



IMPLEMENTATION OF THE CIRCULAR ECONOMY THROUGH ORGANIC AND INORGANIC WASTE MANAGEMENT IN GREEN MSMEs

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Abstract:

This Community Service Program (PKM) was implemented by Universitas Mercu Buana in collaboration with Universiti Malaysia Terengganu (UMT) to strengthen sustainable business practices among MSMEs registered under OK OCE DKI Jakarta. The program addressed the low adoption of green marketing and circular economy principles, limited waste utilization, and the weak competitiveness of environmentally friendly products. These challenges highlight the need to improve MSME capacity in sustainable business management. The program aimed to: (1) enhance knowledge of processing organic waste into liquid fertilizer and inorganic waste into handicraft products; (2) encourage the utilization of recycled products as value-added innovations; (3) strengthen MSME capacity in developing products from waste materials; and (4) improve business competitiveness through green branding, sustainable product differentiation, and broader market access. The program outputs included a green marketing training module, waste management standard operating procedures (SOPs), improved knowledge and skills in green marketing and waste management, enhanced capability to produce recycled-based products, and stronger eco-friendly branding. Additional outputs include scientific publications, conference proceedings, media publications, activity documentation, and copyright registration. Overall, the program was designed to accelerate the adoption of circular economy principles, promote environmentally responsible business practices, and improve the long-term competitiveness and sustainability of MSMEs.

INTRODUCTION

Situation Analysis and Partner Issues. Micro, Small, and Medium Enterprises (MSMEs) play a strategic role in waste reduction efforts and the achievement of sustainable development goals. Within the framework of the circular economy, MSMEs are expected to contribute to minimizing waste through the application of the principles of reduce, reuse, and recycle, which aim to reduce environmental impact while creating new economic value. Previous studies show that the circular economy offers substantial opportunities for MSMEs to enhance resource efficiency and generate value-added products from waste materials (Linda et al., 2025).

The Ministry of Environment and Forestry has emphasized that MSMEs are essential actors in implementing circular economy principles, as many of their business activities produce organic and inorganic waste that can be reprocessed into new materials. Integrating waste management practices



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enables MSMEs to support environmental sustainability while improving their business competitiveness (Kementerian Lingkungan Hidup, 2025).

Therefore, MSMEs must transform into green MSMEs, which integrate sustainability principles across their business operations. Green MSMEs are characterized by the implementation of sustainable marketing, the use of environmentally friendly materials, proper waste sorting and processing, and efforts to produce value-added products from waste. This transformation not only strengthens business reputation and competitiveness but also supports long-term sustainability.

Figure 1. Sustainable Development Goals (SDGs) Framework

The phenomenon of organic and inorganic waste in Jakarta further underscores the urgent need for MSMEs to adopt more responsible and sustainable business practices. According to Katadata, more than 37% of Jakarta's total waste originates from households including small business units with organic waste as the largest portion, followed by plastic and packaging waste as the second highest contributor (Katadata, 2021).

Other studies demonstrate that metropolitan areas like Jakarta face significant pressure due to high consumption levels and limited recycling capacity, making collaboration between the government, the public, industries, and MSMEs crucial in reducing waste at the source (Dahlan et al., 2024).

In this context, MSMEs act not only as economic players but also as agents of change in accelerating the adoption of circular economy principles. Practices such as converting organic waste into compost or eco-enzyme and processing inorganic waste into recycled materials represent concrete contributions from MSMEs toward urban waste reduction efforts.

MSMEs constitute the backbone of Indonesia's economy and play a vital role in promoting inclusive economic development, poverty reduction, and job creation. According to official government data, Indonesia is home to approximately 64–65.5 million MSMEs, representing more than 99% of all business entities, contributing around 60–62% to the national Gross Domestic Product (GDP), and absorbing 97% of the national workforce (Kompas News, 2024; Antara News, 2025a; Antara News, 2025b).



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In urban regions such as Jakarta, MSMEs play an even more critical role due to high population density, rapid urbanization, and concentrated economic activities. Jakarta is one of the nation's leading MSME growth centers, supported by various local government initiatives focusing on entrepreneurship development, job creation, and business sustainability. The Provincial Government of DKI Jakarta recognizes MSME empowerment as a strategic pillar for fostering inclusive economic growth and post-pandemic recovery.

From the perspective of sustainable development, MSMEs significantly contribute to the achievement of (1) SDG 8 – Decent Work and Economic Growth; (2) SDG 11 – Sustainable Cities and Communities; (3) SDG 12 – Responsible Consumption and Production.

Despite their strategic position, MSMEs face major challenges in transitioning toward sustainable business models. Many still rely on linear production systems “take-make-dispose” – which generate large volumes of waste and accelerate resource depletion. Knowledge and awareness related to green marketing, waste management, and sustainability strategies remain limited among MSME actors.

Community empowerment programs focusing on waste management and circular economy implementation have shown positive results in enhancing business capacity, environmental awareness, and sustainable business performance (Imaningsih et al., 2025).

In the context of MSME empowerment in Jakarta, one of the most influential entrepreneurial ecosystems is the OK OCE movement. Established in 2016, OK OCE has grown as a social initiative aimed at developing new entrepreneurs through training, mentorship, and business networking support. Recent data indicate that OK OCE has expanded to more than 700,000 members and continues to grow, reaching over 1,800,000 active community drivers across Indonesia (OK OCE, 2026).

The significant number of members and the broad reach of the OK OCE ecosystem demonstrate its strong capacity to support MSME transformation toward sustainable business practices, including the adoption of circular economy principles and green marketing strategies. With a well-established community base, empowerment programs conducted in collaboration with OK OCE have the potential to generate wider impacts by engaging large groups of MSME actors who require capacity-building in waste management and sustainability practices.

In collaboration with Universiti Malaysia Terengganu (UMT), this program benefits from international knowledge exchange and cross-border learning regarding waste management and circular economy practices relevant to MSMEs. This collaboration also aligns with the achievement of the university's *Key Performance Indicator (KPI) 6*, which emphasizes partnerships with world-class institutions.

For Central Jakarta, supporting MSMEs in adopting green marketing and circular economy principles is not only an environmental necessity but also a strategic approach to building a resilient and sustainable urban economy aligned with SDGs 8, 11, and 12.

Thus, the transformation of MSMEs through integrated assistance in green marketing strategies and circular economy-based waste management represents a timely intervention with the potential to generate significant impact. This program is expected to enhance sustainable competitiveness, reduce environmental impacts, and support the realization of resilient and sustainable urban communities.

Partner Issues. Based on the initial observations and assessments conducted, several key issues were identified as obstacles to implementing sustainable business practices and developing eco-friendly products. These issues are summarized as the following priority problems:

1. Low understanding of green marketing concepts among business owners, resulting in suboptimal implementation of sustainable marketing strategies.
2. Absence of an integrated waste management system, leading to ineffective handling and processing of waste.
3. Limited capacity to convert waste into value-added products, causing missed opportunities for income generation.
4. Eco-friendly products are not sufficiently competitive in terms of quality, design, and branding.
5. Minimal implementation of circular economy principles in the production process and overall business operations.

To address these challenges, the UMB Community Service (PKM) Team has developed several integrated solutions to strengthen MSMEs' capacity in implementing green marketing and circular economy practices. The program includes education and training on green marketing principles, practical workshops on organic and inorganic waste management, business mentoring, and sustainable product branding. The proposed solutions are as follows:

1. Providing education and training on green marketing principles to improve MSMEs' understanding of sustainable marketing practices. The program targets at least 50 MSME participants, with a minimum 60% improvement in post-training knowledge.
2. Conducting practical workshops on circular-economy-based waste management, including waste segregation, organic waste processing, and inorganic waste recycling. The program aims for at least 20 MSMEs to adopt basic waste management practices after the training.
3. Providing implementation assistance through mentoring in developing Standard Operating Procedures (SOPs) for waste management and green marketing. Each MSME is expected to develop at least two SOPs, with successful implementation in a minimum of 10 MSME business units.
4. Enhancing MSME competitiveness through green branding and sustainable product positioning. The program targets improvements in at least 10 MSME products and expects a minimum 20% increase in product visibility or online engagement within three months after implementation.

METHODS

The success of this community service program depends on the active participation and collaboration between the PKM Team and the partner MSMEs. The partners in this program are MSME actors registered under OK OCE DKI Jakarta. Throughout the program, partners participated in all activities organized by the PKM Team, including socialization sessions, workshops, practical demonstrations, mentoring, and program evaluation. The participants received training on green marketing concepts, circular economy principles, sustainable business practices, waste segregation techniques, and simple organic waste processing through compost and eco-enzyme production. In



addition, the PKM Team provided mentoring to support the implementation of environmentally friendly business practices and green branding within each participating MSME.

After the completion of all program activities, an evaluation was conducted to measure participants' knowledge, skills, and the sustainability of the program. The evaluation process consisted of the following stages:

1. Assessing participants' understanding of green marketing concepts, circular economy principles, environmental impacts of business activities, waste segregation, and organic waste processing through pre-test and post-test assessments.
2. Evaluating participants' practical ability to apply environmentally friendly business practices, including waste segregation, compost and eco-enzyme production, and the implementation of green marketing strategies within their business operations.
3. Monitoring the implementation of sustainable business practices through mentoring activities, including the development of Standard Operating Procedures (SOPs) for waste management and green marketing.
4. Analyzing program outcomes based on training performance, observation results, participant feedback, and the level of adoption of circular economy practices by partner MSMEs.
5. Identifying challenges and providing recommendations to improve the implementation of green marketing, waste management practices, and environmentally responsible business operations.
6. Encouraging the sustainability of the program by strengthening green branding, improving waste management practices, and enhancing the competitiveness of MSMEs through the continuous adoption of circular economy principles.

RESULTS AND DISCUSSION

The Community Service Program (PKM) entitled "Implementation of Circular Economy Through Organic and Inorganic Waste Management in Green MSMEs" was successfully conducted on May 6, 2026, involving 41 participants consisting of Micro, Small, and Medium Enterprise (MSME) owners as the program partners. The program aimed to enhance participants' knowledge, awareness, and practical skills in implementing the principles of the circular economy through the management of organic and inorganic waste to support the development of sustainable Green MSMEs.

The activity began with a presentation on the fundamental concepts of green marketing and their application in MSMEs. During this session, participants were introduced to the importance of integrating environmental considerations into business strategies as a means of improving competitiveness, strengthening business reputation, and creating added value for their products. The PKM team then continued with a session on the circular economy and the principles of Reduce, Reuse, and Recycle (3R) as an effective approach to optimizing resource utilization while minimizing waste generated from business operations. Participants gained an understanding that waste should not merely be regarded as a by-product of production but also as a valuable resource that can be reused or processed to generate economic value.



Figure 2. Activity Implementation

The program was delivered in an interactive format through discussion and question-and-answer sessions. Participants demonstrated strong enthusiasm by actively raising questions regarding the implementation of circular economy practices in their businesses, particularly in relation to waste management, resource efficiency, and opportunities to develop environmentally friendly products. These discussions indicated that the training materials were highly relevant to the participants' needs and provided practical solutions to the waste management challenges commonly encountered by MSMEs. As part of the program evaluation, the PKM team administered a pre-test before the training sessions and a post-test upon completion of the program. The evaluation was designed to assess the improvement in participants' knowledge and understanding of the training materials. The results indicated an increase in participants' understanding of green marketing, the circular economy, the 3R principles, and basic techniques for managing organic and inorganic waste. Furthermore, the discussion sessions reflected an increased awareness among participants of the importance of adopting sustainable business practices as part of their long-term business development strategies.

Overall, the community service program successfully achieved its intended objectives by enhancing the capacity of MSME partners to understand and implement circular economy principles in their business operations. These outcomes are consistent with the expected program outputs, namely improving participants' knowledge and skills in sustainable waste management while fostering greater awareness of the importance of adopting Green MSME practices. It is expected that the participants will consistently implement organic and inorganic waste management practices in their businesses, thereby reducing environmental impacts, improving operational efficiency, and creating added value that contributes to long-term business sustainability.

