



Analysis of the Implementation of MSME Regulations in the Digitalization of Palm Sugar Marketing: An Action Research Study Following Community Service in Sikeben Village

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Article Info

Article history:

Received :

Acceptance :

Published :

Available online

<http://aspublsher.co.id/index.php/lexsocietas>

E-ISSN: 3089-5200

How to cite:

Rahmah, Harahap, Aulia, Daulay, Fakhri (2025) "Analysis Of The Implentation Of MSME Regulation In The Digitalization Of Palm Sugar Marketing : An Action Research Study Following Community Service In Sikeben Village" Lex Societas: Journal of Law and Public Administration, vol. 3, no. 1, pp. 178-186, 2025.

ABSTRACT

This study discusses the development of palm sugar MSMEs in Sikeben Village through the use of digital technology. Palm sugar MSMEs play an important role in the local economy, but traditional marketing methods limit their market reach. This study used observation, interviews, and project development methods during the implementation of the 2025 Community Service Program (KKN) by students of the State Islamic University of North Sumatra. The results show that the palm sugar production process is still carried out traditionally, but business actors face obstacles in terms of digital skills and a lack of marketing innovation. As a solution, an integrated sales website with social media was designed to facilitate ordering and expand the market. In conclusion, digital transformation can be an effective strategy to increase the competitiveness of SMEs, but ongoing assistance and training are needed so that this program provides long-term benefits for the village economy..

Keywords: Implementation, MSMEs, Palm Sugar, Sikeben Village, Sales Website, Digital Transformation



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1. INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) play a crucial role in economic development in Indonesia. MSMEs not only provide a source of income for many families but also contribute to job creation and the sustainability of the local economy. MSMEs encompass various business forms, including small businesses, individuals, groups, and households. The Indonesian government prioritizes MSME development to increase the capacity of communities to become economically independent, and MSMEs make significant economic contributions by stimulating the local economy and distributing income throughout society (April et al., 2024).

The government has issued various policies and regulations to support the digital transformation of MSMEs, such as Government Regulation Number 7 of 2021 concerning the Facilitation, Protection, and Empowerment of Cooperatives and MSMEs and the National Movement for Proudly Made in Indonesia (Gernas BBI). These regulations mandate strengthening the digital capacity of MSMEs so they can utilize information technology, e-commerce, and digital platforms as promotional and transaction tools (Rambe et al., 2023). However, policy implementation at the village level often faces challenges such as limited digital literacy, technological infrastructure, and minimal legal and business management support. This has resulted in low digital technology adoption, resulting in local products such as palm sugar not being optimally marketed online and competitive at the regional and national levels (Saraan & Rambe, 2023;).

One product with significant potential for development through MSMEs is palm sugar, known as a traditional product with high cultural and economic value. The sugar palm (*Arenga pinnata* Merr) is a type of palm with high economic potential (Evalia, 2015) and produces blackish-brown sap with a distinctive aroma unlike white sugar (Irwan Wirajaya, Rismania Tiara Milenia, Irwan Hidayat, Bagus Satrialdy Azhar & Saputri, Lidya Saraswati Dellaneyra, Arya Hidayat, Ni Putu Ayu Aprila Andra Kumara, Kurniati, Septiana Dewi Putri, Titi Andriani, Talia Wandiyani, 2022).

Sikeben Village is renowned for producing high-quality palm sugar. Diversifying palm sugar products can help expand the market and increase value through product development, thus offering significant opportunities for market expansion (Nugraha, R., Rahman, U., & Iqbal, 2023). Traditional processing practices, a lack of innovation in product creation, and limited market reach are contributing factors (Arsana, I.K.S., Olilingo, F.Z., Antu, Y., & Rachman, 2023). Amidst the rapid development of digital technology, utilizing online platforms is crucial for increasing the competitiveness of local products. One strategic step is to design an e-commerce sales website that makes it easier for consumers to purchase palm sugar products online.

To support the development of palm sugar MSMEs in Sikeben Village, students participating in the 2025 Community Service Program (KKN) at the State Islamic University of North Sumatra actively participated by creating a sales website integrated with social media. The use of social media as a digital promotional tool is expected to expand marketing reach and increase public awareness of palm sugar products. Therefore, digital marketing strategies are implemented to influence potential consumers to purchase their products (Suriadi, S., Fadlina, F., & Rahman, 2023). Thus, the development of digital-based MSMEs not only has the potential to increase sales but also encourage digital transformation among business owners in the village.

This case study aims to provide an overview of the prospects for developing palm sugar MSMEs using digital technology and provide recommendations to support future business sustainability.

2. RESEARCH METHODE

This study used a qualitative action research method (Action Research). Action research is research oriented toward implementing actions with the goal of improving quality or solving problems in a group of research subjects. It also observes the level of success or consequences of these actions. Follow-up actions are then taken to refine the actions or adapt them to conditions and situations, resulting in better results (Syahrizal & Jailani, 2023). The following are several stages the researcher took in data collection (Nugraha et al., 2025):

1. Observation

The researcher conducted direct observations at the palm sugar production site. The goal was to understand the palm sugar production process in detail so that valid data could be obtained that reflect actual conditions.

2. Interviews

The researcher also conducted interviews with palm sugar MSMEs. This activity aimed to gather information about the obstacles faced, marketing strategies used, and various other issues affecting business operations.

3. Project Development

As a solution to the identified marketing problems, the researcher designed a project in the form of an e-commerce website relevant to community needs and to improve the quality of palm sugar MSMEs in Sikeben Village. This website was designed directly by Information Systems study program students who are part of the 2025 UINSU KKN group members, considering that this expertise is their main competency in implementing this work program.

3. RESULT AND ANALYSIS

Research results indicate that palm sugar MSMEs in Sikeben Village have significant potential for development through the use of digital technology. Observations revealed

that the palm sugar production process in this village is still carried out traditionally, maintaining its quality and distinctive flavor.

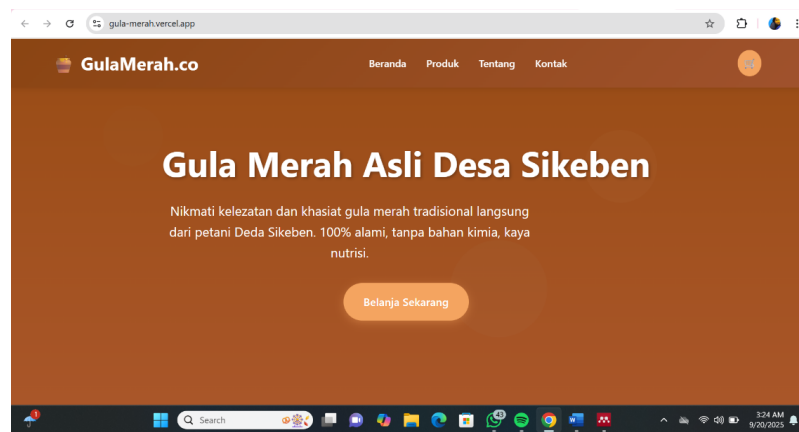
The palm sugar production process begins with the settling of the palm sap, which is carried out twice daily, in the morning and evening. This settling process begins with beating the palm flower bunches to open the pores so that the sap can escape. Once collected, the sap is filtered to remove impurities and then cooked in a large pan over medium heat.

During the cooking process, any foam that appears is skimmed off to prevent the sugar from burning and becoming bitter. Some artisans add ground candlenuts or coconut oil to prevent the sap from overflowing. Once thickened, the sap is poured into molds until it hardens, then packaged in banana leaves, teak leaves, or plastic for the modern market. In addition to the production process, financial record-keeping is a crucial aspect observed in the field. Recording is done using receipts or transaction receipts to monitor revenue, production costs, and profits. This information is used to determine competitive selling prices, taking into account the costs of raw materials, processing, operations, and profit margins.

The high demand for palm sugar, both within and outside the village, presents a significant opportunity for MSMEs. This is supported by the benefits of palm sugar as a healthy sweetener with a low glycemic index and high vitamin and mineral content. Through website design and digital promotion integration, palm sugar products from Sikeben Village have the potential to reach a wider market, increase sales value, and stimulate village economic growth. This palm sugar product has unique characteristics that can be utilized as a key element in marketing strategies. However, for distribution and promotion, businesses still rely on traditional methods, such as direct sales in markets or through intermediaries. This situation limits market reach and results in relatively low profits.

After conducting interviews with MSMEs, they explained that most of them were still unfamiliar with digital marketing. Obstacles they experienced included a lack of technological skills, a lack of capital to create an online sales platform, and limited product stock. Consumers also complained about the long distances they had to travel to purchase palm sugar in person due to the inability to transact online. Despite this, the entrepreneurs showed great enthusiasm when introduced to the concept of selling products through a website connected to social media.

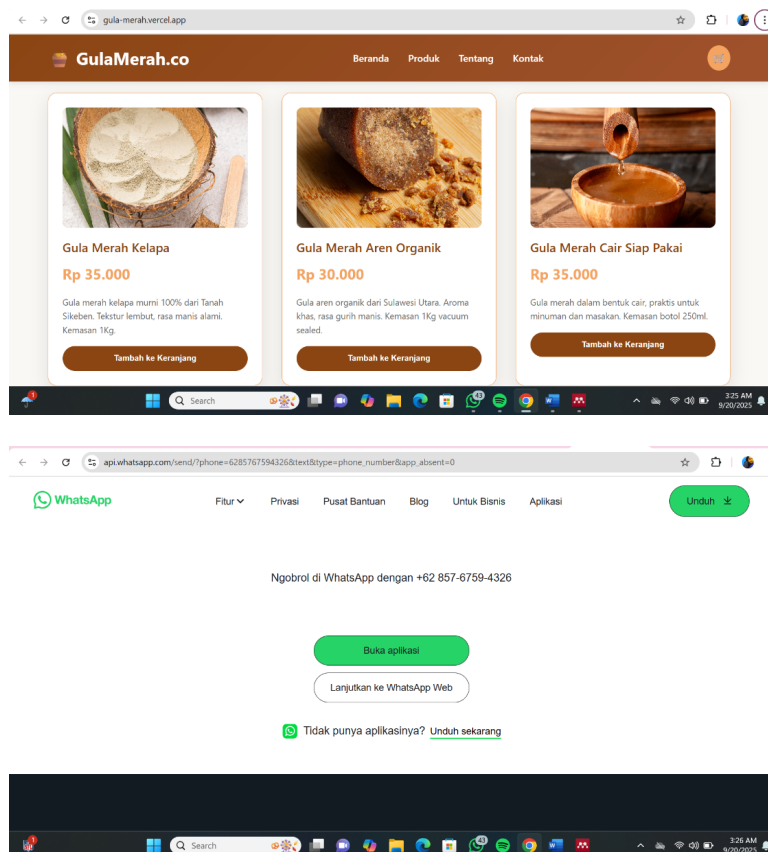
As a continuous follow-up to the findings in the field, KKN students developed a palm sugar sales website post-KKN, containing product information, a price list, contact information, and an online ordering facility. The website was designed with a simple interface and user interface.



Picture 1.1

Users simply click on the link <https://gula-merah.vercel.app/> or search for keywords relevant to Sikeben Village palm sugar in a web browser, then the system will display a link that automatically directs to the homepage of the Sikeben Village palm sugar website.

Picture 1.2



Picture 1.3

Users can then select the desired products on the website and add them to their cart. Afterward, they must click the cart icon, and the system will display a link that automatically directs them to the WhatsApp application so they can make a transaction directly with the seller. Complex checkout and shipping options were deliberately avoided to maintain transaction simplicity. With a design that simplifies the purchasing process, this website is deemed to have successfully achieved its design objectives.

The discussion of these results indicates that digital transformation can be a strategic solution for palm sugar MSMEs in Sikeben Village. Utilizing websites and social media not only expands the market but also builds a professional image for local products. With the right digital promotion strategy, MSMEs can reach consumers beyond the village and potentially even enter the national market.

Furthermore, mentoring from KKN students plays a crucial role in providing education on how to manage websites, upload content, and interact with customers online. This education serves as the first step in improving digital literacy for entrepreneurs so they can independently manage their platforms after the KKN program concludes. However, this study also found that the sustainability of the digital sales system is greatly influenced by the consistency of updating product information and the ability of entrepreneurs to maintain service quality. Therefore, further training and support from the village government or related parties are needed so that the digital transformation that has begun can continue to develop.

4. CONCLUSION

This research clearly demonstrates that palm sugar Micro, Small, and Medium Enterprises (MSMEs) in Sikeben Village have enormous potential for optimal development through the use of digital technology. Although palm sugar production in this village still relies on traditional methods, which are actually advantages in maintaining quality and authentic taste, the biggest limitation faced is marketing. Limited market reach and reliance on intermediaries prevent the product's economic potential from being maximized.

In response to this challenge, an action research project conducted by Community Service Program (KKN) students successfully realized a strategic solution: the design and implementation of a sales website integrated with social media. This concrete action goes beyond technical assistance, but rather a crucial intervention to open broader market access, increase product competitiveness, and significantly facilitate consumer ordering. With this digital platform, Sikeben Village's palm sugar products now have the potential to reach markets beyond the region, even nationally.

This initiated digital transformation is a vital first step in building the independence of entrepreneurs in online marketing. The positive impacts are already beginning to be seen, with a significant increase in interest among MSMEs in the use of digital media, as well as a growing awareness of the importance of digital literacy in the modern era. However, it's important to emphasize that the long-term success of this system depends heavily on ongoing support. The website launch is just the beginning. For this platform to continue operating consistently and providing sustainable benefits, mentoring, continued training, and regular monitoring from various parties, including academics, village governments, and the community, are required.

Thus, it can be concluded that the development of digital-based palm sugar MSMEs is a highly effective strategy for driving local economic growth. This initiative not only increases sales and the well-being of entrepreneurs but also serves as a model for other

villages in utilizing technology to introduce their superior products to a wider market. This project demonstrates that synergy between academics and the community can create innovative solutions that bring positive and sustainable change to the village economy.

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