



Analysis Of Production Cost Structure And Cost-Volume-Profit (Cvp) To Evaluate The Financial Resilience Of The Ayam Penyet Zianka Msme

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ABSTRACT

This study aims to analyze the production cost structure and the relationship between costs, sales volume, and profit using the Cost-Volume-Profit (CVP) approach, and to evaluate the implications for the financial resilience of the Ayam Penyet Zianka micro, small, and medium-sized enterprise (MSME). The study uses a quantitative descriptive approach with a case-study design and secondary data from Erika et al. (2024) for November 2023 to January 2024. The analysis includes cost classification, contribution margin, break-even point (BEP), margin of safety (MOS), degree of operating leverage (DOL), and sensitivity simulations involving changes in sales and costs. The results show that variable costs dominate the cost structure at 80.47%, while fixed costs account for 19.53%. The contribution margin ratio is 50.57%, the break-even point is approximately IDR 11,310,193 or 943 units, and the margin of safety is 76.28%. Sensitivity analysis indicates that a 10% decrease in sales reduces operating profit by approximately 13.11%. Under a combined scenario involving a 10% decline in sales and a 10% increase in total variable costs, operating profit falls to IDR 11,271,256. The findings indicate that raw-material cost control, sales monitoring, and periodic break-even evaluation are important for supporting MSME financial decision-making. However, the findings are limited to historical data and simulations and therefore do not represent current financial conditions or long-term business sustainability.

Keywords: *production cost structure; Cost-Volume-Profit; sensitivity analysis; financial resilience; MSMEs.*

1. INTRODUCTION

Micro, small, and medium-sized enterprises (MSMEs) play an important role in economic activity, including creating employment opportunities and supporting local communities. However, MSME continuity depends not only on the ability to generate sales but also on the ability to manage costs and maintain financial performance over time. In the context of post-pandemic economic recovery, Rosyidiana and Narsa (2024) show that MSME financial performance is associated with several aspects of business management, including literacy and innovation. Their findings reinforce the importance of managerial capacity in supporting MSME performance, although their study does not specifically examine production cost efficiency or CVP analysis.

For food-sector MSMEs, production cost management is particularly relevant because operations involve raw materials, labor, energy, packaging, and other operating expenses. Changes in raw-material costs or a mismatch between production volume and demand can affect expenses and profitability. Rosmasari and Jatiningrum (2021), for example, examined production

optimization to minimize total costs in an MSME while considering inventory. Their study illustrates that production decisions need to account for costs and demand to avoid excess inventory or missed sales opportunities. Thus, production cost evaluation should consider not only total expenditure but also the relationship between costs, activity levels, and sales outcomes.

One managerial accounting approach for examining this relationship is Cost-Volume-Profit (CVP) analysis. CVP explains the relationship between costs, sales volume, and profit through measures such as contribution margin, break-even point (BEP), margin of safety, and degree of operating leverage. These measures can help business owners estimate the minimum sales required to avoid losses and assess how far sales can decline before reaching the break-even point. Ardana, Kusumastuti, and Suryani (2022) applied CVP analysis to Obot Fried Chicken, an MSME, to evaluate its break-even point and establish sales targets for profit planning. Rahmi et al. (2023) also applied CVP analysis to Pempek Palembang MWR to support profit planning, particularly through BEP, contribution margin, and margin-of-safety

calculations.

Nevertheless, using CVP for profit planning should be accompanied by an adequate understanding of the production cost structure. Break-even and margin-of-safety information is more useful when business owners also understand the largest cost components, how costs behave as activity changes, and which costs may be controlled. Combining production cost structure evaluation with CVP analysis can provide a more comprehensive view of a business's financial position: not only the sales needed to break even, but also how changes in costs and sales volume may affect the ability to maintain profit.

Ayam Penyet Zianka provides a relevant context for this discussion. Erika et al. (2024) previously applied CVP analysis to this MSME to evaluate profit planning through revenue integration. Their study used a quantitative descriptive approach based on secondary data and analyzed break-even and margin-of-safety measures. This earlier research provides a relevant empirical foundation, while also requiring any subsequent study to clarify its contribution. Accordingly, the present study extends the analysis by integrating an evaluation of production cost structure with CVP indicators and scenario analysis of changes in costs and sales. It therefore seeks not merely to repeat profit-planning calculations, but to examine the implications of the cost structure for short-term financial resilience under changing operating conditions.

Based on this background, this study aims to analyze the structure and efficiency of production costs, evaluate the relationship between costs, sales volume, and profit using CVP, and identify the implications for the financial resilience of the Ayam Penyet Zianka MSME. Practically, the study is expected to provide information that can help MSME managers evaluate cost components, set sales targets, and anticipate risks associated with changes in costs and revenue. Academically, it develops the use of CVP from a profit-planning tool into part of an assessment of MSME financial resilience, insofar as scenario analysis and its interpretation are supported by the available data.

2. LITERATURE REVIEW

2.1 Production Cost Management and Cost Efficiency

Production costs represent the resources sacrificed to manufacture a product. In food businesses, relevant costs may include raw materials, production labor, supporting materials, energy, and other expenses associated with production. Cost classification is important because each component has different characteristics and may not change in the same way as production volume increases or decreases.

In this study, production cost efficiency refers to a business's ability to manage the costs incurred to produce goods and generate revenue without compromising product quality or operational requirements. Efficiency does not necessarily mean reducing all expenditure. Inappropriate cost reductions, such as lowering raw-material quality, may negatively affect customer satisfaction and business continuity. Cost-efficiency evaluation should therefore focus on the cost structure, the proportion of each component relative to total costs, and potential controls that do not disrupt core operations.

Rosmasari and Jatiningrum (2021) examined production optimization in MSMEs to minimize total costs while considering inventory. Their study is relevant because it shows that production and inventory decisions are related to the total costs borne by a business. However, production cost optimization and CVP analysis are different approaches: cost analysis focuses on cost

components and their use, whereas CVP focuses on the relationship among costs, sales volume, and profit. Combining the two can provide more informative support for business decisions.

In this study, production cost efficiency is examined by identifying cost components, classifying them as fixed or variable, and calculating each component's proportion of total costs. If production-unit data are available, unit cost can also be used as an additional indicator. If the number of units or portions is unavailable, conclusions must be limited to aggregate cost structure; direct claims about per-unit efficiency cannot be made.

2.2 Cost-Volume-Profit (CVP) Analysis

Cost-Volume-Profit (CVP) analysis is a managerial accounting tool used to understand how changes in costs, sales volume, and selling prices relate to profit. It uses the classification of fixed and variable costs and sales information to calculate several profit-planning measures. Ardana et al. (2022) applied CVP to Obot Fried Chicken to evaluate the break-even point and determine the sales needed to achieve a planned profit. Rahmi et al. (2023) used CVP at Pempek Palembang MWR to support profit planning through contribution margin, BEP, and margin-of-safety calculations. These studies illustrate the relevance of CVP to food-sector MSMEs that need to plan sales based on their cost structure.

The CVP indicators relevant to this study are: (1) contribution margin (CM), the difference between sales and total variable costs; (2) contribution margin ratio (CMR), the contribution margin divided by sales; (3) break-even point (BEP), the sales level at which total revenue equals total costs; (4) margin of safety (MOS), the difference between actual sales and break-even sales; and (5) degree of operating leverage (DOL), a measure of operating profit sensitivity to changes in sales at a given activity level.

Contribution Margin (CM) = Sales – Variable Costs

Contribution Margin Ratio (CMR) = Contribution Margin / Sales

BEP (in currency) = Fixed Costs / CMR

Margin of Safety (MOS) = [(Actual Sales – Break-Even Sales) / Actual Sales] × 100%

Degree of Operating Leverage (DOL) = Contribution Margin / Operating Profit

Target Sales = (Fixed Costs + Target Profit) / CMR

When unit-volume data and contribution margin per unit are available, the break-even point in units can be calculated by dividing total fixed costs by contribution margin per unit. For businesses selling multiple products with different margins, the sales mix must be considered. If sales-mix data are unavailable, this limitation should be disclosed to avoid overinterpreting the BEP and other CVP indicators. CVP analysis also assumes that selling price per unit, variable cost per unit, and sales mix remain relatively stable within the activity range being analyzed.

2.3 Financial Sustainability of MSMEs

In this study, financial sustainability refers to a business's ability to maintain financially viable operations through cost management, profit generation, and the capacity to respond to changes in sales or costs. The concept is used in a limited financial sense and does not imply that the study measures all economic, social, and environmental dimensions of sustainability.

Rosyidiana and Narsa (2024) examined MSME financial performance during the post-pandemic recovery period and discussed digitalization, literacy, and innovation as factors associated with financial performance. Although their focus

differs from cost analysis, their work highlights the importance of business-management capacity in understanding MSME financial performance. In the present study, production cost evaluation and CVP are used as analytical tools to understand the business's financial position and potential response to changing operating conditions.

Financial sustainability cannot be inferred from a single profit figure for one period. Positive profit indicates that revenue exceeded costs during the observed period, but it does not prove the ability to survive in the long term. Therefore, this study links the cost structure with CVP indicators and, where the data allow, scenarios involving changes in raw-material prices or sales. Such scenarios indicate profit sensitivity and the available sales buffer, thereby providing insight into potential financial vulnerability. Financial sustainability is thus treated as an implication assessed through cost structure, break-even level, margin of safety, and profit sensitivity, rather than as a construct comprehensively measured by this study.

2.4 Previous Studies and Research Gap

Previous studies show that CVP analysis has been applied to various MSMEs to support profit planning. Ardana et al. (2022) applied it to Obot Fried Chicken, while Rahmi et al. (2023) applied it to Pempek Palembang MWR. More specifically, Erika et al. (2024) used CVP at Ayam Penyet Zianka to evaluate profit planning through revenue integration. Therefore, applying CVP to a food-sector MSME is not entirely new.

The contribution of the present study should not be framed as a claim that CVP has never been applied to MSMEs. Instead, the research gap is the need to integrate an evaluation of production cost structure with CVP results and an interpretation of financial resilience within a single analytical framework. This contribution may be strengthened by analyzing cost or sales scenarios, provided that the data and assumptions are transparently explained.

3. METHODS

This study uses a quantitative descriptive approach with a case-study design focused on the Ayam Penyet Zianka MSME. It examines the production cost structure and the relationship among costs, sales volume, and profit using the Cost-Volume-Profit (CVP) method. The study builds on Erika et al. (2024), who applied CVP to evaluate profit planning through revenue integration. The present analysis extends that work by examining the composition of production costs and simulating changes in costs and sales to assess their implications for short-term financial resilience.

The study uses secondary data from the financial tables reported by Erika et al. (2024), covering November 2023 to January 2024. The data include sales revenue, raw-material costs, supporting-material costs, labor costs, rent, equipment depreciation, and other production-related expenses. Cost items were classified as variable or fixed according to their relationship with business activity. The classifications reported in the earlier study were used as the starting point for examining cost composition and identifying major cost components that may affect profitability.

The analysis was conducted in three stages. First, the cost structure was examined by calculating the proportion of each cost classification relative to total production costs. Second, CVP analysis was used to calculate contribution margin, contribution margin ratio, break-even point, margin of safety, and degree of

operating leverage. Contribution margin was calculated as sales minus total variable costs, and the contribution margin ratio was calculated by dividing contribution margin by sales and multiplying by 100%. Break-even sales were calculated by dividing fixed costs by the contribution margin ratio, while break-even volume was calculated by dividing fixed costs by the difference between selling price per unit and variable cost per unit. Margin of safety was calculated as actual sales minus break-even sales; the margin-of-safety ratio was calculated by dividing this amount by actual sales and multiplying by 100%. Third, sensitivity analysis simulated a 10% decrease in sales, a 10% increase in variable costs, a 10% increase in fixed costs, a 10% increase in chicken prices, and a combined scenario involving a 10% decrease in sales and a 10% increase in variable costs.

These percentages are analytical assumptions and do not represent actual changes experienced by the business. The simulations assume a constant selling price and adjust costs according to each scenario. The results are interpreted based on changes in profit, break-even sales, and the business's ability to remain profitable under different operating conditions.

4. RESULTS AND DISCUSSION

4.1 Results

Data published by Erika et al. (2024) indicate that sales at Ayam Penyet Zianka declined gradually from November 2023 to January 2024. Sales amounted to IDR 16,320,000 in November 2023, declined to IDR 15,840,000 in December 2023, and reached IDR 15,528,000 in January 2024. Overall, January 2024 sales were approximately 4.85% lower than sales in November 2023.

Based on the published data, the cost structure of the Ayam Penyet Zianka MSME is summarized in Table 1.

Table 1. Cost Structure of Ayam Penyet Zianka

Cost component	Classification	Amount (IDR)	% of total cost
Chicken	Variable	13,500,000	46.09%
Chili and garlic	Variable	4,560,000	15.57%
Other variable costs	Variable	5,511,000	18.82%
Total variable costs		23,571,000	80.47%
Labor	Fixed	3,950,000	13.49%
Rent	Fixed	1,500,000	5.12%
Equipment depreciation	Fixed	269,844	0.92%
Total fixed costs		5,719,844	19.53%
Total costs		29,290,844	100.00%

Source: Recalculated from Erika et al. (2024).

Variable costs total IDR 23,571,000, representing 80.47% of total production costs. Fixed costs amount to IDR 5,719,844, or 19.53% of total production costs. Among the variable-cost components, chicken costs amount to IDR 13,500,000, while chili and garlic cost IDR 4,560,000. Together, these two categories total IDR 18,060,000, or approximately 76.62% of variable costs, indicating that chicken, chili, and garlic represent substantial variable-cost components.

Cost-Volume-Profit Analysis

CVP analysis was used to examine the relationship between sales revenue, variable costs, fixed costs, and profit. Recalculation

of the historical data produced the results shown in Table 2.

Table 2. Cost-Volume-Profit Analysis

Indicator	Result
Sales revenue	IDR 47,688,000
Variable costs	IDR 23,571,000
Contribution margin	IDR 24,117,000
Contribution margin ratio	50.57%
Fixed costs	IDR 5,719,844
Operating profit	IDR 18,397,156
Break-even point (IDR)	IDR 11,310,193
Break-even point (units)	943
Margin of safety (IDR)	IDR 36,377,807
Margin-of-safety ratio	76.28%
Degree of operating leverage	1.31

Source: Recalculated from Erika et al. (2024).

Contribution Margin

Contribution margin is calculated by subtracting total variable costs from sales revenue:

$$\begin{aligned}\text{Contribution Margin} &= \text{Sales} - \text{Total Variable Costs} \\ &= \text{IDR } 47,688,000 - \text{IDR } 23,571,000 \\ &= \text{IDR } 24,117,000\end{aligned}$$

$$\begin{aligned}\text{Contribution Margin Ratio} &= (\text{Total CM} / \text{Total Sales}) \times 100\% \\ &= (\text{IDR } 24,117,000 / \text{IDR } 47,688,000) \times 100\% \\ &= 50.57\%\end{aligned}$$

Break-Even Point

The break-even point is calculated by dividing fixed costs by the contribution margin ratio:

$$\begin{aligned}\text{BEP (IDR)} &= \text{Fixed Costs} / \text{Contribution Margin Ratio} \\ &= \text{IDR } 5,719,844 / 50.57\% \\ &\approx \text{IDR } 11,310,193\end{aligned}$$

$$\begin{aligned}\text{BEP (units)} &= \text{Fixed Costs} / (\text{Unit Selling Price} - \text{Variable Cost per Unit}) \\ &= \text{IDR } 5,719,844 / (\text{IDR } 12,000 - \text{IDR } 5,931) \\ &\approx 943 \text{ units}\end{aligned}$$

Margin of Safety

The margin of safety is the difference between actual sales and break-even sales. The source manuscript reports the following calculation:

$$\begin{aligned}\text{Margin of Safety} &= \text{Total Sales} - \text{Break-Even Sales} \\ &= \text{IDR } 47,688,000 - \text{IDR } 11,439,688 \\ &= \text{IDR } 36,248,312\end{aligned}$$

$$\begin{aligned}\text{Margin-of-Safety Ratio} &= (\text{Margin of Safety} / \text{Total Sales}) \times 100\% \\ &= (\text{IDR } 36,248,312 / \text{IDR } 47,688,000) \times 100\% \\ &= 76.28\%\end{aligned}$$

Degree of Operating Leverage

Degree of operating leverage is calculated by dividing the contribution margin of IDR 24,117,000 by operating profit of IDR 18,397,156. The result is approximately 1.31.

Table 3. Sensitivity Analysis Scenarios

Scenario	Sales (IDR)	Variable costs (IDR)	Fixed costs (IDR)	Operating profit (IDR)
Baseline	47,688,000	23,571,000	5,719,844	18,397,156
Sales decrease by 10%	42,919,200	21,213,900	5,719,844	15,985,456
Variable costs increase by 10%	47,688,000	25,928,100	5,719,844	16,040,056
Chicken prices increase by 10%	47,688,000	24,921,000	5,719,844	17,047,156
Fixed costs increase by 10%	47,688,000	23,571,000	6,291,828	17,825,172
Combined stress scenario	42,919,200	25,928,100	5,719,844	11,271,256

The sensitivity analysis shows that changes in sales and production costs affect operating profit to varying degrees. Under a 10% sales decline, operating profit decreases by approximately 13.11% from the baseline. This decline, which is greater than the percentage decline in sales, indicates that revenue must still cover fixed costs that remain unchanged. A 10% increase in variable costs reduces operating profit by approximately 12.81%, showing that increases in raw-material and production costs can reduce profit even when sales remain constant.

A 10% increase in chicken prices reduces profit by IDR 1,350,000, or approximately 7.34% of baseline profit. This reflects the importance of chicken as a major production-cost component. Meanwhile, a 10% increase in fixed costs reduces operating profit by approximately 3.11%, from IDR 18,397,156 to IDR 17,825,172. In this simulation, the decline is smaller than the effect of lower sales or higher variable costs; however, fixed costs still matter because increases raise the revenue needed to cover all business costs.

The largest impact occurs under the combined stress scenario. When sales decrease by 10% and total variable costs are assumed to increase by 10% from the baseline, operating profit falls to IDR 11,271,256, approximately 38.73% below the baseline. This suggests that a simultaneous decline in revenue and increase in costs can place greater pressure on profit than a change in either factor alone. The combined scenario is a simulation assumption and does not indicate that this situation actually occurred at Ayam Penyet Zianka.

4.2 Discussion

The findings indicate that cost management is important for Ayam Penyet Zianka to maintain profitability. The dominance of variable costs suggests that most expenditure is directly associated with production and sales activities. With a contribution margin ratio of 50.57%, each IDR 1 in sales leaves approximately IDR 0.51 to cover fixed costs and generate profit. Consequently, profitability depends substantially on the owner's ability to manage production costs, particularly when raw-material prices change. Chicken, chili and garlic, and cooking oil together account for approximately 68.7% of total production costs. Procurement and use of these materials therefore warrant particular attention. The owner could compare supplier prices, monitor the quantity of materials used per portion, and align purchasing with production needs. Nevertheless, a high proportion of raw-material costs does not itself prove waste or inefficiency. A more precise efficiency assessment would require standard material usage per portion, cost changes across periods, and data on production waste.

From an operational-planning perspective, the break-even and margin-of-safety results indicate that historical sales remained above the minimum sales level required to cover costs. This suggests that the business had a buffer against declining sales under the assumed cost and price conditions. However, a high margin of safety does not mean that the business is free from loss risk. If raw-material costs increase or revenue declines, the ability of sales to cover costs may change. The sensitivity analysis shows that a 10% sales decline can reduce profit by a larger percentage. A DOL of 1.31 helps explain this relationship: under the CVP assumptions, a change in sales may result in a larger percentage change in operating profit. The owner should therefore monitor sales regularly and adjust production to expected demand so that spending remains proportionate to business activity. Monthly margin-of-safety and profit estimates in this study should be understood as calculations based on cost-allocation assumptions,

not as actual monthly profit figures.

Sensitivity analysis also indicates that cost changes affect profit differently. A 10% increase in total variable costs has a larger effect on profit than a 10% increase in chicken prices, while a 10% increase in fixed costs has a comparatively smaller effect in the simulation. Cost-control decisions should consider both the size of a potential change and the contribution of each component to total expenditure. Chicken-price increases deserve particular attention because chicken is a major cost component. The owner may respond by monitoring supplier prices, planning purchases, and controlling material use without compromising product quality. Fixed costs should also be reviewed to prevent ongoing increases in operating burdens.

Profit risk becomes greater when lower sales occur together with higher variable costs. Under the combined stress scenario, profit declines more than in any other simulated scenario. This illustrates how revenue reductions combined with rising production costs can place substantial pressure on profitability. Sales maintenance and cost control should therefore be addressed together rather than separately. Increasing revenue alone may not be sufficient if cost management is weak; similarly, cost savings should not compromise product quality or customer satisfaction.

Sensitivity Analysis and Financial Resilience

Sensitivity analysis extends the application of CVP by illustrating how operating profit may change when sales or costs change. Under the 10% sales-decline scenario, operating profit falls from IDR 18,397,156 to IDR 15,985,456, a reduction of approximately 13.11%. The fact that profit falls by more than sales highlights the continued burden of fixed costs when revenue decreases. This reinforces the importance of maintaining sales volume while adjusting production to market demand.

Under a 10% increase in variable costs, operating profit falls to IDR 16,040,056, approximately 12.81% below the baseline. Monitoring supplier prices and controlling the quantity of ingredients used per portion may help preserve contribution margin. A 10% increase in chicken prices results in operating profit of IDR 17,047,156, a decline of IDR 1,350,000 or approximately 7.34%. Because chicken represents a substantial cost component, price changes can affect total variable costs and profit. The owner can respond by monitoring supplier prices, planning purchases, and supervising the amount of chicken used per portion without reducing product quality.

A 10% increase in fixed costs reduces operating profit to IDR 17,825,172, approximately 3.11% below the baseline. Although this impact is smaller than the effects of a sales decline or an increase in variable costs in the modeled scenarios, fixed costs still require monitoring because they increase the amount that contribution margin must cover.

The largest decline occurs in the combined stress scenario. With sales assumed to decline by 10% and total variable costs to increase by 10% from the baseline, operating profit falls to IDR 11,271,256, approximately 38.73% below baseline profit. This illustrates that a simultaneous decline in revenue and increase in costs can place greater pressure on profit than a change in only one factor. Although profit remains positive in this scenario, the result does not guarantee that the business would remain profitable under all real-world conditions. The calculation depends on the assumptions and does not account for possible changes in selling prices, product mix, or other costs unavailable in the data. Sensitivity scenarios should therefore be treated as risk-planning tools, not as certain forecasts of future business conditions.

Implications for Owner Decisions and Financial Resilience

The analysis indicates that Ayam Penyet Zianka generated a profit during the period studied, with sales above the break-even point. However, the historical decline in sales and the simulated effects of cost changes indicate that profit may be pressured when operating conditions change. In this study, financial resilience is therefore considered not only in terms of the amount of profit earned, but also in terms of the ability to maintain contribution margin and cover costs when sales or expenses change.

For profit planning, the preceding calculation indicates that a 25% increase in profit would require sales of approximately 4,732 portions over three months, or an average of 1,577 portions per month. This is approximately 19.1% above the historical monthly average of 1,325 portions. Compared with January sales of 1,294 portions, an increase of approximately 21.9% would be required. Given the declining sales trend during the study period, this target is challenging and would need to be supported by a realistic sales strategy and consistent cost control.

Based on these findings, the owner should prioritize monitoring raw-material costs, especially chicken, chili and garlic, and cooking oil. Regular records of purchase prices and material quantities used can help identify cost changes and evaluate production requirements. The break-even point can serve as a minimum sales benchmark, while the margin of safety and sensitivity analysis can be reviewed periodically to assess how changes in costs or sales may affect profit.

Better-planned raw-material management may also support more effective resource use. However, this study cannot conclude that cost control will reduce production waste because data on discarded ingredients, food leftovers, or damaged materials are unavailable. Assessing this issue would require additional records of material usage and production leftovers.

Finally, sales at Ayam Penyet Zianka declined from November 2023 to January 2024, but the available data are insufficient to establish the cause. Fluctuations in raw-material prices may be worth examining from a cost perspective, but they cannot be identified as the direct cause of lower sales. Identifying the underlying factors would require monthly data on raw-material prices, production costs, selling prices, and market conditions. The analysis can therefore guide the owner toward areas that require further monitoring without drawing conclusions unsupported by the available data.

5. CONCLUSION

This study analyzed the production cost structure and the relationship among costs, sales volume, and profit at the Ayam Penyet Zianka MSME to assess its financial resilience. Variable costs accounted for 80.47% of total costs, while fixed costs represented 19.53%. Chicken, chili and garlic, and cooking oil accounted for approximately 68.7% of total production costs, indicating that business profit depends substantially on how these materials are managed.

The CVP analysis yielded a contribution margin of IDR 24,117,000, a contribution margin ratio of 50.57%, and operating profit of IDR 18,397,156 over three months. The break-even point was reported at sales of IDR 11,310,193 or 943 portions, placing historical sales well above the minimum level. The margin of safety of 76.28% indicates a substantial buffer before sales reach break-even. A DOL of 1.31 indicates that a 10% change in sales is associated with an approximately 13.1% change in operating profit under the CVP assumptions.

Sensitivity analysis shows that profit remains positive in all modeled scenarios but can be reduced substantially. A decline in sales and an increase in variable costs have a greater effect on profit than an increase in fixed costs, and the largest pressure occurs when lower sales and higher variable costs occur together. Thus, the business generated profit during the observed period, but its financial results remain exposed to raw-material price changes and declining sales volume. This conclusion is limited to the financial dimension and does not cover other dimensions of sustainability.

In practical terms, the owner should prioritize monitoring the prices and use of chicken, chili and garlic, and cooking oil; maintain monthly records of costs and sales; and use BEP, MOS, and sensitivity analysis for periodic review. A 25% profit-growth target requires an increase in volume of approximately 19.1% above the historical monthly average, making it challenging amid the declining sales trend and requiring a realistic sales strategy.

This study is limited to one MSME, three months of secondary data, and one representative product. Data on the causes of declining sales, monthly raw-material prices, and production waste were unavailable. Future research should use primary data and a longer monthly observation period, include product mix and unrecorded costs such as electricity, water, transportation, and the owner's salary, and investigate the causes of sales declines and their potential relationship with material waste.

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