

ENVIRONMENTALLY SUSTAINABLE BUSINESS MODEL FOR CULINARY MSME'S IN EAST JAVA COASTAL TOURISM AREAS

Irira Chrisyanti Dewi^{1*}, Fabiola Leoparjo², Kristian Agung Nugraha³

School of Culinary, Food Technology & Tourism, Universitas Ciputra Surabaya, Indonesia

E-mail: irra.dewi@ciputra.ac.id^{1*}, fabiola.leoparjo@ciputra.ac.id², agung.nugraha@ciputra.ac.id³

Received: 10 February 2026

Accepted : 08 March 2026

Revised : 20 February 2026

Published : 16 March 2026

Abstract

This study focuses on the development of an eco-friendly business model for culinary MSMEs in the coastal tourism area of East Java, Indonesia. The rapid growth of culinary MSMEs in this area has resulted in significant environmental challenges, including increased waste and unsustainable resource use. This study aims to develop a model that integrates environmental sustainability with economic growth in the culinary sector, adopting the triple bottom line approach, which encompasses economic, social, and environmental factors. This qualitative study used a case study design. Data were collected from in-depth interviews, observation, and documentation. The analysis focused on eco-friendly business practices, supporting and inhibiting factors, and an eco-friendly business model to improve the profitability and environmental performance of culinary MSMEs and contribute to sustainable tourism practices. This study encourages policymakers, business owners, and other stakeholders to promote an eco-friendly culinary industry in the coastal tourism area of East Java.

Keywords: *circular economy, culinary MSMEs, eco-friendly business model, sustainability, triple bottom line.*

INTRODUCTION

The development of the tourism sector in Indonesia has showed positive trend since the past decade, especially after the relaxation of restrictions of the COVID-19 pandemic (Elistia, 2020). As a leading tourism destination in East Java, coastal tourism offers natural beauty and unique coastal culinary experiences. This potential drives the growth of Micro, Small, and Medium Enterprises (MSMEs) in the culinary sector, serving as the backbone of the local economy. The growth of the culinary business also brings significant environmental impacts, including increasing organic and inorganic waste due to the use of single-use packaging. Such environmental impacts threaten the sustainability of the coastal environment and reduce the attractiveness of tourism destinations.

The concept of green business, or an eco-friendly business model, becomes a strategic key in the development of culinary MSMEs in tourism areas. Such a business model is not solely oriented towards economic aspects, but also considers social and environmental responsibility (triple bottom line), including waste reduction, energy efficiency, the use of local and renewable raw materials, and eco-conscious consumption behavior (Wiyanti & Ratri, 2026). Previous studies revealed that a green business model in culinary MSMEs managed to increase profitability and reduce operational costs through efficient waste management practices, as well as strengthen sustainable business competitiveness (Pradani & Indah, 2025).

Studies concerning the circular economy and innovative eco-friendly practices in the culinary MSME sector in Indonesia have been widely conducted. A study focusing on circular economy-based diversification in religious tourism destinations in East Java revealed waste reduction and increased resource efficiency through the implementation of circular principles in culinary businesses. However, comprehensive studies on the development of holistic eco-friendly business models considering local coastal characteristics for culinary MSMEs in East Java are limited. Moreover, the role of government policy and regulatory support for green business innovation in the MSME sector is less optimal compared

to its potential. Studies investigating the integration of circular economy and MSME innovation policies found that incentives and regulatory support encouraged the adoption of eco-friendly business practices. However, business actors' capacity to adopt these innovations has to be strengthened. This present study focuses on developing an eco-friendly business model for coastal culinary MSMEs in East Java in order to address environmental challenges while maximizing sustainable local economic potential. The objectives of this study are to: 1) describe the eco-friendly business model in coastal culinary MSMEs in East Java; 2) identify supporting and inhibiting factors in the implementation of eco-friendly business models in coastal culinary MSMEs; and 3) develop an effective, feasible, and contextually eco-friendly business model for coastal culinary MSMEs in East Java.

This study tries to address the research gap, namely, to comprehensively combine environmental, economic, and operational strategy aspects into an integrated and contextually eco-friendly business model for coastal culinary MSMEs in East Java. Previous study focuses solely on product diversification or waste reduction, not on developing a systematic and feasible operational business model in the coastal tourism context. The novelty of this study lies in the development of a holistic business model framework that incorporates environmental, social, and economic components based on local coastal characteristics, including waste management practices, local raw material resources, sustainable marketing strategies, and collaboration between relevant stakeholders. This model is not merely theoretical but can be tested and practically implemented by coastal culinary MSMEs in East Java. This study also tries to synergize economic growth with environmental conservation, particularly in coastal tourism areas vulnerable to ecological pressures resulting from increased tourism activity. This study is important to help achieve tourism and sustainable development goals (SDGs) by growing global awareness of sustainable development and the dynamics of national regulations promoting a green economy.

LITERATURE REVIEW

Eco-friendly Business Models and the Triple Bottom Line

An environmentally-sustainable business model integrates economic, social, and environmental dimensions (the triple bottom line) into the process of value creation, delivery, and capture. In this framework, MSMEs not only pursue financial profit but also take responsibility for the social and ecological impacts of their business activities. This concept is an evolution from traditional business models focusing solely on the economy, encouraging a transformation to a more holistic sustainability approach (Nosratabadi et al., 2019). The sustainability model encourages MSMEs to adopt strategies including energy efficiency, waste reduction, the use of renewable raw materials, and environmentally-responsible marketing practices. This model reduces negative environmental impacts and improves business reputation, customer loyalty, and long-term competitiveness. The study of sustainable business models in the MSME sector uses the triple bottom line approach as a key theoretical foundation.

Circular Economy

Circular economy, an economic paradigm, transforms production and consumption systems from a linear model ("take, dispose") to a restorative and regenerative system (Prieto Sandoval et al., 2018; Renfors, 2022). This model minimizes waste and resource use through product redesign, reuse, recycling, and optimization of the entire value chain. In the context of culinary MSMEs, the circular economy evaluates the management of raw materials, food waste, the use of biodegradable packaging, and synergies with local supply chains, for sustainable use of the same resources. Recent studies on the circular economy in the tourism sector still focus on the micro-level, such as hotels and restaurants. Meanwhile, studies on coastal culinary MSMEs have not yet been developed (Renfors, 2022). Therefore, applying the circular economy is important to establish an eco-friendly, operational, and contextual business model for coastal culinary MSMEs.

Green Entrepreneurial Orientation and Innovation

In the context of culinary MSMEs, a green entrepreneurial orientation drives green innovation and sustainable business practices. Worldwide research shows that a green entrepreneurial orientation directly contributes to business sustainability performance through eco-friendly product, process, and marketing innovations. Regulatory support and business actors' environmental awareness moderate the impact of a green entrepreneurial orientation on business sustainability.

Waste Management and Eco-Friendly Production Systems

Waste management is an important aspect of eco-friendly business models, which contributes significantly to organic and inorganic waste production. An effective waste management system involves waste separation, reuse of residual materials, the use of appropriate technology for organic waste, and clean production practices to minimize environmental impact (Ghazali et al., 2025). This aligns with advanced approaches in the circular economy, promoting waste reduction and resource optimization.

METHOD

This qualitative study employed a case study design to investigate the eco-friendly business models in coastal culinary MSMEs in East Java. This design enabled the investigation of the perceptions, experiences, and perspectives of MSME actors, tourist visitors, and other relevant stakeholders in depth. This research was conducted in coastal tourism areas in East Java province, which is one of Indonesia's main beach tourism destinations. It focuses on Balekambang Beach, 3 Warna Beach, and Pasir Putih Beach in Situbondo, which famous for their tourism potential and diverse local culinary businesses. These locations had a high level of culinary activity and a great number of visitors. The subjects of this research were culinary MSME actors operating in the study areas, consisting of business owners, managers, and employees. This study also involved other relevant parties, such as tourist visitors and the local government, which plays a role in tourism area development and management policies.

The selection of informants used a purposive sampling technique, with the following criteria:

1. Owners and Managers of Culinary MSMEs: Culinary businesses that already implement eco-friendly business practices or in the transition process to a sustainable business model.
2. Culinary MSME Employees: Employees directly involved in the daily operations of culinary businesses and interact with operational practices and waste management.
3. Tourist Visitors: Tourists visiting coastal tourist areas and using the services of culinary MSMEs there.

This study would interview around 15–20 informants to obtain representative and in-depth data regarding their perceptions, experiences, and views on the implementation and potential of eco-friendly business models in the culinary sector. Data collection also applied method triangulation to ensure data validity and reliability using the following techniques:

1. In-Depth Interviews: Interviews were conducted with MSME owners, managers, employees, visitors, and local government officials to obtain in-depth information regarding the implementation of eco-friendly business models in culinary MSMEs. These interviews were semi-structured, using a flexible interview guide. Interviews were recorded and transcribed for further analysis.
2. Participatory Observation: Researchers conducted field observations focusing on resource management, waste management, and the use of eco-friendly raw materials in MSMEs to understand operational dynamics and confirm data obtained from interviews.
3. Documentation: in the form of activity reports, local government policies, and data related to the implementation of eco-friendly practices in the culinary sector. This documentation included local regulations, business policies, or publications relevant to eco-friendly business models in culinary MSMEs.

Data obtained from interviews, observations, and documentation were further analysed using thematic analysis by identifying key themes emerging from interview transcripts and observation notes. They were categorized into major themes relevant to the research problem. The data analysis followed the following stages:

1. Data Coding: The coding process aimed to identify sections of the data relevant to the research focus.
2. Thematic Category Development: The major categories and themes emerging from the interview and observation data were grouped to facilitate understanding of the existing phenomena.
3. Data Interpretation: The researcher interpreted the relationships between themes and variables relevant to the research objectives.
4. Verification: The findings were verified using triangulation techniques to ensure the consistency and credibility of the research findings.

To maintain the validity and reliability of the data, this research used the following techniques:

1. Method Triangulation: using various data collection techniques (interviews, observation, and documentation) to obtain data that mutually support and strengthen the research findings.
2. Source Triangulation: collecting data from various sources (different informants) to ensure that the data obtained are unbiased and encompass multiple perspectives.
3. Rechecking Findings: after analyzing the data, the results were consulted with several informants to ensure that the interpretations are accurate and represent the field.

RESULTS AND DISCUSSION

Results

This study aims to investigate eco-friendly business models implemented by coastal culinary MSMEs in East Java. It focuses on the implementation of an eco-friendly business model, challenges, and influencing factors. Data were obtained from various sources, such as in-depth interviews, observation, and documentation. The in-depth interviews involved 15 informants, including MSME owners and managers, employees, and tourists. The interview data, combined with the results of observations and documentation, provide an in-depth overview of the conditions and potential for implementing eco-friendly business models in the coastal culinary MSME. The interview data were analyzed using thematic analysis techniques, and the following categories were obtained:

1. Eco-friendly Business Practices in Culinary MSMEs

Most culinary MSMEs in East Java's coastal tourism areas have implemented eco-friendly business practices with varied implementation levels. The results of interviews revealed three main practices:

- a. Use of Local and Organic Raw Materials

Culinary MSMEs prioritize the use of local raw materials, such as fresh fish from local fishermen, organic vegetables, and local spices. This practice reduces the carbon footprint associated with food transportation, supports the local economy, and adds value from a sustainability perspective. A business owner said, "We choose to use local raw materials because they are fresher and eco-friendlier due to the shorter travel distance. And it can support local farmers and fishermen."

- b. Sustainable Waste Management

Most culinary MSMEs have started separating organic and inorganic waste. Organic waste, such as food scraps, can be utilized to make compost for local agriculture. However, this practice is not yet fully consistent due to limited facilities and employees' low understanding of the importance of sustainable waste management. An MSME manager argued, "We have started separating organic and non-organic waste, but we still struggle with recycling plastic waste."

- c. Use of Eco-friendly Packaging

Some MSMEs have started using eco-friendly packaging, such as biodegradable packaging, paper, or banana leaves. Indeed, its implementation is limited to certain products, such as traditional foods served at street food stalls. Business managers reveal that the high cost of eco-friendly packaging becomes a major obstacle to its widespread use.

2. Supporting and Inhibiting Factors

The results of interviews showed various supporting and inhibiting factors in implementing eco-friendly business models in culinary MSMEs as follows:

- a. Supporting Factors

- Environmental Awareness: Most MSME owners recognize the importance of long-term environmental preservation, both economically and ecologically. A business owner stated, "We're starting to realize that continuous environmental damage will inhibit tourist visits. Thus, environmental sustainability is important for the future of our business."
 - Government Support: Several coastal culinary MSMEs in East Java receive training and incentives from the local government regarding waste management and sustainability.
- b. Inhibiting Factors
- Limited Resources and Capital: Most culinary MSMEs struggle to access funding to invest in eco-friendly technologies, such as waste management machines or biodegradable packaging. A small business owner stated, "We'd love to implement more, but the problem is the cost. Eco-friendly packaging is more expensive, so it reduces our profit margins."
 - Lack of Knowledge and Training: Most culinary MSMEs actors don't fully understand the concepts and practices of efficient environmental management. Even, they lack the skills to support the implementation of these practices.

Discussion

The analysis on the implementation of eco-friendly business models in coastal culinary MSMEs in East Java was based on the triple bottom line, the circular economy, and green entrepreneurship theories.

1. Analysis based on Triple Bottom Line

Culinary MSMEs that have implemented eco-friendly business practices showed an increase in consumer loyalty and business sustainability. The use of local raw materials and effective waste management helps reduce operational costs in the long term. Indeed, they require higher initial investment, particularly in procuring eco-friendly packaging. An informant said, "At first, it was difficult, but after we managed waste and used local raw materials, we saw long-term savings."

However, some businesses still struggle achieving financial sustainability in implementing eco-friendly business models, especially related to the additional costs to purchase eco-friendly packaging and waste management technology. In term of the social aspect, both businesses and consumers start to realize environmental sustainability. Tourists are more interested in purchasing products from MSMEs that implement eco-friendly principles, as they feel they are contributing to environmental sustainability. This is in line with Zuhra & Sisca (2024) that environmentally conscious consumers are more likely to choose products from eco-friendly businesses. Environmentally, most culinary MSMEs demonstrate that efficient resource management, such as the use of local raw materials and proper waste management, can mitigate negative impacts on coastal environments. On the other hand, managing plastic waste is challenging due to the lack of adequate recycling technology.

2. Analysis based on Circular Economy

Most culinary MSMEs implemented circular economy practices, including the use of local raw materials and waste management for composting. However, MSMEs struggle to recycle inorganic waste, such as plastic and Styrofoam packaging, due to a lack of recycling facilities. Therefore, improving local recycling facilities and government support are needed to provide incentives for MSMEs that comprehensively implement eco-friendly practices in order to achieve a more optimal circular economy.

3. Analysis Based on Green Entrepreneurial Orientation

The findings of this study confirm that a green entrepreneurial orientation is crucial in encouraging the implementation of eco-friendly business models in culinary MSMEs. Despite challenges related to costs and knowledge, MSMEs with a green orientation are more likely to integrate eco-friendly business practices into their business strategies. Thus, it is important to increase knowledge and training for business actors, particularly regarding waste management and eco-friendly product innovation to supporting business sustainability.

Overall, coastal culinary MSMEs in East Java are implementing eco-friendly business models in East Java show significant potential to improve business sustainability, economically, socially, and environmentally. On the other hand, they also face challenges in the form of high initial costs and limited

efficient waste management facilities. Based on interviews and observations, business actors' knowledge and skills regarding eco-friendly business practices need to be improved, as well as stronger policy support from local governments. For better implementation of a circular economy in the coastal culinary MSMEs in East Java, particularly related to inorganic waste management, needs to consider developing eco-friendly business models. Despite significant barriers to implementing eco-friendly business models, growing environmental awareness among business actors and consumers provides opportunities for MSMEs to develop in a more sustainable direction.

CONCLUSION

This study aims to identify the implementation of eco-friendly business models in coastal culinary MSMEs in East Java, focusing on the factors influencing the implementation, the challenges, and the potential development. The findings from in-depth interviews, observations, and documentation show significant potential in implementing eco-friendly business models in the culinary MSME to support business sustainability, economically, socially, and environmentally. Most culinary MSMEs have adopted eco-friendly business practices, such as the use of local and organic raw materials, efficient waste management, and eco-friendly packaging. However, the implementation level varies, with the main challenges in additional costs of eco-friendly packaging, and limited knowledge, as well as lack of waste management facilities. Business owners and consumers show positive environmental awareness, which could strengthen the competitiveness of culinary businesses in coastal tourism areas when further optimized. The key supporting factors are support from local governments and business owners' awareness of the importance of environmental sustainability. Meanwhile, the main challenges are limited capital, knowledge, and eco-friendly waste management facilities, which must be further considered by relevant parties. This finding of the study also confirms that implementing a green entrepreneurial orientation and circular economy principles manages to improve the sustainability performance of culinary MSMEs. Therefore, comprehensive adoption of these principles in MSME operations can be beneficial.

This qualitative study has some limitations. The first is the generalizability of the research results. The results obtained may not be generalizable to all culinary MSMEs in Indonesia or other tourism areas, as this study used a case study method with a sample limited to culinary MSMEs in the coastal tourism area of East Java. Thus, the findings of this study are only relevant to the specific context studied and require further testing in other regions or sectors. The second limitation is limited data on inorganic waste management, particularly related to plastic and Styrofoam packaging. Some MSMEs have started using eco-friendly packaging, but they struggle with the availability of cheaper packaging alternatives and the cost. Many business owners acknowledged the difficulty of consistently using eco-friendly packaging. The third, this study did not examine in depth the impact of government policies on the implementation of eco-friendly business models. Indeed, it identified support from local governments in the form of training and incentives. Future studies in this field need to provide further insight into the relationship between policy and business sustainability. This study manages to identify the implementation of eco-friendly business models in coastal culinary MSMEs in East Java. The MSMEs face challenges in inorganic waste management and the cost, but the implementation of these eco-friendly business models shows significant potential to improve the sustainability of culinary MSMEs, economically, socially, and environmentally. Therefore, to achieve sustainable tourism, it requires collaboration between the government, business owners, and the community.

REFERENCES

- A. Utaminingsih, S. Y. Widowati, E. H. Witjaksono. (2024). Sustainable Business Model Innovation: External and Internal Factors on SMEs. *International Journal of Innovation Science*, 16(1), 95-113.
- B.I. Pradana, A. N. A. Putri, M. T. Meivianto. (2025). Green Practices: Upaya Meningkatkan Keunggulan Bersaing dan Kinerja Bisnis pada Industri Kuliner Lokal di Kota Malang. *Jurnal Ilmiah Manajemen Bisnis dan Inovasi Universitas Sam Ratulangi (JMBI UNSRAT)*, 11(3), 1762-1778.
- Business for Social Responsibility. (2020). *Environmental and Social Responsibility in Small Business*. BSR Foundation.
- ECOS. (2022). *Sustainable Packaging in the Food Sector: A Guide for SMEs*. European Commission.
- Elistia. (2020). Perkembangan dan Dampak Pariwisata di Indonesia Masa Pandemi COVID-19. *Prosiding Konferensi Nasional Ekonomi Manajemen dan Akuntansi (KNEMA)*, Universitas Muhammadiyah Jakarta.
- F. Zuhra, S. E. Fitria. (2024). Pengaruh Model Bisnis terhadap Keberlanjutan Usaha Mikro Kecil dan Menengah (UMKM) Studi pada Usaha Kuliner di Kota Bandung. *e-Proceeding of Management*, 11(5), hal. 4726-4737.
- G. L. Bandeira, M. Ferasso, U. Tortato. (2025). Circular Economy Maturity Framework for SMEs. *Resources, Conservation, & Recycling Advances* 27. 1-17.
- H. Y. Ghazali, N. Kudus, S. A. Al-Shami. (2025). Green Innovation and Waste Management Challenges: Advancing Sustainable Urban Development in Malaysia through New Solutions. *International Journal of Academic Research in Business & Social Sciences*, 15(7), p. 1898-1906.
- J. E. Haefner, Deli-Gray, Z., A. Rosenbloom. (2011). The Importance of Brand Liking and Brand Trust in Consumer Decision Making: Insights from Bulgarian and Hungarian Consumers during the Global Economic Crisis. *Managing Global Transitions: International Research Journal*, 9(3), 249-273.
- J. Elkington. (1997). *Cannibals with Forks: The Triple Bottom Line of 21st Century Business*. Capstone Publishing.
- Nosratabadi. et al. (2019). Sustainable Business Models: Integrating Social, Economic, and Environmental Dimensions. *Sustainability Journal*.
- Prieto-Sandoval, et al. (2018). Circular Economy in Spanish SMEs: Challenges and Opportunities. *Journal of Cleaner Production*, 185(1), p. 157-167.
- R. F. E., Pradani, & I. N. Safitri. (2025). Meneropong Penerapan Green Marketing pada UMKM Kuliner Lokal. *Journal of Artificial Intelligence and Digital Business*, 4(1), pp. 483-488.
- Renfors, Sanna-Mari. (2022). Circular Economy in Tourism: Review of Recent Developments in Research. *FINNISH Journal of Tourism Research*, 18(1), p. 48-64.
- UNEP. (2020). *Green Business and Circular Economy: Global Perspectives*. United Nations Environment Programme.
- Wiyanti, & R. Wikaningtyas. (2026). Analisis Konsep Green Marketing pada Pengembangan Pariwisata Pesisir yang Berkelanjutan. *Jurnal Ekonomi, Manajemen Pariwisata dan Perhotelan*, 5(10), hal. 308-326.
- World Economic Forum. (2023). *Advancing Circularity in Tourism*. World Economic Forum Report.