains in an economically viable, socially responsible, and environmentally sustainable manner.

Figure 1. Value Chain Analysis



Source: (Trienekens, 2011)

RESEARCH METHOD

Study Duration and Activities

The study is planned to be conducted over four months. The activities to be undertaken during this timeframe include literature review, in-depth interviews, Focus Group Discussions, surveys, data processing, analysis, and reporting of study results. MSME respondents will be purposively selected, representing the food processing and craft sectors.

Qualitative Descriptive Analysis

The research method employed is qualitative descriptive analysis (Creswell & Creswell, 2017), which encompasses various components such as literature review: A comprehensive review of relevant literature; explanations of Field Findings: Presentation of field findings in the form of descriptive tabulated data and information; argumentation based on previous research: Building arguments based on prior research exploration; value chain analysis: A value chain analysis is conducted to map each primary and support activity process; green MSME business model: The analysis of the green MSME business model refers to the Koirala Business Model (2019), which has been modified to classify it into four stages.

Data Collection Techniques

Data collection techniques used to address each objective in this study include literature review, in-depth interviews, Focus Group Discussions (FGD), and surveys. The method used in this research is a qualitative descriptive method that includes explanations of field findings presented in the form of qualitative data and information.

Table 2. Respondents from Green MSMEs in Bangka Belitung Islands Province

No	MSME Name	Business Types
1	Akhliya	Small-scale food production
2	Kemplang 3 Nanda	
3	Sirup Jeruk Kunci (MIRRANDO)	
4	Madu Asyifa	
5	CV Cahaja Ekspor Babel	
6	Djamu Melayu	
7	Chibi Snack	
8	Bahek Ewaki	
9	CV. Getas Tani	
10	Keripik Cumi Nina	
11	Ishadi Cual	Small-scale textile handicrafts
12	PT. Central Charcoal Babelindo	
13	35Hesca Deoupage Art	
14	Deshanda	
15	B. Eco Handmade	

Value Chain Analysis

The survey results, obtained from MSME respondents under the supervision of the Customs and Excise Office of Type Madya Pabean C Pangkalpinang, and benchmarks selected from the food processing and craft sectors will be analyzed using Value Chain Analysis. This analysis maps every activity process of MSMEs from upstream to downstream, categorized as primary and support activities, while examining the margin/profit at each link in the chain.

Green MSME Business Model Development

The development of the Green MSME business model is based on the framework by Koirala (2019) with modifications. Utilizing value chain analysis, Koirala classified Green MSMEs into three stages: eco-adopter, eco-entrepreneur, and eco-innovator. In this research, an additional stage, eco-traditional, has been introduced. The definitions of these four stages are as follows:

Eco-traditional

Traditional MSME entrepreneurs practicing environmentally friendly business models from the beginning may not be aware that their actions support a green economy.

Eco-adopter

MSME entrepreneurs who adopt environmentally friendly practices but do not necessarily prioritize sustainability in their business model.

Eco-entrepreneur

MSME entrepreneurs who have adopted environmentally friendly practices, integrated sustainability into their business model, and can tap into "green market" opportunities.

Eco-innovator

MSME entrepreneurs, as eco-entrepreneurs, who have implemented eco-innovations (both technological and non-technological) to enhance production, processes, marketing, organization, business practices, and external relationships to reduce environmental impact.

Integration with Green MSME Framework

The business model (Koirala, 2019) and value chain analysis are integrated with proposed improvements from the pillars of the Green MSME framework. These pillars encompass environmental-friendliness implementation, the circular economic value chain, and green financial inclusion. Each pillar is implemented in four key business aspects: production, marketing, human resources, and finance. The classification of Green MSMEs into eco-traditional, eco-adopter, eco-entrepreneur, and eco-innovator stages is determined by examining the percentage of the highest value in meeting the indicators for each stage. In summary, the classification is as follows. First, fulfilling eco-traditional green indicator aspects > eco-adopter > eco-entrepreneur and eco-innovator > eco-traditional. Second, fulfilling eco-adopter green indicator aspects > eco-traditional > eco-entrepreneur and eco-innovator > eco-adopter. Third, fulfilling eco-entrepreneur green indicator aspects > eco-adopter > eco-entrepreneur and eco-innovator > eco-entrepreneur. Last, fulfilling eco-innovator green indicator aspects > eco-traditional > eco-adopter and eco-entrepreneur > eco-innovator.

RESULT

Based on literature reviews, best practices, and considering Indonesia's conditions, a proposed policy framework for the development of Green MSMEs includes the following components.

The Vision of the Green MSME Development Policy

The vision of the Green MSME Development Policy is to foster Green MSMEs that grow and support sustainable economic development.

The Mission of the Green MSME Development Policy

The mission of the Green MSME Development Policy encompasses. First, enhancing the adoption of environmentally friendly practices and zero waste. Second, promoting the implementation of circular economy principles. Third, improving access to financing. Fourth, achieving greater economic efficiency.

Key Pillars of Green MSME Development Policy

The key pillars of the Green MSME Development Policy comprise as follows. First, implementation of environmentally friendly practices. Second, adoption of circular economic value chain principles. Third, promotion of green financial inclusion.

Supporting Pillars Derived from Vision and Mission

Supporting pillars derived from the vision and mission are translated into four policy strategies for the development of Green MSMEs, which include: business model development, replication, digitalization, reporting, synergy and coordination.

Five Fundamental Principles Guiding Policy Strategies

Five fundamental principles underpinning policy strategies are: sustainability, inclusivity, innovation, efficiency, and empowerment.

The Green MSME business model is classified based on green practices implemented within the value chain, with a modification of Koirala's (2019) Green MSME concept.

Green practices conducted by Green MSMEs are categorized into three stages: (i) Eco-traditional, (ii) Eco-adaptor, (iii) Eco-entrepreneur, and (iv) Eco-innovator. Green MSMEs are evaluated based on various green indicators encompassing aspects such as (i) production, (ii) marketing, (iii) human resources, and (iv) finance, corresponding to their respective stages. These green indicators may include both mandatory and complementary aspects.

The determination of a Green MSME's stage, whether it belongs to eco-traditional, eco-adaptor, eco-entrepreneur, or eco-innovator, is made by assessing the percentage of the highest value in meeting the indicators for each stage. For instance, if a Green MSME predominantly fulfills aspects of the eco-traditional level in green indicators compared to eco-adaptor, eco-entrepreneur, and eco-innovator, it is categorized as an eco-traditional stage. Similarly, if a Green MSME predominantly fulfills aspects of the eco-adaptor level in green indicators compared to the other stages, it is classified as an eco-adaptor. This process continues, with a Green MSME being classified as an eco-entrepreneur if it predominantly meets aspects of the eco-entrepreneur level compared to the other stages. Finally, at a higher stage, if a Green MSME predominantly fulfills aspects of the eco-innovator level in green indicators compared to the other stages, it is classified as an eco-innovator.

The meticulous mapping endeavor undertaken to discern the landscape of Green Micro, Small, and Medium Enterprises (MSMEs) among the 15 sample respondents has unveiled a rich tapestry of eco-conscious entrepreneurship. Within the food processing sector domain, the categorization at different stages of environmental engagement showcases a diverse spectrum of green initiatives.

Embarking on the eco-traditional stage, notable enterprises such as Akhliya, Kemplang 3 Nanda, Madu Asyifa, Chibi Snack, and Bahek Ewaki emerge as torchbearers of sustainable practices in the food processing arena. These entities adhere to traditional ecological norms and infuse innovation to align their operations with environmentally friendly principles.

Transitioning to the eco-adaptor stage, CV Cahaya Ekspor Babel and Djamu Melayu exemplify adaptability in the food processing landscape. Their conscious efforts to adapt and integrate green practices highlight a commitment to evolving in tandem with eco-friendly imperatives.

The eco-entrepreneur stage, a pinnacle of sustainable entrepreneurship, showcases the prowess of Sirup Jeruk Kunci (MIRRANDO), CV Getas Tani, and Keripik Cumi Nina. These enterprises don the mantle of eco-entrepreneurs, exemplifying a profound dedication to environmental responsibility while navigating the complexities of the business landscape.

Beyond food processing, the textile craft sector witnesses the emergence of eco-entrepreneurs and eco-innovators. At the eco-entrepreneur stage, Ishadi Cual and PT Central Charcoal Beblindo carve a niche, exemplifying the fusion of textile craftsmanship with a commitment to environmental stewardship. Meanwhile, the eco-innovator stage features avant-garde entities such as 35Hesca Decoupage Art, Deshanda, and B. Eco Handmade. These pioneers are not content with adherence to established green norms; they actively innovate and push the boundaries, setting new standards for environmental responsibility within the textile craft domain.

The comprehensive mapping of Green MSMEs among the sample respondents provides a nuanced understanding of the varied stages and sectors where eco-conscious entrepreneurship thrives. These enterprises are not merely participants in the market; they are trailblazers, embodying the ethos of sustainable business practices and carving a path toward a greener, more resilient economic landscape.

Their operational value chain reflects the four aspects of production: marketing, resources, and finance. Value chain analysis maps out every green MSME activity process from upstream to downstream, categorizing them into primary and support activities. Based on the existing green practices of Green MSMEs, critical points in green practices were identified based on ideal green indicators. The existing conditions indicate variations in the challenges Green MSMEs face in their respective stages of green practice. The identification results in the Green MSME ecosystem, in general, reveal critical points in the primary activities value chain, specifically in marketing, sales, and operation. Meanwhile, the critical support activities value chain points are human resource management and technology development.

DISCUSSION

Referring to the latest format changes by Bank Indonesia, adjustments have been made to the design framework of the Green MSME development policy. The proposed new format includes a change in the top position of the Green MSME development framework, which has become the vision of Green MSMEs that grow and support sustainable economics. To achieve this vision, the Green MSME development framework has four missions such as enhancing the implementation of environmentally friendly and zero waste practices, enhancing the application of the circular economy, increasing access to financing, and achieving a more efficient economy.

Furthermore, to realize these visions and missions, there are three main pillars of support such as environmental-friendliness implementation, implementation of the circular economic value chain, and green financial inclusion. Expanding on the supporting pillars of vision and missions, there are four policy development strategies for Green MSMEs: business model development, replication, digitalization, reporting, synergy and coordination. In implementing these policy strategies, five fundamental principles are the foundation: sustainability, inclusiveness, innovation, efficiency, and empowerment. Generally, a green business is committed to environmental sustainability principles in its operations, striving to use renewable resources and minimize negative environmental impacts (Bernardo & Ramli, 2023; Ekahe & Uwameiye, 2019).

Strategies for Green MSME Development and Green Business Model Development

A business is deemed green if it meets four criterias: (1) it applies sustainable principles in every business decision, (2) it offers environmentally friendly products/services that replace the demand for environmentally unfriendly products and services, (3) it is more environmentally friendly than its competitors, and (4) it has a commitment and adheres to environmental principles in its business operations (Suyatna, Santosa, Naryono, & Wibowo, 2018).

Suyatna, Santosa, Naryono, and Wibowo (2018) defined green entrepreneurs as individuals who perceive environmental issues as business opportunities and seek innovation and exploitation. Meanwhile, Pastakia (1998), as cited in (Ljungkvist & Andersén, 2021), classified two types of ecopreneurs. First, environmentally conscious entrepreneurs develop various innovations (products, services, processes) that reduce

resource usage and environmental impact or enhance cost efficiency while moving towards zero waste targets. Second, green entrepreneurs are equally aware of environmental issues and whose business endeavors are centered on the environmental market. Such entrepreneurs pursue environmentally-focused opportunities that show good profit prospects.

CONCLUSION

The Green MSME Business Model in the Bangka Belitung Islands province is classified based on green practices implemented in the value chain, modifying the Green MSME concept by Koirala (2019). Green practices carried out by Green MSMEs are classified into four categories: (i) Eco-traditional, (ii) Eco-adaptor, (iii) Eco-entrepreneur, and (iv) Eco-innovator. The research determines Green MSMEs in four stages of green practices by observing the highest percentage of indicator fulfillment in each stage. The top-ranked Green MSME is PT. Charcoal Babelindo because, besides having high sales potential, it has already implemented environmentally friendly Green MSME practices. Other Green MSMEs that have adopted these practices include B. Eco Print and CV. Cahaya Ekspor Babel. Other MSMEs have not yet achieved the Green MSME or Export-Ready MSME status.

In their operations, aspects of production, marketing, human resources, and finance are reflected in the value chain. The value chain analysis maps each green MSME's activity processes from upstream to downstream, categorized as primary and support activities. Based on the existing conditions of Green MSMEs' green practices, critical points in green practices were identified based on ideal green indicators. The existing conditions show variations in the constraints Green MSMEs face in their green practices, depending on their respective stages. The results of the identification in the MSME ecosystem generally show critical points in the primary activities of the value chain, namely marketing, sales, and operations. Meanwhile, in the support activities of the value chain, the critical points are human resource management and technology development.

LIMITATION

The limitations of this research include conducting the study in the province of Bangka Belitung Islands, focusing on 15 MSMEs under the supervision of the Customs and Excise Office of Type Madya Pabean C Pangkalpinang, and the research being conducted during the period from May to August 2023.

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