

Innovating Sustainable Entrepreneurship through Circular Economy: A Collaborative Model for Coffee SMEs in Labuan Bajo

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Abstract

The development of sustainable entrepreneurship has become an important strategy to enhance the competitiveness of Small and Medium Enterprises (SMEs), particularly in the coffee sector, which holds significant potential in the tourism area of Labuan Bajo. This community service program focuses on entrepreneurship innovation based on the circular economy through a collaborative model involving the partner SME, Databajo Coffee. The approach aims to optimize the efficient use of resources, reduce coffee production waste, and create added value from coffee by-products such as coffee grounds and coffee husks (cascara).

The implementation methods include: (1) dissemination of circular economy concepts and sustainable entrepreneurship; (2) training on product innovation from coffee waste; (3) business management and digital marketing assistance; and (4) the development of collaborative networks with local communities, universities, local governments, and tourism stakeholders. The results show an increase in the entrepreneurial capacity of the partner in adopting environmentally friendly practices, diversifying products, and expanding market access through sustainable tourism promotion in Labuan Bajo.

Through this program, Databajo Coffee not only improved its business performance but also contributed to the development of the local circular economy. Thus, this collaborative model can serve as a best practice that may be replicated by SMEs in the coffee sector as well as in other sectors within sustainable tourism destinations.

Keywords: *sustainable entrepreneurship, circular economy, coffee SMEs, collaboration, Labuan Bajo.*

INTRODUCTION

Labuan Bajo, as one of Indonesia's super-priority tourist destinations, holds significant potential for the development of the creative economy sector, including small and medium enterprises (SMEs) in the coffee industry. Empowering SMEs is one of the government's alternative strategies to reduce unemployment, alleviate poverty, and promote equitable income distribution (Sulaeman et al., 2022). The development and growth of SMEs are crucial as drivers of national economic growth. To achieve effective SME empowerment, the active roles of communities, universities, local governments, and tourism stakeholders are required.

Coffee-based SMEs not only contribute to improving the welfare of local communities but also support tourism branding rooted in local wisdom. Nevertheless, coffee SMEs in this region face several challenges, including limited product innovation, inefficient waste management, and underdeveloped sustainability-oriented marketing strategies. Coffee by-products such as spent grounds and cascara (coffee husks) are often underutilized, despite their potential added value.

According to the Ellen MacArthur Foundation (2019), the circular economy concept can transform waste into new resources, thereby creating a sustainable production cycle. Furthermore, Schaltegger, Hansen, and Lüdeke-Freund (2016) emphasize that sustainable business models should simultaneously generate economic, environmental, and social value. Therefore, adopting a circular economy through a collaborative model is considered relevant to the development of entrepreneurial practices within coffee SMEs.

Moreover, implementing circular economy principles in coffee SMEs aligns with

broader sustainable development agendas. The Indonesian Ministry of Tourism and Creative Economy (2022) underscores that developing super-priority tourist destinations must be consistent with environmentally friendly practices to avoid resource degradation. Thus, adopting a collaborative model based on circular economy principles is expected not only to strengthen the competitiveness of coffee SMEs but also to contribute to the achievement of the Sustainable Development Goals (SDGs), particularly Goal 12 on responsible consumption and production.

The involvement of multiple stakeholders is a key factor in successfully implementing sustainable innovations for coffee SMEs. Universities contribute through knowledge and technology transfer, local communities serve as drivers of grassroots participation, local governments provide policy support, and tourism actors act as market linkages. Such cross-sector collaboration is essential because the challenges faced by SMEs cannot be addressed through a single approach (Schaltegger et al., 2016).

In the context of Labuan Bajo, the presence of the partner SME, Databajo Coffee, exemplifies the potential for developing entrepreneurship based on circular economy practices. Through this community service program, Databajo Coffee is expected to optimize coffee by-products into value-added products, expand its market network through digitalization, and contribute to strengthening sustainable tourism branding. Accordingly, this empowerment effort not only provides economic benefits for the partner but also creates broader social and environmental impacts.

Several previous studies and community service projects have highlighted the importance of developing sustainable coffee SMEs. For instance, Rahmawati and Santosa

(2021) found that coffee SMEs in Central Java have begun to adopt value-added approaches through product diversification but still face constraints in waste management. Similarly, Nurhadi et al. (2020) reported that environmental entrepreneurship training improved SME actors' awareness of managing coffee waste, yet it did not fully address cross-sectoral collaboration.

Community service activities conducted by Setiawan and Pratiwi (2021) in Bali focused on strengthening the digital marketing capacity of coffee SMEs, which successfully increased sales but did not integrate circular economy principles into business development. Meanwhile, Susanto et al. (2022) emphasized the importance of synergy among universities, communities, and local governments in supporting SMEs, though their implementation remained limited to production enhancement without systematic waste utilization.

From these studies, a research and service gap can be identified, namely the implementation of a collaborative model based on circular economy principles for coffee SMEs in super-priority tourist destinations. This approach emphasizes not only product and marketing innovation but also the transformation of coffee waste into new resources and the integration of multi-stakeholder collaboration. Therefore, the community service program with Databajo Coffee in Labuan Bajo introduces a novelty by applying circular economy principles within a collaborative framework, while simultaneously supporting sustainable tourism development.

METHOD

Based on the identified problems, a problem-solving approach was designed through the following methods:

Table 01. Input–Process–Output–Outcome Framework

Input	Process	Output	Outcome
a. Concepts of circular economy and sustainable entrepreneurship. b. Commitment from	a. Socialization and Alignment of Perspectives b. Introduction of concepts.	Shared understanding of circular economy and sustainability principles within Databajo Coffee.	Increased awareness and readiness of partner to adopt sustainable business practices.

a. Socialization and Alignment of Perspectives

This stage involved introducing the concepts of circular economy and sustainable entrepreneurship, followed by an interactive discussion with the owner of Databajo Coffee to map business potentials, challenges, and opportunities.

b. Training and Product Innovation

Training sessions were conducted on the processing of coffee waste into value-added derivative products, such as producing organic fertilizer from coffee grounds and preparing cascara-based herbal beverages. These activities were complemented by a workshop on eco-friendly packaging design to enhance the market appeal of the products.

c. Business Management and Marketing Assistance

Assistance was provided for the preparation of a sustainability-based business plan and digital marketing strategies. This included guidance on the use of social media, online marketplaces, and tourism-oriented promotional channels specific to Labuan Bajo.

d. Development of Collaborative Networks

Collaborative linkages were facilitated between Databajo Coffee, local communities, local government, tourism stakeholders, and academia. A key activity was the guest lecture delivered by Assoc. Prof. Dr. Sakinah Mohd Shukri from the Management and Science University, Malaysia, presented strategies for building distribution networks and promoting sustainable coffee products within the tourism market.

The following is a detailed method with the Input–Process–Output–Outcome Framework:

Databajo Coffee owner. c. Expertise of PKM team.	c. Interactive discussion to map potentials, challenges, and opportunities.		
a. Coffee waste (coffee grounds, cascara). b. Training materials and facilities. c. Packaging design resources.	a. Training and Product Innovation b. Training on processing coffee grounds into organic fertilizer. c. Training on cascara herbal drink production. d. Workshop on eco-friendly packaging.	Prototype products: organic fertilizer and cascara herbal drinks. Eco-friendly packaging designs.	Diversification of products with added value and stronger market appeal.
a. Business management tools. b. Digital marketing platforms (social media, marketplace).	a. Business Management and Marketing Assistance b. Development of sustainability-based business plan. c. Training on digital marketing and promotion through Labuan Bajo tourism channels.	Draft of business plan. Digital marketing content and online marketplace presence.	Improved business capacity in planning, management, and market expansion.
a. Support from local communities, local government, tourism actors, and academia. b. Expert input from MSU Malaysia.	a. Development of Collaborative Networks. b. Guest lecture on sustainable coffee distribution and promotion. c. Facilitation of networking among stakeholders.	Established collaborative networks between Databajo Coffee and local/national stakeholders.	Stronger institutional support and expanded distribution networks for sustainable coffee products.
a. Partnership with Politeknik El Bajo Commodus. b. Mentoring schedule (biweekly).	a. Ongoing Mentoring and Assistance. b. Regular mentoring sessions every two weeks. c. Problem-solving and consultation for business development.	Sustained guidance and solutions to overcome production and management challenges.	Long-term business sustainability and improved resilience of Databajo Coffee as a role model in circular economy.

RESULT AND DISCUSSION

The implementation of community service activities has produced several important achievements that have had a direct impact on the development of Databajo Coffee's business. First, there has been an increase in entrepreneurial capacity through a deeper understanding of sustainable entrepreneurship concepts and the application of circular economy principles in business activities. The partners not only understand the importance of sustainability but have also begun to integrate it into their production practices and business management. Second, product innovation has been realized through the diversification of coffee-derived products, including organic fertilizer made from coffee grounds and herbal cascara tea. This diversification expands the business portfolio while simultaneously opening new potential market opportunities, both at the local level and as signature souvenirs in tourism areas.

Furthermore, in terms of digital marketing, Databajo Coffee has begun to actively utilize social media and various digital platforms for promotional purposes. Product visual content is presented more attractively, accompanied by narratives that emphasize sustainability values, thereby increasing consumer appeal. Another important achievement is the establishment of collaboration and networking with local tourism communities. This collaboration creates opportunities for marketing coffee products and their derivatives as part of souvenir packages from Labuan Bajo, while strengthening the identity of local coffee in supporting sustainable tourism. These outcomes demonstrate that the application of circular economy principles can serve as an effective strategy for enhancing the competitiveness of coffee SMEs, particularly in super-priority tourist destinations such as Labuan Bajo.

From an environmental sustainability perspective, the adoption of circular economy practices through the utilization of coffee waste into value-added products has proven effective in reducing potential pollution. Coffee grounds, which were previously discarded, are now

processed into organic fertilizer that can be used by the local community and the surrounding agricultural sector. Similarly, coffee husks (cascara), which are often underutilized, have been transformed into herbal beverages with significant health and economic value. This finding aligns with the Ellen MacArthur Foundation (2019), which states that the circular economy not only reduces waste but also creates opportunities for environmentally friendly product innovation. Thus, this community service program has generated dual impacts: increasing income while simultaneously preserving environmental sustainability.

From a socio-economic perspective, the program has fostered collective awareness among partners and local communities regarding the importance of collaboration in business development. The involvement of tourism communities, universities, and local governments has formed a supportive ecosystem that strengthens the competitiveness of Databajo Coffee. This is consistent with the view of Schaltegger, Hansen, and Lüdeke-Freund (2016), who emphasize that sustainable business models must be capable of creating both economic and social value. With collaborative networks, partners no longer operate independently but become part of a broader sustainable tourism value chain.

From a marketing standpoint, the digital strategies developed have shown significant improvements in terms of promotional reach and consumer engagement. Social media has been used not only as a promotional tool but also as a medium for building a sustainability-based brand identity. The consistent sustainability narrative has proven to attract consumer interest, particularly among tourists who are increasingly concerned about environmentally friendly products. This condition reinforces the findings of Ismail et al. (2021), who highlight the importance of digital marketing in expanding market access for SMEs in the era of digital transformation. Therefore, Databajo Coffee has considerable opportunities to broaden its market share while

strengthening its position as a representation of Labuan Bajo's local coffee.



Picture 01. Expert input from MSU Malaysia presented strategies for building distribution networks and promoting sustainable coffee products within the tourism market.

The following is documentation during community service activities:



Picture 02. Development of Collaborative Networks



Picture 03. Business Management and Marketing Assistance



Picture 04. Training on digital marketing and promotion through Labuan Bajo tourism channels.



Picture 05. discussion during community service activities



Picture 06. Positive response from partners regarding the implementation of community service

Table 02. Comparison of Conditions Before and After the Program (Databajo Coffee)

Aspect	Before the Program	After the Program
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Entrepreneurial Capacity	Limited knowledge of sustainable entrepreneurship; no understanding of circular economy.	Improved capacity and understanding of sustainable entrepreneurship; implementation of circular economy principles in business practices.
Product Innovation	Only sold roasted coffee beans and ready-to-drink coffee.	Product diversification achieved: organic fertilizer from coffee grounds, cascara tea, and coffee-based beauty products.
Digital Marketing	Marketing was limited to word of mouth and direct sales without digital media utilization.	Active digital promotion through social media and marketplace platforms, with attractive visual content and sustainability narratives.
Collaboration and Networking	Collaboration with local communities and tourism actors had not yet been established.	Established collaboration with local tourism communities and supported promotion of coffee products as Labuan Bajo souvenirs.

CONCLUSION

The community service program has successfully strengthened the business capacity of Databajo Coffee by integrating sustainable entrepreneurship principles and circular economy practices into production and management. Product diversification, such as organic fertilizer from coffee grounds and cascara herbal tea, demonstrates how waste can be transformed into marketable innovations that enhance competitiveness while reducing environmental impact. At the same time, the adoption of digital marketing strategies has expanded promotional reach, built a strong sustainability-oriented brand identity, and increased consumer engagement, particularly among environmentally conscious tourists.

Moreover, the establishment of collaborative networks involving local communities, universities, and government institutions has created a supportive ecosystem that positions Databajo Coffee as part of the wider sustainable tourism value chain in Labuan Bajo. These achievements affirm that circular economy approaches, combined with digital transformation and multi-stakeholder collaboration, provide an effective pathway for

strengthening SME competitiveness in super-priority tourist destinations while simultaneously delivering economic, social, and environmental benefits.

The experience of Databajo Coffee offers valuable lessons for other SMEs operating in the coffee sector and broader sustainable tourism industries. First, integrating circular economy principles into business operations enables SMEs to minimize waste while generating new revenue streams through innovative by-products. Second, embracing digital marketing enhances visibility and market access, especially in tourism destinations where consumer preferences increasingly align with sustainability values. Third, fostering collaborations with local stakeholders—such as communities, academic institutions, and government bodies—creates a strong ecosystem that amplifies both economic resilience and social legitimacy. These strategies can be replicated or adapted by SMEs in similar contexts to improve competitiveness and ensure long-term sustainability.

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