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Implementation of Effective Manufacturing Management for SMEs "Dodol Salak Kuningan"

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Abstract

MSME "Dodol Salak Kuningan" is a potential MSME but has several problems, especially the use of technological tools that are still simple; this causes business processes to become less effective and efficient so that product competitiveness is low. The solution provided by the UGJ PKM TEAM is to implement the Implementation of Effective Manufacturing Management on MSME Processed snakefruit Products in Cimara Village, Pasawahan District, Kuningan Regency. The PKM activity method uses a Participatory Learning and Action (PLA) approach. The stages of this activity are carried out through several steps, namely: 1) Observation of MSMEs, 2) Socialization of the implementation of effective manufacturing management, 3) Training and assistance in technology adaptation, 4) Monitoring, evaluation and follow-up, 5) Compilation of reports and publications. The results of PKM activities: 1) Application of snakefruit grinding machine technology, 2) Application of automatic dodol stirring machine technology, 3) Improvement of product packaging. Based on the evaluation of PKM activities, it can be concluded that PKM activities impact: 1) The production process is faster and more efficient, 2) Better product quality, and 3) Increased product competitiveness.

Keywords: *Snakefruit; Effective; Manufacturing; Management*

INTRODUCTION

MSMEs, or Micro, Small and Medium Enterprises, are one of the drivers of the Indonesian economy (Andreas, 2017; Hidayat, A. S., Kartono, K., Mardiyani, M., & Lisara, 2019; Putra, 2018). From year to year, the development of MSMEs in Indonesia is increasing, which is indicated by the increasing contribution of MSMEs to GDP and increasing labour absorption from the MSME sector (Oktarina & Widodo, 2019). However, the development of MSMEs in Indonesia is still not evenly distributed to remote areas (Sugiharto, 2015), one of which is the area in Cimara Village, Pasawahan District, Kuningan Regency. One of the superior agricultural products from Cimara village is snakefruit farming. Cimara village is the only village in Kuningan, even in area 3 Cirebon, where the land is suitable for growing snakefruit. In one year, the snakefruit garden in Cimara Village can produce approximately 300 tons of snakefruit. However, from a large number of production results, most of the products from the snakefruit gardens are sold directly at the store, and it is still rare to process food products from processed snakefruit.

Snakefruit products should be reprocessed into snacks such as Dodol. The development of snakefruit dodol is an alternative solution to increase the added value of processed snakefruit products (Kade, Max, Alam, & Muis, 2019); even in some areas, there has been the development of snakefruit agritourism (Retnaningdyah, Sundari, Riswanto, & Paryanto, 2016). Currently, one MSME processes snakefruit into snakefruit dodol and candied snakefruit products. The name of the MSME is KWI Ciremai. The chairman is Mrs Aswety and has six members.

MSME Dodol Salak Nyalira has the potential to develop, and it's just that there are still some main problems, namely problems in the production process. The production process is still simple. As an illustration of the process for grinding snakefruit still using a blender, here is an overview of the process of grinding snakefruit using a blender:

Figure 1. The process of grinding snakefruit using a blender

Furthermore, in the process of mixing dodol, SMEs Dodol Salak Nyalira still use human manual labour. The following is an overview of the process of stirring dodol with manual power:

Figure 2. The process of stirring dodol with manual power

This process is the most tiring in making dodol and requires a minimum workforce of 2 people to stir the dodol within 5 hours continuously. Some of the drawbacks of making dodol with manual labour are that if you mix it too late, the bottom of the pan will burn; besides that, the spices are sometimes mixed unevenly.

Some of these problems make the snakefruit dodol production process ineffective and inefficient; product quality control cannot be maintained constantly. Based on this problem, the PKM Team from the Gunung Jati Swadaya University Campus, Cirebon, offered a solution by implementing effective manufacturing management in the process of processed snakefruit dodol.

Effective Manufacturing Management is about leading and managing operating excellence. Operational leadership and management are based on procedures and require thorough knowledge and skills to control the production process, increase productivity, and improve quality (Ammar, Haleem, Javaid, Walia, & Bahl, 2020). Effective manufacturing management can also be interpreted as a management process to increase business scale through the effectiveness of the production process by using better technology. According to Ammar et al., (2020), there are advantages of implementing effective manufacturing management, namely: 1) increasing company profitability, 2) improving product quality, 3) better monitoring and less maintenance, 4) competitive advantage, 4) reducing industrial waste, 5) economic welfare of society, 6) higher returns for investors, 7) consumer satisfaction.

The purpose of implementing PKM by implementing effective manufacturing management on SMEs Dodol Salak Nyalira is to increase the effectiveness and efficiency of the production process. The expected benefits of this PKM activity are: 1) increasing the quality of dodol products, 2) the production process becoming faster and more efficient, and 3) product competitiveness increases.

METHOD

The Community Partnership Program (PKM) activity is carried out on MSMEs Processed for snakefruit products under the name MSME, namely MSME KWI Ciremai. This PKM activity occurred in Cimara Village, Pasawahan District, Kuningan Regency. This PKM program is carried out for three months, from September-November 2021. The community empowerment method used in this Community Partnership Program (PKM) activity is Participatory Learning and Action (PLA).

The PLA method is a community empowerment method consisting of a learning process (through lectures, brainstorming, discussions, and training) about a topic faced by empowerment participants, which is immediately followed by actual actions or activities that are relevant to the community empowerment material (Mardikanto & Soebiato, 2012).

The stages of this activity are carried out through 1) Observing MSMEs to find out the problems faced by MSMEs and formulating work programs, 2) Socializing the implementation of effective manufacturing management to village governments, 3) Training and assisting technology adaptation based on the concept of effective manufacturing management, 4) Monitoring, evaluation and follow-up, 5) Preparation of reports and publications in mass media and scientific journals.

RESULTS AND DISCUSSION

PKM activities through implementing effective manufacturing management on MSMEs, Dodol Salak Nyalira, were carried out for three months. The essence of this activity is the application or use of better production technology, which allows the production process to be carried out effectively and efficiently. Implementing effective manufacturing management is to use a milling machine that can grind snakefruit better. The following is an overview of the milling process:

Figure 3. The process of milling dodol with a machine

This machine can grind snakefruit more quickly. For 50 Kg of snakefruit, it only takes 30 minutes. Besides, the results of the mill are also smoother. The form of implementation of effective manufacturing management is the use of an automatic dodol mixer that can stir dodol better. The following is an overview of the dodol mixing process.

Figure 4. The process of stirring dodol with an automatic stirrer

Based on the results of monitoring and evaluation, the following is a comparison of the process of grinding snakefruit using a blender and a machine:

Table 1. Comparison of the dodol milling process

Indicator	Using a blender	Using a milling machine
The method of grinding 50 Kg of snakefruit	Takes about 6-7 hours. There are at least two blenders used.	Spent 30 minutes.
Additional water	One day optimum 50 Kg	One day can be more than 150Kg
Milling quality	The process of grinding with a blender needs to add water so that the water content is higher and the taste of the dodol fruit is slightly reduced.	The grinding process does not require additional water, so the taste of the snakefruit is more pungent.

Based on the results of monitoring and evaluation, the following is a comparison of the dodol mixing process using manual power and an automatic mixer:

Table 2. Comparison of the dodol mixing process

Indicator	Using hand	Using a stirring machine
Total workforce	2-3 people	Maximum 1 person, and even then, only to enter the results of milled snakefruit and spices at the beginning and check the moving process automatically.
Mixing quality	The result of stirring dodol by hand is sometimes not evenly distributed because if you mix it late, especially at the end, some of the dodol will burn.	As a result of stirring with an automatic machine, the spices are more evenly distributed, and you don't have to worry about burning because the stirring process is constant
Production time	4.5 hours	5 hours

Based on the results of these empowerment activities, we can see that using more sophisticated production equipment using machines can increase production. An increase in product quality accompanies the rise in production because by using a device, the results of the

salak grind become smoother, and the quality of the dodol becomes better. This result is in line with the concept of effective manufacturing management, where the orientation of this method is the transition of the production process from what was initially done manually to the application of machine-based technology (Ammar et al., 2020). Several previous research results support this argument that through the application of better technology, companies will gain increased profitability (Xiang & Feng, 2021). Companies with the awareness to invest in better production tools will gain advantages and dominate market share (Jain, Bhatti, & Singh, 2014). The approach to empowering MSMEs is not only in the production aspect, but in the future, it can also be done in the marketing aspect. Sulila, Dungga, Wolok, & Usman, (2022) show that mentoring MSMEs through offline and online marketing diversification can increase product sales. Online marketing is critical, considering that there are currently many marketing channels and online stores that can be used for product promotion and sales.

CONCLUSIONS AND RECOMMENDATIONS

The community partnership program implementing team, through the implementation of effective manufacturing management on MSME processed snakefruit products in Cimara Village, Pasawahan District, Kuningan Regency, has carried out PKM activities ranging from observation, socialization, FGD, training and implementation, monitoring and evaluation, to coverage in the mass media. The activities that have been carried out impact MSMEs, especially in increasing the effectiveness and efficiency of the production process. Increasing the effectiveness and efficiency of production makes MSMEs able to increase the amount of production and ready to remarket their products offline and online.

The PKM team provides suggestions: 1) To MSMEs to carry out economic calculations for submitting business capital to the banking sector so that the production process can be carried out in large quantities. 2) For the Cimara Village party to allocate funds for the development of snakefruit dodol SMEs, it would be better if the village party could provide or build a typical Cimara Village gift shop managed by BUMDES furthermore, for the Cimara Village government to optimize the existing snakefruit land because it has the potential to be used as an agro-tourism location.

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