

## UTILIZATION OF INNOVATIVE DESIGN AND PRODUCTION TECHNOLOGY TO SUPPORT COCONUT MILK BONBON UMKM IN BANDAR KHALIPAH VILLAGE

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### Abstract:

The Bonbon Santan Micro, Small and Medium Enterprise located in Bandar Khalipah Village, Deli Serdang Regency, is a traditional food business that has great potential to support the local economy. However, MSMEs face various challenges, ranging from limited production technology, capital, business management skills, to suboptimal marketing strategies. This community service program was implemented using a Participatory Action Research (PAR) approach to provide real solutions through training, mentoring, and the application of simple innovations. The results of this activity show an increase in production capacity after the introduction of coconut milk extractors, improved product quality that is more hygienic and consistent, and labor efficiency. In terms of marketing, distribution, which was previously limited to the village area, has been expanded to souvenir shops in Medan and several other areas, such as Padang, Aceh, and Pekanbaru. In addition, the application of digital marketing through social media has also supported increased sales. This activity not only impacted business capacity but also empowered the surrounding community through involvement in production and packaging. Therefore, the sustainability of the program with capital support, advanced training, and strengthening of the distribution network is key to Bonbon Santan MSME's ability to compete regionally.

## INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) play a vital role in supporting the Indonesian economy. MSMEs not only provide a livelihood for families but also create new jobs and improve the welfare of local communities. The strength of MSMEs lies in their ability to leverage local potential, including raw materials and cultural wisdom. One growing MSME sector is the traditional food business, which not only preserves unique cuisine but also offers promising market potential.

In Bandar Khalipah Village, Deli Serdang Regency, there is a micro, small, and medium enterprise (MSME) that specializes in producing coconut milk candy. Coconut milk candy is a traditional snack made from coconut milk with a sweet and savory flavor, typically served as a snack, souvenir, or dish at special events. This product has great potential to become a regional culinary icon due to its distinctive taste and popularity among various groups. However, to become more widely known and competitive, the coconut milk candy MSME needs to improve its production management and expand its marketing network.

In terms of production, limited equipment remains a significant challenge. The coconut milk extraction process, for example, is currently still done manually, requiring significant labor and time. It limits production capacity and makes it difficult to meet high demand. Therefore, the use of



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coconut milk extraction machines is crucial to make the production process more efficient and hygienic, as well as to produce high-quality coconut milk. This efficiency is crucial for scaling up production to meet broader market demand.

In addition to technological challenges, coconut milk bonbon MSMEs also face various other obstacles. Limited capital is a major obstacle, as most MSMEs rely on personal funds or small loans that are inadequate to increase production capacity or expand marketing networks. Furthermore, business management skills remain low, particularly in financial record-keeping, production planning, and inventory management. It makes it difficult for businesses to develop in a structured and sustainable manner.

Human resources (HR) is also a determining factor in the sustainability of MSMEs. Generally, coconut milk bonbon MSMEs are still managed by family members with limited skills. A lack of skills training slows down product innovation, even though innovation is key to attracting new consumers. This issue aligns with research confirming that strengthening human resources through training and mentoring is crucial for increasing the competitiveness of traditional food MSMEs (Raissa Meidiva Yashinta, 2025).

Marketing is also a major challenge. In the early stages, the coconut milk bonbon MSME in Bandar Khalipah Village only sold its products through simple distribution to the surrounding area. Over time, marketing expanded to include placing products in village stalls and grocery stores. It is an effective basic distribution strategy for introducing the product to local consumers. However, for the business to survive and thrive, distribution needs to be expanded to broader and more structured channels.

Currently, the coconut milk bonbon MSME is expanding its product distribution to souvenir shops in Deli Serdang and Medan. Through distribution channels to stores, products have a greater chance of being recognized by consumers from various regions. This strategy aligns with research by Addien (2022), which states that distribution to souvenir shops is an effective way to expand the market for traditional food MSMEs because it can build consumer engagement with local products.

Coconut milk bonbons are not only marketed locally, but also marketed outside the city. Potential marketing destinations include Padang, Aceh, and Pekanbaru, known for their high purchasing power and high demand for regional snacks. By leveraging distribution networks and supplying products to souvenir shops in these cities, coconut milk bonbon MSMEs can significantly expand their market reach. This step not only opens up more sales opportunities but also positions coconut milk bonbons as a competitive product at the regional level.

In addition to physical distribution, digital marketing strategies also play a crucial role in supporting market expansion. Utilizing social media, e-commerce, and various digital platforms can help MSMEs promote their products without geographical limitations. The combination of traditional distribution to stores and digital marketing strategies creates a more efficient and effective marketing system. According to Herlina and Simabur (2025), implementing digital marketing in MSMEs has been proven to increase consumer reach and accelerate business growth.

The challenges faced by the Bonbon Santan MSME (Micro, Small, and Medium Enterprise) in production, capital, human resources, and marketing demonstrate the need for support in the form of training, mentoring, and the application of appropriate technology. Through community service programs, academics, along with the government, can act as liaisons, providing understanding, providing production equipment, and teaching modern marketing strategies. Continuous mentoring is key to this MSME's ability to develop independently and compete in the market.

With increased production through a coconut milk extraction machine, improved product quality, strengthened business management, and expanded distribution to cities such as Padang,



Aceh, and Pekanbaru, the Bonbon Santan MSME in Bandar Khalipah Village has a significant opportunity to become a leading regional product. In addition to providing economic benefits for the entrepreneurs, this success can also create new job opportunities for the surrounding community and preserve traditional snacks as a valuable culinary heritage.

## METHODS

This Community Service Program was implemented in collaboration with the Bonbon Santan MSME located in Bandar Khalipah Village. The program lasted one month. The method used was Participatory Action Research (PAR), where the team not only provided materials but also directly participated in activities with partners. The main focus of the program was to improve partners' skills in processing, packaging, and marketing Bonbon Santan products to increase their market value (Agustina, 2019).

The first phase began with problem identification and interviews with partners. Through direct discussions, the team explored the main obstacles faced by MSMEs, such as limitations in maintaining product quality, simple production techniques, and suboptimal marketing strategies. The results of this identification were then used as the basis for developing training materials and mentoring.

Next, technical guidance and training were provided. During this stage, partners received training on how to process Bonbon Santan more hygienically and consistently. Furthermore, the team introduced simple equipment that can help speed up the production process without sacrificing quality.

The next stage involved assistance with product packaging and branding. The team supported the design of simple yet attractive packaging and provided an understanding of the importance of brand identity in enhancing product appeal. Furthermore, digital marketing education was provided through social media training to increase Bonbon Santan's product exposure and reach a larger market.

The final stage involved monitoring and evaluation of activities. In this phase, the team reviewed the results of the training and assistance provided. Partners were given the opportunity to showcase their products with new packaging and received feedback from the team. Based on the evaluation results, the Bonbon Santan MSME can continue to develop independently and increase economic value for the Bandar Khalipah Village community.

## RESULTS AND DISCUSSION

A community service program implemented in collaboration with a coconut milk bonbon micro, small, and medium enterprise in Bandar Khalipah Village yielded several important findings. Field observations indicated that this business has significant growth potential, as coconut milk bonbons are quite popular with local consumers. However, technical, managerial, and marketing issues remain major obstacles to business development.



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**Figure 1.** Introduction to the process of making coconut milk bonbons for UINSU KKN Students in Bandar Khalipah Village 2025

In terms of production, the results show that coconut milk bonbon production remains traditional. Coconut milk is squeezed manually, which is time-consuming and labor-intensive. This method limits production capacity to only around 10-15 kilograms of bonbons per day. This situation becomes challenging when market demand increases, such as during religious holidays.



**Figure 2.** Printing coconut milk bonbons using traditional tools

The introduction of a coconut milk extraction machine as a technological innovation has been proven to increase work efficiency. Using the machine allows more coconut milk to be produced in a shorter time while reducing labor costs. It has a direct impact on production capacity, which increases by 30-40 percent compared to manual methods. Therefore, improvements in production equipment have been shown to impact business sustainability positively (Kusumandari et al., 2024).

In addition to increased capacity, product quality has also improved. The machine-extracted process produces cleaner and more hygienic coconut milk, resulting in coconut milk bonbons with a more consistent flavor. Consumers who tasted the product reported that the bonbons had a softer texture and a richer flavor. It demonstrates that technological innovation not only speeds up production but also improves product quality (Sudirman & Purwanda, 2025).

In terms of labor, the implementation of this technology has also increased work efficiency. While previously it took four to five people to squeeze coconut milk manually, the process can now be handled by just two machine operators. It frees up additional labor for other areas, such as packaging and distribution. This change makes the workflow more effective, efficient, and organized.

In the context of business management, the results of the assistance indicated that MSMEs are still unfamiliar with detailed financial record-keeping. Most transactions are memorized or recorded



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in a simplified manner without clear cash flow reports. Through financial record-keeping training, entrepreneurs begin to understand the importance of separating personal and business finances (Kesuma et al., 2020). It is the first step in creating business transparency and facilitating access to loan capital from financial institutions.

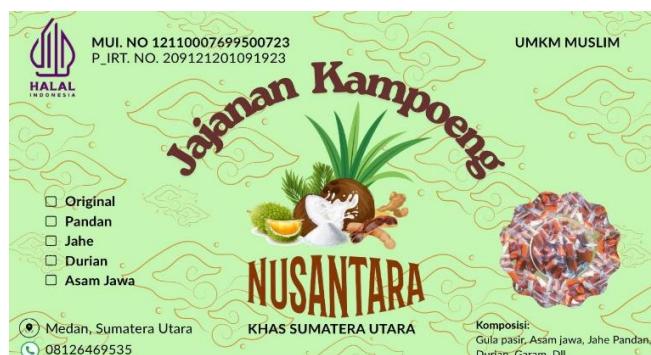
Capital is indeed a significant issue. Until now, business development has relied solely on personal capital without additional funding from financial institutions. Limited access to information on business financing makes it difficult for MSMEs to increase production capacity (Al Arif, 2024) significantly. Through joint discussions, partners were directed to explore partnerships with cooperatives or Islamic financial institutions to obtain additional working capital according to their needs.

From a marketing perspective, the results of this activity indicated that distribution was still limited to rural areas. Products were marketed directly to consumers or delivered to small shops. This strategy facilitated product introduction at the local level, but was insufficient to expand the market. After securing support, partners were directed to expand distribution to souvenir shops in Medan and the surrounding areas.

Furthermore, marketing development is also aimed at expanding beyond the city. Several souvenir shops in Padang, Aceh, and Pekanbaru are being explored as distribution partners. Attractively packaged coconut milk bonbons have a strong potential for acceptance in these areas, as traditional snacks still have a strong market. Although the initial phase is still experimental, these results indicate positive prospects for expanding market reach.

In addition to physical distribution, a digital marketing strategy is also being implemented. Partners are being taught to utilize social media platforms such as Facebook, Instagram, and WhatsApp Business as promotional tools. Photos of professionally packaged products are regularly uploaded to attract consumer attention. The response has been quite positive, as evidenced by the influx of orders from outside the region through online channels. It demonstrates the power of digital marketing to support increased sales.

Community service activities also prioritize product packaging. Prior to the initiative, coconut milk chocolate candies were wrapped in plain plastic without labels, making the product less appealing to buyers. Through a mentoring program, partners were trained to design simple packaging with labels that include the product name, ingredients, distribution permit, and manufacturer contact information. This change has proven to increase consumer interest because the packaging is more informative and looks professional.



**Figure 3.** The result of the logo on the coconut milk bonbon packaging

Consumer survey results indicate that labeled packaging conveys a more trustworthy and hygienic impression. Consumers feel more confident purchasing products with a clear identity. Therefore, packaging innovation is a crucial factor in increasing product appeal in the market. It aligns with previous research, which suggests that packaging functions as a "silent seller" in attracting consumer interest (Sipahutar & Nurlinda, 2025).

From a social perspective, this initiative also empowers the local community. Several previously uninvolved residents are now able to work to assist in the production and packaging process. With increased production capacity, the need for additional labor opens up, providing new economic opportunities for the community in Bandar Khalipah Village.

The discussion also highlighted challenges that still need to be addressed. Although production and marketing have begun to increase, limited capital remains a major obstacle. Furthermore, distribution outside the city is still hampered by transportation costs and an unstable distribution network. Therefore, further support from the local government or relevant institutions is needed to facilitate inter-regional marketing networks.



**Figure 4.** Documentation of the handover of banners and logos for coconut milk bonbon packaging

Overall, the results of this activity indicate that strengthening the technology, management, and marketing aspects has had a positive impact on the Bonbon Santan MSME in Bandar Khalipah Village. Increased production capacity, product quality, and marketing reach are indicators of the program's success. However, to achieve business sustainability, ongoing support in the form of additional capital, advanced training, and distribution network development is needed so that the MSME can survive and compete in the regional market (Siti Rahmayuni et al., 2024).

## CONCLUSION

Community service activities carried out with the Bonbon Santan MSME in Bandar Khalipah Village have had a positive impact on various aspects of the business. In terms of production, the use of a coconut milk press machine has increased time efficiency, capacity, and product quality. From a management perspective, financial record-keeping training has provided MSMEs with a new understanding of the importance of separating personal and business finances, thus facilitating access to capital from financial institutions. In terms of marketing, product distribution, previously limited to the local level, has now expanded to souvenir shops in Medan City and several areas outside the region, such as Padang, Aceh, and Pekanbaru. The implementation of digital marketing through social media has also had a significant impact on increasing sales and consumer reach.



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Furthermore, the social impact is seen through the involvement of the local community in the production process, which has successfully created new jobs and provided additional income. However, challenges such as limited capital and strengthening the distribution network still require attention for future business development.

**Recommendations.** First, Bonbon Santan MSMEs need to continue utilizing simple technology, such as coconut milk squeezing machines, to maintain consistent production and product quality. Second, managerial skills must be strengthened through further training, particularly in financial record-keeping, inventory management, and production planning, so that the business can develop in a more structured manner. Third, marketing strategies need to be expanded beyond distribution to souvenir shops, but also by building a broader distribution network to other potential cities in Sumatra. Fourth, digital marketing must be continuously optimized through the use of e-commerce, social media, and content-based promotions to strengthen product branding. Fifth, support from local governments, financial institutions, and universities is essential, whether in the form of access to capital, further training, or marketing network facilitation. With these steps, Bonbon Santan MSMEs are expected to develop sustainably and become a competitive, leading product in the region.

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