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ANALYSIS OF PRODUCTION OPTIMIZATION IN INCREASING PROFITS AT UD. TAHU NIAS

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Abstract

Production optimization is a key to increasing efficiency and profitability, especially in businesses such as UD. Tahu Nias in Hiligodu Ombolata Village, Gunungsitoli City, which operates in the tofu production sector. This research is motivated by the production challenges faced by the company, such as limited equipment, late raw material supplies, and an unskilled workforce, which impact the inefficiency of the production process and decrease the level of profitability. The method used in this study is a qualitative descriptive approach with data collection techniques through interviews, observation, and documentation. Informants consisted of the owner, production employees, and other support staff. The results of the study indicate that the production process at UD. Tahu Nias still has manual stages with limited use of machines, especially only at the soybean milling stage. The main obstacles in optimizing production include late raw material supplies, the lack of technology and training for employees. However, the company has made several efforts such as strategic raw material management and efficient division of labor among employees. The conclusion of this study is that production optimization at UD. Nias tofu can be improved through the use of advanced equipment in more modern production facilities, employee skills development through training, and improved production and distribution planning. By implementing these strategies, the company has the potential to sustainably increase operational efficiency and profitability.

Keywords: *Optimization, Production, Profit*

INTRODUCTION

In the business world, production is a fundamental aspect that determines the sustainability and development of a business. Every company, whether small or large, must have a sound strategy for managing production to increase efficiency and achieve optimal profits. Without a well-thought-out strategy, the production process can experience obstacles such as wasted raw materials, labor inefficiencies, and high operational costs. Therefore, optimizing production is a primary focus for companies seeking to survive and compete in an increasingly competitive marketplace.

In practice, UD. Tahu Nias, production optimization becomesimportant aspectsin increasing business profits. As one of the tofu producers operating in Hiligodu Ombolata

Village, UD. Tahu Nias faces various challenges in increasing its production capacity and operational efficiency. By implementing appropriate production optimization strategies, such as the use of modern technology, better production management, and product diversification, UD. Tahu Nias can increase its competitiveness in both local and national markets. Therefore, this study will analyze production optimization strategies that can be implemented by UD. Tahu Nias to significantly increase profits.

The research conducted by Siregar (2021), entitled "Production Optimization to Increase Profits in Micro, Small, and Medium Enterprises (MSMEs) in Medan City," used a qualitative method with a case study approach. This study aimed to analyze the production strategies implemented by MSMEs to improve operational efficiency and profitability. The results showed that production optimization can be achieved through increased production capacity, raw material efficiency, and the implementation of simple technology to support the production process. Furthermore, businesses that implement product diversification strategies and adjust prices based on market demand are able to significantly increase profits.

Based on initial observations, several phenomena were identified at UD. Tahu Nias related to production and business profitability. One of the main issues identified was limited production capacity due to rudimentary equipment and a workforce that was not yet fully skilled in improving work efficiency. Furthermore, there were frequent constraints on the supply of soybean raw materials. Another phenomenon that emerged was delays in the production process due to the still rudimentary or less sophisticated equipment used. Furthermore, the still-conventional marketing strategy also posed a barrier to increasing profits, as market reach was still limited to the region.

LITERATURE REVIEW

Production Optimization

According to Heizer and Render (2020:23), production optimization is a systematic approach in operations management to organize resources so that the production process runs efficiently and produces maximum output without significantly increasing operational costs. According to Raharjo (2021:41), an Indonesian production management expert, production optimization is defined as the process of improving production system performance through continuous improvement that includes waste reduction, increased labor productivity, and the use of appropriate technology. According to Cheng et al. (2022), production optimization is an adaptive process in modern manufacturing systems that aims to align production capabilities with market demand in real time.

According to Sutrisno (2021:29),explained that production optimization is a strategic step to achieve a balance between production capacity and consumer demand, which involves analyzing costs, production time, and product quality. He added that the role of quality management and process control is crucial in this context. According to Kim & Lee (2024), production optimization in the Industry 4.0 era focuses more on the integration of

humans, machines, and digital systems. They stated that the success of optimization is determined by a company's ability to manage data in real time and perform predictive analysis to plan and adjust production activities.

According to Mulyadi (2022:20), production optimization is heavily influenced by five main factors: workforce quality, technological sophistication, integrated management processes, raw material availability, and a conducive work environment. He emphasized that the integration of these factors is key to creating an efficient and productive production process.

According to Wibowo (2021:28), the main challenge in optimizing production lies in the alignment between company strategy, human resource capabilities, and technological infrastructure readiness. He emphasized that even though production technology continues to develop, without competent human resources and adaptive management, the optimization process will be hampered.

According to Musran Munizu (2020), there are several indicators of production optimization, namely the availability of raw materials, effective use of production time, availability of machines/equipment, and labor productivity.

Business Profit and Performance

According to Mulyadi (2020:32), business profit is the final result obtained after all operational and non-operational costs are subtracted from total revenue. He emphasized that profit is an indicator of the effectiveness of resource management in generating economic added value. According to Suhardjono (2021:21), business profit is the excess of revenue over costs directly related to the production and distribution of goods or services. He added that profits can be short-term (operational) or long-term (asset capitalization). Meanwhile, according to Anthony and Govindarajan (2022:41), business profit is a measure of financial performance that reflects the efficiency of resource use and the effectiveness of business strategies.

According to Heizer & Render (2020:81), production efficiency is the ratio of output produced to input used. Maximum efficiency is achieved when output increases without a proportional increase in input. They explain that efficiency is closely related to labor productivity, machine utilization, and downtime reduction. In the context of increasing profits, production efficiency must be directly linked to achieving optimal cost and production time targets.

According to Hansen and Mowen (2020), "optimal production will significantly contribute to increasing company profits, provided fixed costs are controlled and sales volume remains at a profitable level." In their view, production is not only about quantity, but also about efficiency and matching output to market needs. This means that production

strategies must be aligned with marketing and financial management strategies to maximize results. There are several relationships between production and profits, as follows:

1. Efficient Production→Lower Costs→Higher Profits.
2. Increase in Production Volume→Economies of Scale→Decrease in Fixed Cost per Unit.
3. Increased Product Quality→Consumer Satisfaction→Increased Sales and Profits.
4. Imbalance between Production and Demand→Overproduction→Decreasing Profits.
5. Labor Productivity→High Output→Operational Efficiency→Increased Profits.

RESEARCH METHODS

This research uses a qualitative method with a descriptive approach. According to Sugiyono (2022), descriptive qualitative research aims to understand phenomena in depth by collecting narrative or descriptive data through observation, interviews, and documentation. This method allows researchers to explore experiences, perceptions, and policies implemented in a specific context. Meanwhile, Moleong (2021) explains that descriptive qualitative research emphasizes meaning rather than generalizations, thus focusing research results on a holistic understanding of the situation.

In this research, the data collection techniques used are interviews, observation, and documentation (Samsu, 2021). The primary data collection instrument is the researcher themselves, who observe, ask questions, listen, request, and collect research data. Researchers must obtain valid data, ensuring that they do not interview just any informant.(Alhamid and Anufia 2019)Data analysis in qualitative research is conducted during data collection. Activities in data analysis include: data reduction, data display, and conclusion drawing/verification (Sugiyono, 2022).

RESULTS AND DISCUSSION

Based on research results, UD. Tahu Nias has taken several steps to improve production effectiveness and efficiency, although some are still relatively simple. These efforts include:

1. Raw Material Inventory Management
   - Make bulk purchases of soybeans when prices are stable to reduce purchasing costs.
   - Keep some raw materials as reserve stock to anticipate supply delays.
   - Collaborate with multiple suppliers to reduce dependence on a single source of supply.
2. Improving the Quality of Human Resources
   - Provide on-the-job training to new employees so they quickly understand the production flow.
   - Encourage experienced workers to guide new workers so that the work process is more uniform.

3. Equipment Maintenance and Repair
   - Perform routine maintenance on grinding machines and other production equipment to reduce the risk of sudden breakdowns.
   - Allocate funds for the replacement of equipment that is no longer suitable for use.
4. Production Time Arrangement
   - Adjust production start times based on raw material availability and equipment conditions, thereby minimizing idle time.
   - Although not yet fully scheduled, UD. Tahu Nias strives to maintain relatively consistent production hours every day.
5. Product Quality Control
   - Ensuring that every stage of production is carried out according to internal standards, especially the boiling and molding processes, so that the resulting tofu has a consistent texture and taste.

Research conducted at UD. Tahu Nias also found that the production process still relies on manual methods at several stages, which impacts time efficiency and production output. It is clear that the production process at UD. Tahu Nias still faces several significant obstacles that directly impact production effectiveness and efficiency. These obstacles include:

1. Raw Material Constraints

   The availability of the main raw material, soybeans, is often unstable. This is due to UD. Tahu Nias's dependence on supplies from outside the region, particularly from Medan. When shipping disruptions occur, such as bad weather or shipping delays, supply is disrupted and production is delayed. This indicates suboptimal raw material procurement planning, as well as a lack of alternative suppliers and a backup stock system.
2. Labor Constraints

   UD. Tahu Nias' workforce is still limited and lacks employee training. The majority of workers learn by experience without formal training, resulting in inefficient work processes. This situation is exacerbated by the high manual workload, particularly since many production stages are not yet mechanized.
3. Production Equipment Constraints

   The equipment used was quite old and frequently experienced technical problems, particularly the grinding machine. Suboptimal machine performance caused delays in the production process and increased waiting times. This was a major obstacle to increasing daily output.
4. Production Time Management Constraints

Production times are not planned. Work processes begin and end based on raw material availability and equipment condition, rather than a structured operational schedule. This leads to inefficiencies and inconsistent daily production volumes.

Based on the research results, it can be concluded that the findings in the field are in line with the theory put forward by Mulyadi (2022), he stated that production optimization is greatly influenced by several factors, namely the quality of the workforce, technological sophistication, integration of management processes, availability of raw materials, maintenance of machines and production facilities, work environment and external factors.

According to Wibowo (2021), the main challenge in production optimization lies in the alignment between company strategy, human resource capabilities, and technological infrastructure readiness. He emphasized that although production technology continues to develop, without competent human resources and adaptive management, the optimization process will be hampered. Wibowo also stated that changes in the external environment, such as market fluctuations and unstable raw material supplies, also complicate the optimization process.

Due to the various obstacles in the production process at UD. Tahu Nias, researchers have proposed several solutions to optimize production more effectively, including:

1. Regarding raw material constraints, researchers recommend that UD. Tahu Nias develop a better inventory management system, such as purchasing raw materials in bulk when soybean prices are stable and storing them as reserve stock. Furthermore, it's crucial for the company to collaborate with more than one supplier to reduce dependence on a single region.

   A similar study was conducted by Simbolon (2022), entitled "Tofu Production Optimization Strategy to Increase Profits at Production Centers in Deli Serdang Regency." This study concluded that successful production optimization depends not only on internal company factors but also on strategies for adapting to changing market conditions and the business environment.
2. Regarding workforce constraints, researchers recommend regular technical training for employees, especially new hires, to ensure a standardized understanding of production processes. Improving the quality of human resources will directly impact work efficiency and product quality.

   According to Mulyadi (2022:20), production optimization can also be influenced by the quality of the workforce, or the quality and competence of the workforce. The workforce is a core element in the production process. Worker quality and competence include technical expertise, experience, problem-solving skills, and discipline. Skilled workers, along with training and development of human resources, are crucial steps to maintaining and improving the quality of their work.
3. To address production equipment constraints, researchers recommend a dedicated budget for the maintenance and replacement of malfunctioning production equipment.

Using more modern or semi-automated equipment can also be a strategic option to speed up the production process and minimize the risk of breakdowns.

According to Mulyadi (2022), the use of modern technology and automation in production can speed up work processes, increase accuracy, and reduce reliance on manual labor. Automation also helps maintain product consistency and allows for real-time monitoring of the production process.

4. To address production time management challenges, researchers recommend developing more structured work schedules and daily targets. With a clear operational schedule, companies can monitor daily productivity and avoid wasted time caused by uncertainty in the production process.

   In Wibowo's (2021) view, the main challenge in optimizing production lies in the alignment between company strategy, human resource capabilities, and technological infrastructure readiness. He also emphasized that even if production technology advances, without competent human resources and adaptive management, the optimization process will be hampered.

CONCLUSION

Based on the results of research conducted by researchers, the following conclusions can be drawn:

1. UD. Tahu Nias's production process still utilizes a combination of manual methods and simple tools. The production process includes soaking soybeans, milling them using a machine, boiling them, filtering them, molding them, cutting them manually, and packaging them. Production does not yet operate with a consistent work schedule, as it relies heavily on raw material availability and market demand. Packaging and distribution are also carried out traditionally, which presents limitations in efficiency improvements.
2. Production Constraints: Several obstacles were encountered in optimizing production, such as dependence on a single soybean supplier from outside the region, limited technical training for workers, limited availability of aging production equipment, and the lack of an efficient production time management system. These constraints have reduced operational efficiency and resulted in unstable daily production results.
3. Optimization Efforts UD. Tahu Nias has made a number of efforts to improve its production process, including storing raw material reserves when conditions permit,

dividing work tasks in a more organized manner in the production kitchen, utilizing grinding machines, even though they are still simple, organizing the production flow to be more efficient, and considering adding or replacing new machines to streamline overall production activities.

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