



ENHANCING PALM SUGAR SMES' COMPETITIVE ADVANTAGE IN KALISIDI VIA INNOVATIVE PACKAGING AND E-COMMERCE TRAINING

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ABSTRAK

Produksi gula aren di Kabupaten Semarang memiliki potensi yang sangat baik karena melimpahnya pohon aren yang tumbuh subur. Salah satu sentra produksinya adalah Desa Kalisidi, yang terletak di dataran tinggi dengan topografi perbukitan dan vegetasi hijau. Masyarakat setempat telah mempertahankan metode produksi tradisional secara turun-temurun, mulai dari pemanenan nira secara manual hingga pengolahan kayu bakar alami. Meskipun produk-produk ini memiliki daya tarik otentik dan kualitas tinggi, produsen menghadapi tantangan persaingan yang semakin ketat dengan bisnis lain yang telah mengadopsi teknologi modern. Solusi strategis dapat diterapkan untuk membantu UMKM gula aren di Desa Kalisidi mempertahankan keunggulan kompetitif yang berkelanjutan melalui inovasi dalam desain kemasan. Pelatihan desain kemasan menggunakan aplikasi seperti Canva diharapkan dapat menghasilkan kemasan yang menarik, informatif, dan fungsional yang dapat meningkatkan daya tarik produk sekaligus memperkuat citra merek. Pemasaran digital melalui platform e-commerce merupakan solusi strategis yang canggih untuk memperluas jangkauan pasar. Pendampingan dalam proses bisnis digital dapat meningkatkan pemahaman pemasaran berbasis data dan interaksi langsung dengan konsumen. Dengan terlaksananya pengabdian ini peserta telah memahami bagaimana menciptakan desain kemasan yang inovatif dan strategi pemasaran digital yang tepat. Tindak lanjut dari kegiatan pengabdian masyarakat ini adalah pendampingan berkelanjutan untuk memastikan penerapan desain kemasan inovatif dan strategi pemasaran digital secara konsisten.

ABSTRACT

Palm sugar production in Semarang Regency has excellent potential to the abundance of palm trees that thrive. One of the production centers is Kalisidi Village, which is located on a plateau with hilly topography and green vegetation. The local community has maintained traditional production methods for generations, from manual sap harvesting to natural firewood processing. Although these products have authentic appeal and high quality, manufacturers face the challenge of increasingly fierce competition with other businesses that have adopted modern technology. Strategic solutions can be implemented to help palm sugar MSMEs in Kalisidi Village maintain a sustainable competitive advantage through innovation in packaging design. Packaging design training using applications such as Canva are expected to produce attractive, informative, and functional packaging that can increase product appeal while strengthening the brand image. Digital marketing through e-commerce platforms is an advanced strategic solution to expand market reach. Assistance in digital business processes can increase understanding of data-based marketing and direct interaction with consumers. With the implementation of this community service program, participants have gained an understanding of how to create innovative packaging designs and develop appropriate digital marketing strategies. The follow-up to this community service activity is the continued guidance and monitoring of participants to ensure the sustained implementation of innovative packaging design and effective digital marketing strategies.

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INTRODUCTION

Palm sugar production in Semarang Regency, particularly in West Ungaran District, has excellent potential, supported by the abundance of palm trees that thrive in the region. This condition allows for the sustainable availability of sap raw materials. Palm sugar artisans are spread across ten villages, including Lerep, Brangang, and Kalisidi Villages, as well as seven other villages (Sutrisno et al., 2019). Kalisidi Village is located at an altitude of about 700 meters above sea level. The region has a hilly topography with green vegetation that dominates its landscape (BPS Jawa Tengah, 2024). The people of Mrunten Kulon Hamlet in Kalisidi Village have been producing palm sugar using traditional methods for generations. They believe that their products remain in demand in the market despite the lack of innovation in the production process. However, without realizing it, they are facing increasingly stiff competition from other manufacturers who have adopted modern technology.

Nationally, palm sugar production shows a promising upward trend. Data from the Directorate General of Plantations of the Ministry of Agriculture shows that in 2020, palm sugar production reached 101,989 tons, increasing to 106,486 tons in 2022. This increase indicates that palm sugar continues to have a stable demand and even tends to increase in line with growing public awareness of natural and healthy products as alternatives to sweeteners. However, increasing production nationally also means that competition between producers is getting tighter in local and national markets. Producers who stick to traditional methods without innovation risk losing their competitiveness (Anggreniko et al., 2025; Heri Septya Kusuma, 2024).

One solution to expand the local palm sugar market share is to redesign the packaging (repackaging design) to be more modern and informative. Good packaging not only serves as a product protector but also as an effective marketing tool (Putri et al., 2023). Packaging design should prioritize aesthetic aspects, provide clear product information, and utilize environmentally friendly materials to enhance consumer appeal. Additionally, using nutritional value information labels can provide consumers with greater confidence (Komariah, 2022).

Attractive packaging will make it easier to compete on e-commerce platforms, now one of the leading distribution channels for local food products. Manufacturers can use marketplaces such as Tokopedia, Shopee, and Lazada to reach a broader market (Dewi & Nasution, 2023; Fitriyani, 2022). Adding storytelling features to product descriptions, highlighting the uniqueness and tradition of Mrunten Kulon's palm sugar production, can also be an effective strategy to increase selling value. With an attractive packaging design and the right digital marketing strategy, local palm sugar has excellent potential to compete in the national and even international markets (Widodo et al., 2024). Repackaging design has a strategic role in supporting business sustainability and creating a sustainable competitive advantage. With packaging designed to be more innovative, functional, and environmentally friendly, business actors can strengthen the competitiveness of products in an increasingly competitive market (Najib et al., 2022).

Innovative and strategically appealing packaging design plays a significant role in enhancing the product's market presence and strengthening brand competitiveness (Mashadi &

Munawar, 2021). Effective packaging design can increase consumer interest in buying products. This strategy can contribute to the formation of brand loyalty, provided that the product's quality remains consistent or shows improvement (Lourensius et al., 2019). Thus, packaging redesign becomes an important element in building product image and functions as an instrument that supports marketability independently (Raza & Siddiqui, 2019).

Packaging design serves not only as an aesthetic element but also as a means of communication that reflects a product's value and commitment to sustainability or provides convenience for consumers in using the product. Meanwhile, e-commerce serves as a distribution channel that transcends geographical boundaries, enabling businesses to reach a broader market with high operational efficiency. This combination enables companies to manage more responsive supply chains, optimize consumer-driven personalization strategies, and support adaptive and innovative business ecosystems, which are a crucial foundation for maintaining a sustainable competitive advantage.

In the context of small and medium enterprises (SMEs), competitiveness enhancement is also greatly influenced by packaging design factors. Research findings indicate that packaging aimed at attracting local audiences can help SMEs differentiate their products in a highly competitive market. Moreover, consumer responses to packaging design can serve as an important indicator in formulating more effective marketing strategies, as consumers often base their purchasing decisions on the visual aspects of packaging first. Therefore, it is not surprising that efforts to improve packaging design directly

contribute to enhancing business performance and competitiveness in the market.

Packing design should be maintained by the producer to provide accurate and specific information about the product. In detail, packing design has several functions such as (1) enhancing the product's appearance in accordance with the product category; (2) providing protection for the product while displayed in stores and the distribution process; (3) informing essential product information to consumers in proper labeling; and (4) representing the product itself as a trusted quality.

In the design process, producers need to consider four sub-dimensions in visual decoration, such as brand name, color, typography, and pictures. A brand name is described as a name, term, sign, design, or a combination used to identify goods and differentiate them from those of other competitors. Colour communicates the identity, brand image, and the unique selling proposition of the goods themselves. Typography is the art and science of selecting and arranging typefaces within the available space to create a specific impression, thereby helping consumers' reading comfort. The last subdimension is images, which serve to clarify the ideas of the goods. However, the main function is to illustrate facts about the specialty of the goods, ensuring they are not quickly forgotten.

E-commerce is a strategic solution for MSMEs to significantly expand their marketing reach (Aprilian et al., 2022). Digital platforms, such as Shopee, Tokopedia, or Instagram, enable MSMEs to sell products to consumers throughout Indonesia and even globally, without geographical boundaries (Sofiyantu & Riofita, 2024). With lower operating costs than physical stores, e-

commerce facilitates MSMEs to increase product visibility through algorithm-based advertising features, keyword optimization (SEO), and engaging visual content. Additionally, direct consumer interaction through reviews, chat, and real-time promotions helps build brand loyalty (Devi & Untoro, 2019). Analysis of transaction data and consumer behavior from the e-commerce dashboard also allows MSMEs to make data-driven decisions, such as adjusting stock or designing promos according to market trends.

METHOD

The community service process, targeting palm sugar SMEs in Kalisidi Village, is carried out through product packaging design training using the Canva application and copywriting techniques. To integrate science and technology into the development of SMEs. This training aims to enhance the community's ability to design attractive and informative packaging that aligns with modern market trends while preserving the identity of local wisdom. Canva was chosen for its ease of access, intuitive design features, and ability to produce professional visuals. At the same time, copywriting techniques were applied to craft persuasive product narratives, such as highlighting the natural advantages, traditional processes, and health benefits of palm sugar.

This combination is expected to enhance the competitiveness of products amid the rise of modern packaging from competitors, while maintaining the cultural values characteristic of the village. In implementing community service, several stages are designed to answer partner problems. The community service stages are carried out using the PDCA (*Plan, Do, Check,*

Action) method, which systematically identifies, plans, implements, and evaluates continuously.

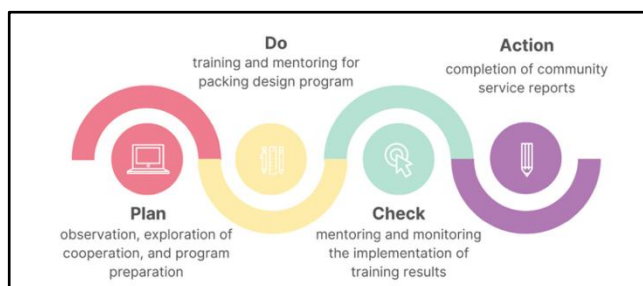


Figure 1. Flow of the Implementation of Community Service

RESULTS AND DISCUSSION

Planning Stage

In this planning stage, the teams organize community service activities tailored to the needs of SMEs in Kalisidi. Each activity is designed to address specific local requirements. The planning ensures that the services provided are relevant and effective. The schedule and time allocation are detailed in Table 1.

Table 1. Community Service Schedule

Activity		Timeline
Planning Stage		
• Observation and Exploration Needs		2 week
		1 week
• Arrange partner needs		
Do Stage		
• Training Packing Design Program		1 days
		7 days
• Mentoring Packing Design Program		
Check Stage		
Monitoring	implementation	2 week
training result		
Action Stage		
Completion of community service		1 week

Do Stage

The implementation of community service will take place on 12 June 2025, in accordance with the series of planned activities. According to the sequence that has been implemented. In the do stage, teams found that 93% respondents want to update the design packaging within 6 months. Aligning with that, they also evaluated their product themselves, and we can gather information about the weaknesses of their products, as shown in Table 2. The service

community partners need to enhance their competitive advantage through new design, packaging, and copywriting in e-commerce. We support know-how using Canva for developing new packaging. Start by operating Canva and using AI assistance for designing. After that, teams share knowledge about SEO (Search Engine Optimization) and are prompted to generate the best copywriting based on their products.

Table 2. Pretest Result

No	Question	Yes	No
1	Do you think packaging design influences consumer purchasing decisions?	87%	13%
2	Do you think your current packaging design appears attractive when displayed online?	37%	63%
3	Is the information on your current packaging easy to read and clearly presented?	33%	67%
4	Does the information on your current packaging comply with current packaging design standards?	30%	70%
5	In your opinion, does your current packaging arrive to customers in good condition?	67%	33%
6	Do you have any plans to revise your packaging design within the next six months?	93%	7%

Source: Processed primary data, 2025

At this stage, we decide to share the best practices with our partner. In Figure 2, our speaker trains how to use Canva as a tool to support rebranding processes for entrepreneurs and small business owners in Kalisidi. An AI assistant provided in Canva can be used for developing a brand and simulating the mock-up design. This will make it easier for business owners to continuously evaluate and adjust their design.



Figure 2. Practice with Nur Sitha Afrilia

In harmony with the theme, Speaker 2 led an interactive discussion on the introduction of e-commerce business processes and SEO. The entrepreneur was concerned with writing the caption for elevating digital engagement. Specifically, e-commerce utilization practices involve utilizing online platforms to market, sell, and deliver products or services. Businesses optimize digital tools, such as websites, marketplaces, and social media, to reach a wider audience. Key practices include online payment systems, digital branding, customer engagement, and data analytics. Effective e-commerce use helps increase efficiency, expand market reach, and improve customer satisfaction.



Figure 3. Interactive Discussion with Bayu Bagas, S.E., M.M.

Speaker 2 also highlighted the importance of clear and compelling Calls to Action (CTA) in digital marketing. The speaker emphasized that effective CTAs guide customers toward desired actions, such as purchasing, subscribing, or

engaging with content, thereby improving conversion rates and strengthening the overall impact of e-commerce strategies.

Check Stage

At this stage, all team members completed the list of progress results after training. Each lesson has a structured standard to measure the achievement of learning objectives. The official government is providing full support and assistance with monitoring to SMEs in Kalisidi. In Figure 4, we documented our discussion of the final outcomes to enhance the effectiveness of this community service. This stage took place at Kalisidi's village administrative office on June 22, 2025.



Figure 4. Monitoring SME's in Kalisidi

In summary of the learning object achievement shown in Table 3, we found that the data slightly changes in each variable. There are four questions to answer to obtain 100%.

Table 3. Posttest Result

No	Question	Yes	No
1	Do you think packaging design influences consumer purchasing decisions?	96%	5%
2	Do you think your current packaging design appears attractive when displayed online?	93%	7%

No	Question	Yes	No
3	Is the information on your current packaging easy to read and clearly presented?	100%	0%
4	Does the information on your current packaging comply with current packaging design standards?	100%	0%
5	In your opinion, does your current packaging arrive to customers in good condition?	100%	0%
6	Do you have any plans to evaluate your packaging design frequently?	100%	0%

Source: Processed primary data, 2025

Monitoring Stage

After all activities were completed, this discussion continued in the final stage, which focused on documentation and output preparation. At this stage, the team compiled several key documents to support the sustainability and impact of the program. One of the main outputs was a manual book titled *"The Optimization of E-Commerce for SMEs"*, which contains practical guidance based on field implementation. Additionally, the team prepared a manuscript for submission to a reputable national journal as part of its academic dissemination efforts.

Lastly, we suggest a recommendation for a design package for SME's in Kalisidi. These final outputs are intended to serve as references for future development, replication, and continued mentoring for SMEs in similar contexts.

CONCLUSIONS

In conclusion, this study demonstrates that the integration of innovative packaging design and targeted e-commerce training significantly enhances the competitive advantage of palm sugar SMEs in Kalisidi. By adopting these strategies, SMEs are better equipped to meet market demands, increase product visibility, and expand their customer base both locally and digitally. Future community service could explore other variables in competitive advantages, such as VRIO and PESTLE analysis. The follow-up to this community service activity is the continued guidance and monitoring of participants to ensure the sustained implementation of innovative packaging design and effective digital marketing strategies. Ultimately, empowering SMEs through innovation and digital transformation holds promising potential for regional economic advancement.



Figure 5. Reference for Design Products

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