

Healthy Bread Movement: Increasing Community Nutrition Awareness Through Local Preservative-Free Bread Production

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ABSTRACT

The low entrepreneurship ratio in Indonesia and public health issues related to food preservatives highlight the need for initiatives that promote entrepreneurship and healthy consumption. This community service program, in the context of Increasing Public Nutrition Awareness through Preservative-Free Local Bread Production, aims to empower home-based bakery businesses in rural areas by increasing production capacity, improving marketing strategies, and promoting healthier alternatives to bread without preservatives. The program was implemented through three stages: preparation (needs analysis and development of training materials), implementation (production and digital marketing training, equipment support, branding, and packaging enhancement), and evaluation (monitoring of key performance indicators and partner satisfaction). The results showed significant increases in production volume, sales growth, visual branding, and market expansion. Partners reported increased business confidence and customer interest, especially due to the health-oriented product positioning. In conclusion, the program successfully increased partners' business capacity and contributed to local economic empowerment by promoting healthy, preservative-free bread products.

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INTRODUCTION

The entrepreneurship ratio in Indonesia currently stands at 3.35% of the total workforce, equivalent to approximately 4.9 million entrepreneurs. Although this represents an increase from 3.04% in 2023, the figure remains significantly lower compared to other Asian countries such as Malaysia and Singapore. Therefore, it is essential to encourage community engagement in entrepreneurship through the development of Micro, Small, and Medium Enterprises (MSMEs) in Indonesia. MSMEs play a critical role in economic distribution by creating business opportunities across various regions, including remote areas. Their presence helps reduce economic disparities between urban and rural communities, allowing people to avoid relocating to cities in search of employment. MSMEs contribute approximately 61% to Indonesia's Gross Domestic Product (GDP), equivalent to IDR 8,573.89 trillion. Given this contribution, MSMEs are key drivers of national economic growth, and one of the rapidly expanding sectors is the bread industry.

The bread industry in Indonesia is still categorized within the small and medium enterprise (SME) sector. SMEs significantly contribute to economic development in emerging economies (Rahayu et al., 2021). However, findings from several community service programs focused on bread businesses reveal persistent challenges, not only in sales but also in human resource capacities (Asrobiah et al., 2022; Wahyunanto A. Nugroho et al., 2015). Community service program partners have identified several obstacles in managing their bread businesses, including a lack of skilled labor and limited time for production and promotional activities. Moreover, the shelf life of their products is relatively short due to the absence of preservatives. Nevertheless, this characteristic provides a unique selling point when compared to competitors that rely on preservatives to extend their shelf life.

The use of preservatives in bread is intended to extend shelf life and maintain product freshness. However, inappropriate or excessive use of preservatives can pose dangerous health risks. Therefore, consumers should be careful in choosing food products, as this is an important step in maintaining overall health (Awulachew, 2024; Jon Farizal & Putri Widelia Welkriana, 2017). Many countries are beginning to adopt healthier dietary habits and are becoming increasingly aware of the dangers associated with the consumption of preservatives. This shift in awareness has led to renewed interest in traditional bakery products (Mietton et al., 2022). Consumers today tend to prefer breads that provide health benefits, such as higher fiber content and lower salt content. In general, people's awareness of the role of nutrition in health is increasing (M Sajdakowska et al., 2019). Traditional bread making contributes to food safety and nutritional well-being through innovative approaches that not only preserve cultural food practices but also incorporate functional ingredients that align with healthier diets (Hussain & Aslam, 2024).

Despite this growing trend, bakers in rural areas continue to face significant challenges in competing with established brands such as Holland Bakery, Roti O, and other commercial bakeries that have strong brands. The current community service program partner is a traditional home-based bread business that adheres to the preservative-free concept. The business is managed by a housewife who runs it to generate income for her family, showing that domestic roles do not limit one's entrepreneurial potential. Bread remains a popular food choice to enjoy with coffee, tea, or other beverages, and has considerable potential to grow, especially in an increasingly competitive global market.

Based on initial coordination with business partners, several key issues that hindered the development of the home-based bakery were identified. One of the main challenges was the limited labor involved in the production process. Previously, the partner employed several workers; however, due to unstable sales, it became difficult to provide consistent wages. As a result, almost all production tasks are now handled independently by the business owner. Another issue is the short shelf life of the bakery products, which contain no preservatives and only last up to three days. Unsold products are usually distributed for

free to the surrounding community, which has a direct impact on the profitability of the business. Additional challenges are found in marketing and production equipment. The current packaging is still very simple and lacks visual appeal, making it difficult to attract consumers and compete in the market.

Marketing efforts are also limited, relying solely on home sales with impromptu displays and consignment arrangements at local schools. The business has not expanded into urban markets due to the product's short shelf life and lack of an effective distribution strategy. From a production standpoint, the partner operates with only one broken mixer and limited oven capacity, which often disrupts the production process and prevents consistent operations. This clearly shows that business partners need support and assistance to increase production capacity, improve product quality, and implement more effective marketing strategies.

METHOD

To ensure that the proposed solutions can be effectively implemented and achieve the expected outcomes, the implementation method for this community service program is divided into three main stages: Preparation, Implementation, and Evaluation.

1. Preparation

The first stage is Preparation, which involves conducting a needs analysis to gain a comprehensive understanding of the challenges faced by the bread business partners. Initial coordination meetings are held with the partners to agree on the work plan and the specific steps to be taken. At this stage, training materials are also developed, covering topics such as bread production techniques, business management, digital marketing, and packaging design. Experts and professionals in the relevant fields are involved in ensuring the quality and relevance of the training content.

2. Implementation

The second stage is Implementation, during which various activities are carried out to address the identified problems and implement the proposed solutions. Training sessions are organized to enhance the technical and managerial competencies of both workers and business owners. These sessions focus on efficient bread production techniques, effective business management, digital marketing strategies, and appealing packaging design.

In addition to training, mentoring sessions are provided to offer ongoing consultation and evaluation of business progress. Product development is a key priority at this stage. New product variants using natural ingredients that can extend shelf life without preservatives are being developed. Furthermore, more attractive and informative packaging is designed in collaboration with graphic designers, including clear nutritional information and product benefits.

Marketing strategies are also executed during this phase. Promotion through social media and digital platforms is maximized to reach a broader audience. Offline promotional activities are conducted in strategic locations such as markets, schools, and community events. To expand market reach, partnerships are established with local stores and supermarkets. Moreover, pre-order systems and delivery services are developed to enhance customer convenience and accessibility.

3. Evaluation

The third stage is Evaluation. Periodic monitoring is carried out to assess the progress of the business and the effectiveness of the implemented methods. Key Performance Indicators (KPIs)

such as increased production capacity, higher sales, and improved customer satisfaction are used to measure the outcomes. An evaluation of partner satisfaction with the community service program is conducted through surveys using Google Forms, which are distributed to partners and other relevant stakeholders. Periodic reports are compiled to document achievements, identify challenges, and provide recommendations for improvement. Through this structured implementation approach, the community service program is expected to generate significant positive impacts for the bread business partners, including increased production capacity, expanded market reach, and improved income levels.

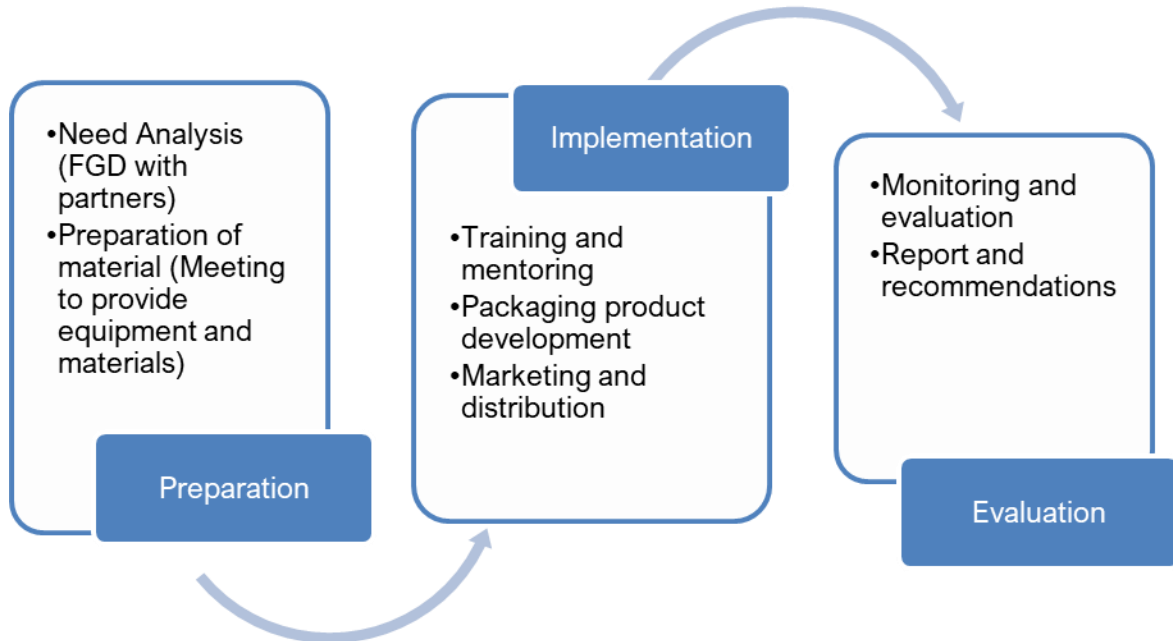


FIGURE 1. Flow chart Implementation of The Community Service Program

RESULTS AND DISCUSSION

Preparation

The preparation stage is a crucial foundation in the implementation of the community service program activities. During this stage, the PKM team identifies problems through observation and direct coordination with business partners. Initial coordination results indicate that partners face several fundamental challenges in running their businesses. These include limited production tools, conventional marketing strategies, and the lack of a strong business identity in the form of branding or product packaging.

Additionally, partners openly conveyed that business challenges are not only technical but also related to human resources. Partners stated that competencies in bread production, social media management, and business management are still limited. The lack of formal training attended by business actors is one of the reasons for the suboptimal overall business development. Therefore, partners urgently need assistance and capacity building, especially in terms of more systematic production and marketing skills.

Responding to these needs, the PKM team from Universitas Terbuka has developed a capacity-building plan through training materials that include: 1) Production strategies and work efficiency, 2) Introduction to basic concepts of micro-business management, 3) Digital marketing using social media (Instagram), and 4) The importance of branding and packaging in attracting consumer interest.



FIGURE 2. Training on Production and Sales Improvement

The strengthening materials are delivered practically and tailored to the context of the partner business, so they can be directly implemented in the partners daily activities. The preparation stage is crucial as a foundation for the partners to step forward and enhance their business competitiveness. Additionally, it ensures that these materials can be consistently implemented in the field.

Implementation

The implementation stage is the main phase of the community service program activities, where the implementation team from Universitas Terbuka directly provides technical assistance, facilitates production facilities, and transforms marketing strategies for business partners. The assistance is carried out intensively with a collaborative approach, which is not only educational but also applicable to real conditions in the field. One of the main problems identified at this stage is the limited production equipment owned by the partners. Before the program implementation, the partners only had one small capacity dough mixer. As a result, the production process was slow and unable to meet large demands. To overcome this obstacle, the community service program leader provide an additional 7 kg capacity dough mixer. This addition significantly accelerated the production process, allowing the partners to increase daily production volume and expand product distribution coverage.

In addition to production equipment, physical promotional materials were also provided. The head of the Community Service Program handed over a namebox or business signboard to be installed at the partner's store location. Installing this namebox is a crucial element in enhancing business visibility, helping customers easily locate the sales point and formally affirming the business's presence to the surrounding community. With this visual marker, the partner's business no longer operates in a hidden or informal manner, but instead presents itself as a retail business unit open to the general public. The handover process is illustrated in Figure 3.



FIGURE 3. Handover of production and marketing equipment

Regarding product visuals, the community service program team introduced innovative packaging, as illustrated in Figure 3. Initially, the partner packaged the bread products using plain plastic without any product information, which made the items appear unprofessional and less recognizable to customers. A product's visual identity is essential for helping consumers identify and distinguish high-quality products that meet their needs (Shams et al., 2024).

To address this, the community service program team designed new packaging that included the business logo, product name, contact details, and an attractive visual layout. The packaging was professionally printed and provided directly to the partner as part of a broader branding effort. This innovation significantly enhanced the product's appeal to consumers (Anjeli Riana et al., 2024) and increased customer trust in the product's quality and hygiene standards.

In addition, the community service program team supported the partner in managing and improving their business's social media presence. Previously, promotional activities were conducted solely through the partner's personal Instagram account, which combined both commercial and non-commercial content, limiting the effectiveness of marketing efforts. To improve this, the team created dedicated Instagram and Facebook accounts for the business, developed promotional content, and provided training on digital marketing strategies. Visual materials such as product photos, customer testimonials, and daily promotions were uploaded regularly to increase the product's online visibility. Customer feedback regarding the improved social media presence has been positive, as reflected in the growth of followers and the rising number of order inquiries received through direct messages.

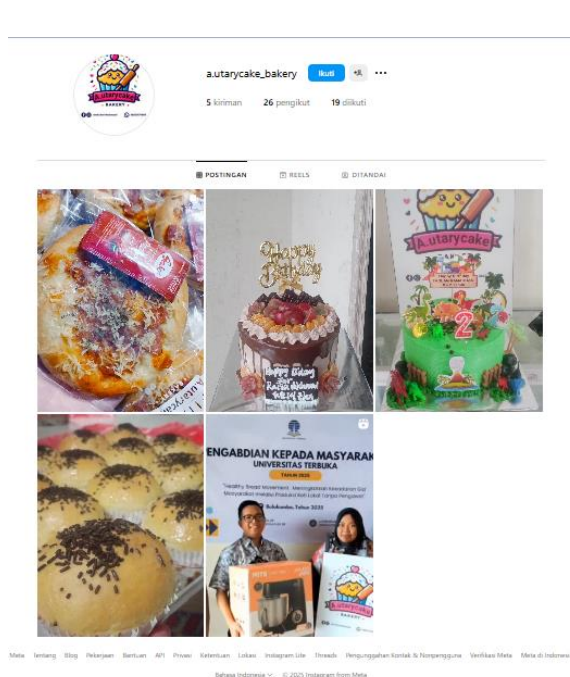


(a). Old design packaging



(b). New design packaging

FIGURE 4. Changes in bread packaging after implementing PKM



(a) instagram: @a.utarycake_bakery



(b) facebook: andi utary cakebakery

FIGURE 5. Social media used in product marketing

Following the implementation of the community service program activities, there was a significant transformation in the sales distribution system of the partner. Previously, the partner's sales process was limited to door-to-door selling or selling at schools. However, after the mentoring process conducted by Universitas Terbuka, the partner is now able to rent a store. This store serves as a direct sales point to the public, enabling more convenient transactions, expanding market reach, and enhancing the business's credibility. This change also indicates an increase in social capital and the partner's confidence to compete openly in the local market.

Overall, the stages of the community service program implementation not only resulted in major change but also created a structural transformation in the aspects of production, marketing, and business management. The intervention carried out by Universitas Terbuka the community service program demonstrates that with the right approach and adequate infrastructure support, micro enterprises can grow to become more professional and competitive, ultimately contributing to national economic development.

Evaluation

In this evaluation stage, the distribution of questionnaires and interviews via WhatsApp with business partners aims to assess the extent to which the activities carried out have had a tangible impact on business development, as well as to gather feedback on the effectiveness of the mentoring provided by the community service program chair and implementation team.

TABLE 1. Respondents Description of Satisfaction

Indicator	Poor		Fair		Good		Very Good		Excellent		Mean
	F	%	F	%	F	%	F	%	F	%	
Reliability	0	0	0	0	0	0	1	9.1	10	90.9	4.90
Courtesy	0	0	0	0	2	18.2	2	18.2	7	63.6	4.45
Responsive	0	0	0	0	0	0	1	9.1	10	90.9	4.90
Physical evidence	0	0	0	0	0	0	2	18.2	9	81.2	4.81
Communication	0	0	0	0	0	0	3	27.3	8	72.7	4.72
Responsibility	0	0	0	0	0	0	3	27.3	8	72.7	4.72
Competence	0	0	0	0	0	0	2	18.2	9	81.2	4.81

Based on Table 1, the evaluation results indicate that partners are highly satisfied with the entire series of the community service program activities. Partners have expressed appreciation for various provided facilities, such as additional mixers, production training, the creation of business social media accounts, name boxes, and more attractive product packaging, which have significantly transformed daily business operations.

Partners stated that the community service program activities have greatly helped them think more strategically, gain more confidence in selling their products, and be more prepared to compete in the open market. Moreover, the impact of the community service program activities is not only felt internally by partners but also contributes to strengthening the local economy. The presence of a more professionally managed bakery, now accessible in stores, has become part of the micro-business ecosystem in the surrounding area. The community now has easier access to quality local products, while business partners have the potential to expand employment opportunities as production capacity increases.

The bakery products produced by partners have another significant advantage that aligns with the trend of healthy consumption, as they do not contain preservatives. This makes the products not only delicious but also ensures health benefits for consumers. This advantage serves as a strong selling point, in line with the increasing awareness of healthy eating habits among the public.

In a broader context, the community service program activities also contribute to enhancing the competitiveness of Indonesian MSMEs. The transformation experienced by partners demonstrates that, with the right interventions, MSMEs can improve product quality, build brands, and adopt digital marketing. This is highly relevant in facing both domestic and global market competition. This success

reflects that MSMEs, as the backbone of the national economy, have immense potential for growth and healthy competition, provided they receive continuous guidance and facilities.

The success of the community service program illustrates the importance of the presence of policies that encourage the strengthening of MSMEs through the provision of production equipment, skills training, and sustainable digital marketing assistance (Nurendah et al., 2023). The government needs to design policies that not only focus on increasing the economic capacity of micro-entrepreneurs but also on strengthening community consumption patterns through healthy food education. Efforts to promote local products without preservatives as a safer and more nutritious alternative are very relevant to the current trend of increasing nutritional awareness among the public. In addition, the results of this activity also underline the importance of synergy between academics, government, and business actors in encouraging the transformation of MSMEs into more professional and competitive business units.

To make healthy and innovative MSME products more recognizable and trusted by consumers, policies are also needed to support simple certification and special labeling, such as “preservative-free” markers, which can increase competitiveness in the market. With the right policy support, successful empowerment models like this can be replicated in various regions as part of a local economic development strategy based on health and business independence.

CONCLUSION

The community service program has made a significant contribution to the development of the partner’s home-based bread business. Through increased production capacity supported by additional equipment, enhanced marketing strategies via social media, and the introduction of attractive and informative packaging, the business partner has become more competitive in the local market. The advantage of offering healthier, preservative-free products serves as a strong selling point, aligning with the growing consumer trend toward health-conscious choices. This program has not only improved product quality and business management but also contributed to strengthening the local economy by creating new business opportunities and expanding market reach. Overall, the community service initiative demonstrates that, with the right approach and support, micro, small, and medium enterprises (MSMEs) can grow more professionally and competitively, enabling them to better navigate both domestic and global market challenges.

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