

Assistance in Increasing the Efficiency of the Cost of Goods Sold for Herbal Medicine

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ABSTRACT

The Community Service Program (PKM) aims to increase production efficiency and cost management in traditional herbal medicine businesses. Through a series of training and mentoring, this program focuses on implementing more effective and efficient cost management strategies, with the hope of increasing the competitiveness of herbal medicine products in the market. A qualitative approach was used to understand the obstacles and challenges faced by herbal medicine entrepreneurs in managing production costs. Qualitative data was collected through in-depth interviews with herbal medicine entrepreneurs and direct observation of the production process. Meanwhile, a quantitative approach is used to measure cost efficiency before and after the intervention. Quantitative data is collected through financial document analysis and surveys. The results of this program show a significant increase in production cost efficiency and participants' understanding of business financial management. The conclusion of this activity indicates that by implementing the right strategy, traditional herbal medicine businesses can further develop and compete in a wider market. Recommendations in the long term, product diversification and wider market penetration can be strategies to increase business sustainability. With a commitment to increasing efficiency and innovation, Satrio Turonggo Jati can continue to develop and make a positive contribution to the local and national economy.

Keywords: Cost of Goods Sold, Herbal Medicine, Increased Efficiency, Satrio Turonggo Jati

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1. INTRODUCTION

Traditional herbal medicine businesses in Indonesia are an important part of cultural heritage that has significant economic potential (figure 1). Jamu, as a herbal product that has various health benefits, has been an integral part of the lives of Indonesian people for centuries. However, many traditional herbal medicine entrepreneurs face various challenges in managing their businesses, especially in terms of production cost efficiency. High production costs are often the main obstacle to developing herbal medicine businesses, which have a direct impact on the cost of goods sold (COGS) and product competitiveness in the market. High production costs pose a significant challenge to the progress of the herbal medicine business, directly affecting the calculation of production costs (COGS) and overall product competitiveness in the market. Developing countries face many obstacles in creating environmentally friendly and user-friendly herbal cosmetic products due to factors such as insufficient production capacity, lack of financing, and unsustainable medicinal plant collection practices (Rustam, 2022). Value chain analysis in the herbal medicines sector emphasizes the importance of quality control measures throughout the production process to ensure the final product is of high quality and meets regulatory standards for international exports (Tedjalaksana & Trimo, 2022). Training programs on COGS calculations

and financial report preparation are very important for small and medium herbal medicine companies to improve their competitiveness and financial management capabilities.



Figure 1. Traditional herbal medicine
Source: Survey Results (2023)

Satrio Turonggo Jati Village is located in Rampal Celaket Village, Klojen District, Malang City, and is one of the thematic villages in Malang City which focuses on preserving East Javanese culture and traditions. This village, which is one of the herbal medicine production centers in Indonesia, also faces similar problems. Herbal medicine entrepreneurs in this area often face difficulties in managing production costs efficiently, which results in high costs of goods sold and thin profit margins. Therefore, systematic efforts are needed to increase production cost efficiency and reduce COGS through in-depth analysis and implementing more effective cost management strategies. Herbal medicine entrepreneurs in the Satriyo Turonggo Jaya area face challenges in managing production costs efficiently, which leads to rising commodity prices and narrow profit margins. The traditional herbal medicine industry in Indonesia plays an important role in the nation's economy, contributing to income, increased welfare and employment opportunities.

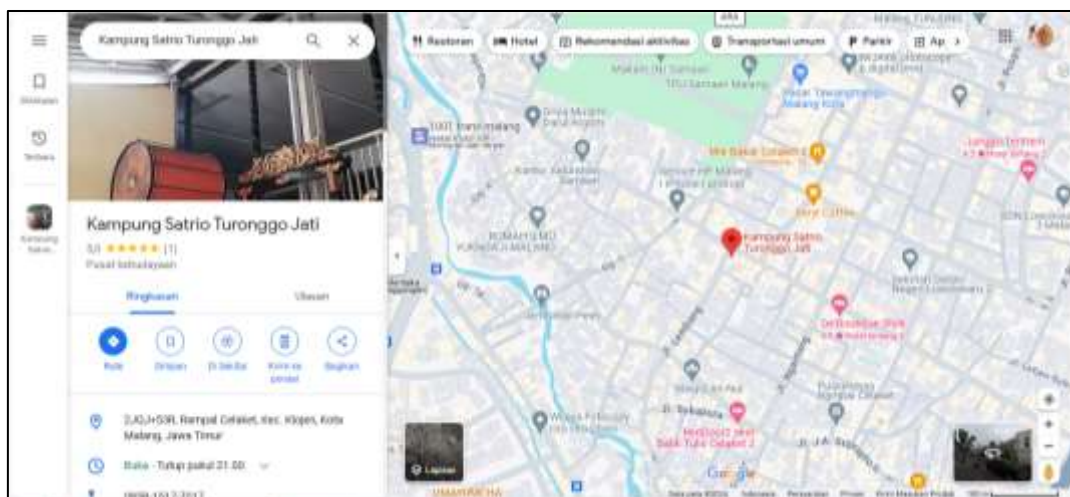


Figure2. Location of Satrio Village
Source: Maps (2023)

Community service is one of the main pillars of the tridharma of higher education, which aims to make a real contribution to the progress and welfare of society. In this context, I as a lecturer have a responsibility to apply academic knowledge and expertise to help society, especially the small and medium enterprise (SME) sector, to improve their performance and competitiveness. One of the service activities that I am currently carrying out is an analysis of increasing the efficiency of the cost of goods sold (HPP) for herbal medicine at Satrio Turonggo Jati, an SME engaged in the production of traditional herbal medicine in Central Java (Hasnawati et al., 2023). Jamu, as an Indonesian cultural heritage product, has great potential in both domestic and

international markets. However, to be able to compete in an increasingly competitive market, SMEs such as Satrio Turonggo Jati need to make continuous efforts to improve operational efficiency and reduce production costs. High cost of goods sold is often the main obstacle that reduces profit margins and product competitiveness in the market (Khotimah et al., 2022). Therefore, the main objective of this community service activity is to conduct a comprehensive analysis of the production cost structure at Satrio Turonggo Jati and identify areas that can be optimized to increase HPP efficiency (Sulaiman et al., 2022). With a systematic and data-based approach, it is hoped that the resulting recommendations can help Satrio Turonggo Jati reduce production costs, increase productivity, and ultimately increase the profitability and competitiveness of their herbal medicine products in the market.

According to research Iswari et al. (2022), a stronger mentality and high enthusiasm, they are able to identify opportunities to increase efficiency. As done by Satrio Turonggo Jati in analyzing and improving the efficiency of the cost of goods sold for herbal medicine and including the application of new techniques in production, better resource management and more effective marketing strategies. Therefore, developing an entrepreneurial mentality and spirit through counseling not only increases the individual capacity of entrepreneurs, but also has a positive impact on their business performance. This reflects how improving skills and an entrepreneurial mentality can contribute to cost optimization and increased efficiency in various operational aspects, as seen in the case of Satrio Turonggo Jati. Thus, these two studies complement each other in creating a more efficient and highly competitive business ecosystem.

2. METHODS

This mentoring activity is carried out in 2 stages, with each stage carried out within 30 days. The identification of the main problems uses qualitative methods. Qualitative research methods, as discussed in various contexts (Bogaert et al., 2015; Peter, 2022). Play an important role in identifying the obstacles and challenges faced by herbal entrepreneurs in managing production costs. By conducting in-depth interviews with herbal medicine entrepreneurs and directly observing the production process, we can gain valuable insight into the specific issues faced in this sector. Utilization of qualitative data collection techniques such as interviews and observations allows for a comprehensive understanding of the nuances and intricacies involved in managing production costs in the herbal medicine industry. Through a qualitative approach, we can dig deeper into the experiences and perspectives of herbal entrepreneurs, explaining the factors that influence production costs and the obstacles they encounter in their operations. Qualitative data was collected through in-depth interviews with herbal medicine entrepreneurs and direct observation of the production process. Meanwhile, a quantitative approach is used in evaluating activities by measuring cost efficiency before and after the intervention. Quantitative data is collected through financial document analysis and surveys.

- a. Preparation Stage: Includes identifying problems and needs of herbal medicine entrepreneurs through initial interviews and field observations.
- b. Training: Provide material regarding production cost management, efficiency techniques, and financial management strategies through intensive training sessions.
- c. Mentoring: Monitoring and evaluating the implementation of strategies taught during training. Assistance is carried out periodically to ensure proper implementation in obtaining HPP.
- d. Evaluation: Measuring improvements in HPP efficiency and participant understanding through data analysis before and after the intervention and obtaining feedback from participants.

3. RESULTS AND DISCUSSION

3.1. Results

Procurement of Raw Materials

Raw material costs are the largest component in HPP for herbal medicine in Satrio Turonggo Jati. Based on the data collected, raw material costs account for around 60% of total COGS. Several types of main raw materials used include ginger, turmeric, ginger and betel leaves. Fluctuations in the price of these raw materials are greatly influenced by the season and availability on the market.

Table 1. Monthly Raw Material Costs

No.	Type of Raw Material	Quantity (kg)	Price per kg (IDR)	Total Cost (IDR)
1	Ginger	200	40	8,000,000
2	Turmeric	150	30	4,500,000
3	Curcuma	100	35	3,500,000
4	Betel leaf	50	20	1,000,000
Total Raw Material Costs				17,000,000

Source: Data Processed (2023)

In the production of herbal medicine in Satrio Turonggo Jati, raw material costs are the largest component, contributing around 60% of the total cost of goods sold (HPP). For ginger raw materials, a quantity of 200 kg is required with a price per kilogram of IDR 40,000, so the total costs incurred reach IDR 8,000,000. Meanwhile for turmeric, with a quantity of 150 kg and a price per kilogram of IDR 30,000, the total costs incurred are IDR 4,500,000. Furthermore, ginger requires a quantity of 100 kg with a price per kilogram of IDR 35,000, so the total cost reaches IDR 3,500,000. Finally, for betel leaves, a quantity of 50 kg is required with a price per kilogram of IDR 20,000, resulting in a total cost of IDR 1,000,000. Overall, the total monthly raw material costs reach IDR 17,000,000.

Labor Costs

Labor costs are also a significant component of COGS, accounting for approximately 25% of total COGS. These costs include salaries of permanent employees and wages of daily workers. Workforce efficiency can be improved through better training and implementation of standard operating procedures (SOP).

Table 2. Monthly Labor Costs

No.	Employee Type	Number of employees	Salary/Wages Per Person (IDR)	Total Cost (IDR)
1	Permanent employees	5	4,500,000	22,500,000
2	Daily Worker	10	1,500,000	15,000,000
Total Labor Costs				37,500,000

Source: Data Processed (2023)

From the table, labor costs at Satrio Turonggo Jati consist of permanent employees and daily workers, which together contribute around 25% of the total cost of goods sold (HPP). There are 5 permanent employees, each receiving a salary of IDR 4,500,000, so the total costs for permanent employees reach IDR 22,500,000. In addition, there are 10 daily workers with wages per person of IDR 1,500,000, which results in a total cost for daily workers of IDR 15,000,000. Thus, the total monthly labor costs at Satrio Turonggo Jati are IDR 37,500,000.

Overhead and Distribution Costs

Overhead costs, which include electricity, water and building rental costs, account for around 10% of total COGS. Meanwhile, distribution costs cover around 5% of total COGS. Distribution costs can be optimized by selecting more efficient distribution channels and collaborating with distributors who offer more competitive costs.

Table 3. Overhead Costs and Monthly Distribution

No.	Fee Type	Percentage of COGS	Cost (IDR)
1	Electricity cost	4%	2,000,000
2	Water Costs	1%	500
3	Building Rental Fees	5%	2,500,000
Total Overheads	10%	5,000,000	
4	Distribution Costs	5%	2,500,000
Total cost	15%	7,500,000	

Source: Data Processed (2023)

Overhead costs at Satrio Turonggo Jati include several important components that support herbal medicine production operations. Electricity costs, which are required for production operations, contribute around 4% of the total cost of goods sold (HPP). In addition, the cost of water used in the production process accounts for around 1% of COGS. Building rental costs, which are used for production and operations, account for around 5% of COGS. Furthermore, distribution costs, which are incurred to distribute herbal medicine products to consumers or distributors, also contribute around 5% of COGS. Overall, total overhead costs account for around 10% of COGS, and total distribution costs contribute around 5% of COGS, with the total overhead and distribution costs reaching IDR 7,500,000.

To optimize distribution costs, Satrio Turonggo Jati can implement several strategies that have been proven effective. First, by choosing more efficient distribution channels, such as using shorter and faster routes, companies can reduce transportation costs and delivery times significantly. In addition, collaboration with distributors who offer lower distribution costs and have a wide distribution network can help reduce overall distribution costs. Furthermore, the use of technology in distribution management, such as a technology-based distribution management system, can help organize deliveries more efficiently and reduce operational costs associated with distribution. By implementing these strategies, Satrio Turonggo Jati can reduce distribution and overhead costs, thereby increasing operational efficiency and overall company profitability.

Raw material management is one of the crucial aspects in the operational success of a business, including in the herbal medicine industry such as that run by Satrio Turonggo Jati. Effective management can not only reduce production costs but also ensure the availability of adequate raw materials to meet market demand. Therefore, in order to increase efficiency and profitability, several effective raw material management strategies need to be implemented. One of the main strategies that can be implemented is procuring raw materials in large quantities when prices are low. By purchasing raw materials in large quantities, Satrio Turonggo Jati can obtain significant price discounts from suppliers. This will reduce overall purchasing costs and increase profit margins per product. Apart from that, establishing long-term cooperation with suppliers can ensure the availability of raw materials at more stable prices. By having a long-term agreement, companies can avoid price fluctuations that can disrupt production cost calculations. Apart from procurement in large quantities, the use of alternative raw materials can also be an effective strategy for managing costs. By identifying and using alternative raw materials that are cheaper but still maintain product quality, Satrio Turonggo Jati can reduce raw material costs without sacrificing the quality of the final product. The research and development (R&D) process can be used to explore various alternative raw material options that meet the desired product specifications.

Optimizing the production process is also an important step in raw material management. An efficient production process not only reduces waste but also increases company productivity. One method that can be applied is the application of Lean Manufacturing. By using Lean Manufacturing principles, Satrio Turonggo Jati can identify and eliminate waste in the production process, such as waiting time, excess stock and unnecessary movements. By optimizing process flow, companies can increase production throughput and reduce overall production costs. Apart from that, automation of production processes can also help increase production efficiency. By using technology to automate several production stages, Satrio Turonggo Jati can reduce dependence on human labor and increase product consistency. Automated machines and equipment can be

used to carry out repetitive tasks efficiently and accurately, reducing the risk of human error and increasing production output per hour.

Distribution strategy also has an important role in managing raw materials and overall operational costs (Chaves & Pimentel, 2023). By optimizing distribution strategies, Satrio Turonggo Jati can reduce distribution costs and increase product access to consumers. One strategy that can be implemented is collaboration with distributors who have a wide network and competitive distribution costs. By working with distributors who have an established distribution infrastructure, companies can reduce logistics costs and optimize product delivery to the market. The use of e-commerce can also be an effective strategy in managing distribution costs. By utilizing an e-commerce platform to sell products directly to consumers, Satrio Turonggo Jati can reduce distribution costs significantly. With e-commerce, companies can eliminate middlemen in the distribution chain and sell products directly to end consumers (Wohllebe, 2022). This not only reduces distribution costs but also provides flexibility in managing stock and reaching a wider market. By implementing effective raw material management strategies, Satrio Turonggo Jati can optimize production costs, increase operational efficiency and increase overall company profitability. Good raw material management will help companies to remain competitive in a competitive and dynamic market, while ensuring long-term business sustainability and growth (Czajka et al., 2022).

3.2. Discussion

In community service activities which aim to analyze increasing the efficiency of the cost of goods sold (HPP) of herbal medicine in Satrio Turonggo Jati, there are several aspects that need to be considered (Rustam, 2022). Through this analysis, we can evaluate various factors that influence herbal medicine COGS, identify potential efficiency improvements, and provide recommendations to improve operational performance and competitiveness of these SMEs in the market (Ramadhanti et al., 2022). In this discussion, we will explore in detail the findings and implications of the herbal medicine HPP efficiency analysis in Satrio Turonggo Jati (Kerdpitak, 2022).



Figure 3. Assistance with monitoring and evaluation of strategy implementation in HPP efficiency
Source: Activity Results (2023)

In analyzing the efficiency of COGS for herbal medicine products, the first thing that is important is to understand the cost structure that forms the COGS. The data obtained shows that the costs of raw materials, labor, overhead and distribution are the main components in the HPP for herbal medicine in Satrio Turonggo Jati. In this case, raw material costs proved to be the largest component, contributing around 60% of total COGS. Factors such as fluctuations in raw material prices which are influenced by season and market availability can provide challenges in managing raw material costs. However, with the right strategy such as purchasing in large quantities when prices are low and diversifying raw material sources, these SMEs can reduce the impact of fluctuations in raw material prices and increase efficiency in managing raw material costs.

Fluctuations in raw material prices which are influenced by seasonal variations and market availability do pose significant challenges in managing raw material costs. Research highlights that poor inventory management practices in emerging markets negatively impact quality, speed and flexibility in manufacturing operations (Ogah et al., 2022). The Material Requirements Planning method can help minimize costs and optimize benefits by calculating Economic Order Quantity (EOQ) and Periodic Order Quantity (POQ) for different raw materials (Cipta et al., 2023). Additionally, the future availability of raw materials critical for renewable energy technologies and a low-carbon society is a growing concern due to economic, geopolitical, environmental, and social factors. (Silfiani et al., 2021). The market modeling approach emphasizes the importance of understanding economic risk factors such as material demand, substitution, recycling and mining productivity to reduce the risk of higher input costs faced by producers, especially in the context of combating climate change (Mancini & Nuss, 2020).

Apart from raw material costs, labor costs are also a significant component in the HPP for herbal medicine in Satrio Turonggo Jati, contributing around 25% of the total HPP. With permanent employees and daily workers, these SMEs must pay attention to labor efficiency to optimize labor costs. Strategies such as employee training, implementing standard operating procedures (SOPs), and managing work schedules can help increase workforce productivity and efficiency, thereby reducing overall labor costs. Furthermore, overhead and distribution costs also play an important role in determining the COGS for herbal medicine in Satrio Turonggo Jati. Overhead costs, which include electricity, water and building rental costs, account for around 10% of COGS, while distribution costs contribute around 5%. In managing overhead costs, these SMEs can consider strategies such as using more efficient technology, negotiating contracts with service providers, and optimizing resource use to reduce operational costs. Apart from that, in managing distribution costs, it is important to choose more efficient distribution channels and collaborate with distributors who offer more competitive costs in order to reduce overall distribution costs. In managing overhead costs, small and medium-sized businesses (SMEs) can benefit from strategies such as leveraging technology for efficient operations (Baranova, 2022), negotiating contracts with service providers for cost optimization, and optimizing resource utilization to lower operational costs. Additionally, when focusing on distribution costs, choosing efficient distribution channels and collaborating with distributors who offer competitive prices can significantly reduce overall distribution costs. This approach aligns with the broader concept of effectively managing overhead and operational costs, as highlighted in various research papers emphasizing the importance of cost management in different domains, including construction, parallel computing, and supply service activities (Shrawankar & Joshi, 2022; Wagle, 2019). By implementing this strategy, SMEs can increase their cost efficiency and competitiveness in the market.

Analysis of the efficiency of the herbal medicine HPP in Satrio Turonggo Jati also has important implications for the sustainability and growth of this SME. By increasing operational efficiency and reducing COGS, Satrio Turonggo Jati can increase its profitability and the competitiveness of its herbal medicine products in the market. In addition, by optimizing resource use and improving cost management, these SMEs can become more resilient in facing economic challenges that may occur in the future. Apart from economic benefits, this analysis also has a positive impact on the surrounding community. By increasing operational efficiency, Satrio Turonggo Jati can maintain and even increase the number of workers they have. This can have a positive impact on the livelihoods of local communities by providing more stable and sustainable employment opportunities.

Furthermore, the analysis of the efficiency of HPP herbal medicine in Satrio Turonggo Jati also makes a contribution in an academic context. The findings and recommendations resulting from this analysis can be a source of inspiration and learning for students, researchers and practitioners in the fields of economics, management and entrepreneurship. Through the publication of the results of this analysis, knowledge about cost management and operational efficiency in the SME sector can be spread more widely, making a positive contribution to the development and improvement of the quality of SMEs in Indonesia. In conclusion, the analysis of the efficiency of herbal medicine HPPs in Satrio Turonggo Jati reveals the importance of effective and efficient cost management in increasing the profitability and competitiveness of SMEs. By

paying attention to various factors that influence COGS, such as raw material, labor, overhead and distribution costs, as well as implementing the right strategy in managing costs, Satrio Turonggo Jati can optimize its operational performance and achieve sustainable success in the traditional herbal medicine market. This analysis also makes a significant contribution in enriching knowledge and understanding about cost management and operational efficiency in the SME context, both for practitioners, academics and the general public.

4. CONCLUSION

Based on the results of the analysis carried out, there are several areas that can be optimized to increase the efficiency of the cost of goods sold (HPP) for herbal medicine in Satrio Turonggo Jati. Better raw material management, optimization of production processes, and efficient distribution strategies are the keys to reducing COGS and increasing product competitiveness in the market. Implementation of the recommendations provided is expected to have a positive impact on the company's operational and financial performance. As a suggestion, Satrio Turonggo Jati needs to continue to evaluate and continuously improve the production process and cost management. Collaboration with service institutions and universities can also be a strategic step to develop innovation in products and production processes. Apart from that, increasing employee competency through training and development is also important to support the implementation of the efficiency strategies that have been formulated. In the long term, product diversification and wider market penetration can be a strategy to increase business sustainability. With a commitment to increasing efficiency and innovation, Satrio Turonggo Jati can continue to develop and make a positive contribution to the local and national economy.

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