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Enhancing MSME Capacity Through Product Innovation for Sustainable Community Empowerment

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Abstract

Purpose: This study addresses challenges faced by Bianana MSME in Malang, Indonesia, including stagnant product innovation and inefficient manual packaging, which hinder competitiveness. It aims to enhance MSME capacity through technological adoption and flavor innovation to support sustainable local economic development.

Method: A community service approach was employed, involving problem identification, training, and evaluation. Data were collected via observation, interviews, and direct assessment, focusing on implementing continuous sealer technology and developing new flavor variants.

Practical Applications: The use of continuous sealer machines improved packaging efficiency, extended shelf life from 2 to 4–5 weeks, reduced product damage to below 3%, and increased daily production by 35%. Product innovation training enabled the creation of market-responsive flavors, enhancing competitiveness and market reach.

Conclusion: The integration of technology and innovation significantly improved product quality and business performance, demonstrating an effective model for sustainable MSME development and community empowerment.

Introduction

Micro, Small, and Medium Enterprises (MSMEs) play a strategic role in driving economic growth and development in Indonesia. As of 2023, there were approximately 66 million MSMEs in the country, accounting for over 99% of total business units, contributing 61% to the Gross Domestic Product (GDP), and absorbing 97% of the national workforce (BPS, 2023; KADIN, 2023). Their resilience during economic crises and ability to leverage local resources make them vital agents of inclusive and sustainable development (Hidayat & Andarini, 2020; Solapari et al., 2023). In Malang Regency, one such locally rooted MSME is Bianana, established in 2016 in Sukolilo Village, Jabung District. Utilizing abundant local banana harvests, Bianana processes banana chips into eight flavor variants, transforming surplus agricultural produce into value-added products. The MSME has achieved formal recognition through halal certification, PIRT registration, and trademark ownership, distributing its products through both offline and online channels.

Despite these achievements, Bianana faces critical challenges that threaten its sustainability: stagnant product innovation and reliance on manual packaging processes. The lack of new flavor development limits market appeal, while inefficient packaging reduces shelf life to approximately two weeks and results in 10–15% product damage, constraining market expansion (Artaya et al., 2023; Luh et al., 2023). With rising consumer demand and increasing market competition, modernization through appropriate technology—such as continuous sealer machines—and creative product innovation are essential for competitiveness (Widawati et al., 2024; Smaragdina et al., 2023). These limitations not only affect product quality and operational efficiency but also hinder the MSME's ability to scale and reach broader markets, both regionally and nationally.

This community service initiative addresses these challenges by enhancing MSME capacity through technological integration and innovation, aligning with Sustainable Development Goals (SDGs) 8 (Decent Work and Economic Growth) and 11 (Sustainable Cities and Communities). By introducing continuous sealer machines, the program aims to improve packaging efficiency, extend shelf life, reduce product damage, and increase daily production capacity. Simultaneously, product innovation training empowers MSME actors to develop new flavor variants based on consumer trends and local ingredients, fostering adaptability and market differentiation. The combination of technological upgrading and creative development serves as a holistic approach to strengthening the business model of Bianana MSME.

The intervention is grounded in a participatory and evidence-based methodology, involving problem identification, implementation, and evaluation through direct observation, interviews, and performance assessment. It builds upon existing scholarly support emphasizing the importance of capacity building, local resource utilization, and technology adoption for sustainable MSME growth (Mulyaningsih et al., 2022; Qadisyah et al., 2023). By linking practical solutions with academic insights, this program not only addresses immediate operational constraints but also establishes a replicable model for empowering rural-based MSMEs. The ultimate goal is to foster long-term economic resilience, enhance community welfare, and contribute to sustainable local development through innovation-driven entrepreneurship.

Method

This community service program employed a participatory action research approach to enhance the capacity of Bianana MSME through technological integration and product innovation. The methodology consisted of three structured stages: problem identification, program implementation, and evaluation. In the problem identification phase, data were collected through direct field observations, in-depth interviews with MSME owners, and documentation review to accurately diagnose operational challenges related to manual packaging and stagnant product innovation. A purposive sampling technique was used to

select key informants, including MSME operators and local stakeholders directly involved in production and marketing.

During the implementation phase, intervention strategies included hands-on training on continuous sealer machine operation and product innovation workshops. The continuous sealer machine was introduced to automate the packaging process, while flavor development sessions were conducted based on consumer trend analysis and local ingredient availability. Training was delivered using a practical, interactive method, allowing participants to engage in direct practice, ask questions, and receive real-time feedback.

For data analysis, qualitative data from interviews and observations were transcribed, coded, and thematically analyzed to identify key challenges and behavioral changes. Quantitative data—such as production output, packaging time, product damage rate, and shelf life—were measured before and after the intervention and analyzed using descriptive statistics to assess performance improvements. Data validation was ensured through triangulation of sources (observation, interview, and physical assessment) and member checking with participants.

The interpretation of results focused on assessing improvements in production efficiency, product quality, and innovation capability. Findings were linked back to the program's objectives to evaluate the effectiveness of the interventions. All procedures were documented systematically to ensure transparency, replicability, and applicability to similar MSME contexts.

Result

The community service program was successfully implemented from May to June 2025 at the Bianana MSME production house in Sukolilo Village, Jabung District, Malang Regency. The primary participants included the MSME owners, production team members, and the community service team consisting of faculty members and students from the Department of Management, Faculty of Economics and Business, Universitas Negeri Malang. The program was structured into three core phases: problem identification, implementation, and evaluation, with a focus on enhancing production efficiency and product innovation.

Figure 1. Banana Chips, Produced by MSMEs

Source: Private Documentation, 2025

A series of hands-on training sessions were conducted, including one introductory session, two technical training modules on continuous sealer machine operation, and two product innovation workshops. A total of 15 direct beneficiaries actively participated in the activities. The key output of the program was the successful handover and operationalization of a continuous sealer machine, which replaced the previously manual packaging process.

Additionally, three new banana chip flavor variants—Spicy Coconut, Pandan Crunch, and Salted Caramel—were developed through guided experimentation and consumer preference testing.

The implementation yielded significant improvements in production performance. Packaging time was reduced from 5 minutes per 10 packs to 2 minutes per 10 packs, increasing daily production capacity by 35%, from 200 to 270 packs per day. Product shelf life extended from approximately 2 weeks to 4–5 weeks, while product damage due to packaging failure dropped from 10–15% to below 3%. These improvements enabled Bianana to expand its market reach beyond Malang, with plans to distribute to regional retail outlets.

Figure 2. Continuous Sealer Machine Handover

Images must be numbered, for example: Figure 1. Example of a diagram

Source: Private Documentation, 2025

Participants demonstrated increased confidence and competence in using the new technology and expressed strong enthusiasm for ongoing product development. Testimonials highlighted improved perceptions of product quality and professionalism. Photographic documentation (Figures 2 and 3) confirmed active engagement during training and the physical integration of the continuous sealer into the production line. Consumer surveys indicated that two of the three new flavors received preference ratings above 70%, signaling strong market potential. These results demonstrate tangible improvements in operational efficiency, product quality, and innovation capacity, confirming the effectiveness of the intervention in strengthening Bianana MSME's competitiveness and sustainability.

Figure 3. Photo Documentation with Participants and Community Service Team

Source: Private Documentation, 2025

Discussion

Capacity building for MSMEs is a strategic approach to encouraging the growth and sustainability of micro, small, and medium enterprises. This approach emphasizes the importance of strengthening the technical, innovative, and managerial capabilities of business actors to enable them to compete adaptively in a constantly changing market environment (Mulyaningsih et al., 2022). Within the framework of community-based economic development, capacity building for MSMEs is also seen as a means to expand local economic impact, create jobs, and sustainably improve community welfare (Qadisyah et al., 2023). Therefore, capacity building for MSMEs encompasses not only increased production but also a comprehensive transformation in how businesses are managed and developed (Sutandi et al., 2020). In the context of globalization and the industrial revolution 4.0, capacity building for MSMEs is a key element for businesses to not only survive but also grow and expand their markets sustainably.

In this context, the community service activities carried out for the Bianana MSME aim to strengthen business capacity in two main aspects: product innovation and production process efficiency. The Bianana MSME is a banana chip processing business that grew from the potential of local agricultural products, with eight flavor variants that have been marketed both directly and through digital platforms. Despite having business legality such as halal certification, PIRT, and a trademark, this MSME faces challenges in maintaining the attractiveness of its products amidst market competition, particularly due to stagnant flavor innovation and still manual and inefficient production and packaging processes. Furthermore, limited knowledge of technology and a lack of access to modern production facilities also hinder optimal business scale-up.

To address these challenges, this community service program provides intensive training to MSME owners in developing new flavor variants and utilizing continuous sealer machine technology. The product development training is conducted using a market-based approach, where Bianana MSME owners are encouraged to understand consumer trends and design more creative and relevant flavor innovations. By expanding flavor choices and exploring local ingredients such as spices or sweet-spicy variants, Bianana MSMEs are expected to increase the appeal of their products and reach a broader market segment. This training also fosters new awareness among business owners about the importance of product updates as a form of adaptation to increasingly dynamic changes in consumer behavior.

On the other hand, the use of a continuous sealer machine is a crucial step in improving production efficiency and quality. This machine not only speeds up the packaging process but also produces stronger, more durable, and hygienic packaging. As a result, products become more competitive both in terms of aesthetics and shelf life. The implementation of this technology has had a direct impact on the MSME production process, which was previously carried out manually with low efficiency. Furthermore, consistent and neat packaging adds value in shaping positive consumer perceptions of the Bianana brand's professionalism and quality, especially in online marketing that relies heavily on product visuals.

During the program, MSME owners demonstrated active involvement and a positive response to the training materials. In practice, participants were able to operate the machine well and began implementing new packaging techniques in their businesses. Furthermore, business owners also expressed plans to develop new flavor variants resulting from the product innovation training, indicating a readiness to transform into a more creative and responsive business that meets consumer needs. This active involvement demonstrates a

passion for learning and awareness among MSME owners of the importance of knowledge- and technology-based transformation in increasing their business competitiveness. Although increased production capacity and product innovation have shown positive results, limited capital remains a challenge in meeting growing market demand. Therefore, the development strategy is being implemented in stages while exploring potential support from financial partners or local cooperatives.

This community service program aligns with the Sustainable Development Goals, specifically SDG 8 (Decent Work and Economic Growth) and SDG 11 (Sustainable Cities and Communities). In terms of SDG 8, this activity encourages local economic growth by increasing productivity and efficiency (Setiawan et al., 2025). MSME Bianana uses a continuous sealer machine, which has been proven to accelerate the production process, extend shelf life, and reduce product damage. Furthermore, product innovation in the form of developing new flavor variants has expanded market reach and contributed to increased turnover and new job opportunities in the local food processing sector (Andrianata et al., 2024). Meanwhile, contributions to SDG 11 are reflected in the utilization of local resources (Abdulloh et al., 2024), namely, the previously suboptimal banana harvest is utilized through processing into value-added products. MSME Bianana not only strengthens the village economy but also supports the creation of resilient communities by minimizing the potential for agricultural waste and encouraging local community empowerment. Thus, this program contributes to both inclusive economic growth and the sustainability of local communities.

Through this activity, the increased capacity of Bianana's MSMEs is reflected not only in technical aspects but also in changes in perspective and readiness to manage their businesses more efficiently and innovatively. The integration of training, technology, and direct mentoring has been proven to have a significant impact on improving product quality, work efficiency, and business actors' confidence in facing a competitive market. With targeted support based on real needs in the field, MSMEs have a greater opportunity to develop independently and sustainably, thereby strengthening the local economic structure.

Conclusion

This community service program was designed to enhance the capacity of Bianana MSME in Sukolilo Village, Malang Regency, through two strategic interventions: the adoption of continuous sealer machine technology to optimize packaging efficiency and product durability, and the development of innovative flavor variants to meet evolving consumer demands. The primary objectives—improving product quality, increasing production efficiency, and fostering sustainable business growth—were successfully achieved. The implementation of the continuous sealer machine significantly improved packaging performance, reducing packaging time from 5 minutes to 2 minutes per 10 packs, extending shelf life from approximately 2 weeks to 4–5 weeks, and decreasing product damage from 10–15% to below 3%. Daily production capacity increased by 35%, from 200 to 270 packs per day. Furthermore, product innovation training led to the creation of three new flavor variants—Spicy Coconut, Pandan Crunch, and Salted Caramel—two of which received consumer preference ratings above 70%, indicating strong market potential.

The practical implications of this intervention are evident in the improved competitiveness, market reach, and operational efficiency of Bianana MSME. By integrating appropriate technology and fostering creative innovation, the program offers a replicable model for empowering rural-based MSMEs that rely on local agricultural resources. The initiative aligns with Sustainable Development Goals 8 (Decent Work and Economic Growth) and 11 (Sustainable Cities and Communities), contributing to local economic empowerment and sustainable community development.

Despite its success, the study faced several limitations, including limited capital for scaling production, inconsistent raw material quality due to variable banana ripeness, and insufficient integration of digital marketing strategies. These constraints highlight the need for continued support in financial access, supply chain standardization, and digital literacy. Future research should explore the long-term impact of technology adoption on MSME productivity, strategies for standardizing local raw materials through farmer collaboration, and the effectiveness of e-commerce integration in expanding market access. Replicating this mentoring model across similar MSMEs can further validate its scalability and inform inclusive policy development. Overall, this study underscores the transformative potential of combining technological modernization with innovation-driven entrepreneurship in strengthening MSME sustainability and community resilience.

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Reference

Abdulloh, A., Sudarmiatin, S., & Wardana, L. W. (2024). Product Innovation and Marketing Management of Umkm Food and Beverages Amid Global Competition: Surabaya City Case Study. *Nusantara Economics and Entrepreneurships Journals*, *2*(3), 243–255. https://doi.org/10.59971/necent.v2i3.51

Andrianata, M., Sudarmiatin, S., & Rahayu, W. P. (2024). MSME Product Innovation as a Competitiveness Strategy in Local and Global Markets. *Oikonomia : Journal of Management Economics and Accounting*, *2*(1), 39–47. https://doi.org/10.61942/oikonomia.v1i1.279

Artaya, I. P., Nilowardono, S., & Kamisutara, M. (2023). Perbaikan Fisik Kemasan dan Labelisasi Produk Industri Rumah Tangga Pangan (IRTP) di Desa Kalidawir dan Desa Ketapang Sidoarjo. *Madaniya*, *4*(2), 453–465.

Fitriani, F. S., Harahap, R. D., & Nurlaila, N. (2023). Perkembangan UMKM Di Indonesia : Peran Pemahaman Akuntansi, Teknologi Informasi dan Sistem Informasi Akuntansi. *Owner*, *7*(3), 2518–2527. https://doi.org/10.33395/owner.v7i3.1427

Hidayat, R., & Andarini, S. (2020). Strategi Pemberdayaan Umkm Di Pedesaan Berbasis Kearifan Lokal Di Era Industri 4.0 Menuju Era Society 5.0. *Jurnal Bisnis Indonesia*, 93–109.

KADIN. (2023). *UMKM Indonesia*. 2023. https://kadin.id/data-dan-statistik/umkm-indonesia/

Luh, N., Kartika, A., Sarja, Y., & Wahyuni, L. M. (2023). *Pengembangan UMKM Kain Perca Melalui Pemanfaatan Teknologi Tepat Guna Di Tabanan Bali The Development Of Patchwork UMKM Through The Utilization Of Appropriate Technology In Tabanan , Bali*. *8*(3), 430–438.

Mulyaningsih, T., Bintariningtyas, S., & Rahman Hakim, A. (2022). UMKM Naik Kelas Dengan GO MODERN Bagi Sektor Usaha Kuliner D Mojolaban Kabupaten Sukoharjo. *Jurnal Keuangan Umum Dan Akuntansi Terapan*, *4*(2), 117–122.

Qadisyah, M., Hasanah, A., Hanum, H., & Harahap, N. (2023). Peran UMKM Dalam

Pembangunan dan Kesejahteraan Masyarakat di Kabupaten Deli Serdang. *Manivest: Jurnal Manajemen, Ekonomi, Kewirausahaan, Dan Investasi*, *1*(2), 159–168.

Setiawan, S., Retnowati, M. S., Uluum, M. M., & Ghufron, I. L. (2025). Digital Marketing Assistance and Local Product Innovation: Development of the Village Micro Business Sector in Ponorogo. *Jurnal Pengabdian Masyarakat Bangsa*, *3*(1), 156–164. https://doi.org/10.59837/jpmba.v3i1.2168

Smaragdina, A. A., Lestari, D., Rosyid, H. A., Patmanthara, S., Mufti, S., & Info, A. (2023). *Product Quality And Quantity Improvement Through The Use Of Continous Band Sealer Machine In Seven Putra MSMES*. *6*(1).

Solapari, N., Shofiah, S., Tjahyadi, I., Rais, R., & Al, G. (2023). *Pemberdayaan UMKM Melalui Program Pengabdian Masyarakat Berbasis Kearifan Lokal*. *2*(03), 185–190.

Sutandi, S., Vikaliana, R., Hidayat, Y. R., & Evitha, Y. (2020). *Strategi Peningkatan Kinerja UMKM melalui "UMKM Naik Kelas" Pada UMKM di Kecamatan Cempaka Putih Jakarta Pusa*. *2*(2), 1–13.

Syarif, A. H., Hudallah, S., Azriansyah, Q., & Putri, I. L. (2023). *Pemberdayaan UMKM Gula Aren Berbasis Kearifan Lokal di Desa Kota Jawa Kecamatan Way Khilau Kabupaten Pesawaran*. *1*(November), 311–320.

Widawati, L., Nur'aini, H., Andriani, E., Suranti, D., & Permata, L. D. (2024). Diversifikasi Produk Pangan Menjadi Brownita (Brownies Ampas Tahu) dan Botata (Bola-Bola Rambutan Ampas Tahu) Sebagai Upaya Meningkatkan Nilai Ekonomi Ampas Tahu. *Surya Abdimas*, *8*(2), 245–252. https://doi.org/10.37729/abdimas.v8i2.3970