

Cost-Volume-Profit Analysis and Sensitivity Analysis on the AA Cup Ground Coffee Business

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ABSTRACT

This research aims to analyze the relationship between costs, production volume, and profit in the Cap Cangkir AA Ground Coffee business using the Cost-Volume-Profit (CVP) approach and to evaluate the sensitivity of profit to changes in selling price and production costs. The method used is a case study with quantitative analysis based on primary and secondary data. The research results show that this business has a break-even point that can be achieved at a certain sales volume, as well as a relatively high contribution margin, which allows for business profitability. Sensitivity analysis reveals that changes in raw material prices and selling prices have a significant impact on business profits. To improve profitability, the recommended strategies include production cost efficiency, increased sales volume, and product diversification. The conclusion of this study emphasizes that understanding CVP and profit sensitivity can help entrepreneurs design more optimal and adaptive business strategies in response to market dynamics.

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Introduction

Every company has an important role in the economy. The success or failure of a business can be seen from the management's ability to foresee possibilities and opportunities in the future. The goal of MSMEs in an increasingly developing economy is to achieve greater profits in line with the growth of the company. In order to achieve these goals, it is necessary to plan and use existing resources optimally to reach the objectives. Several factors related to profit planning include; sales volume, sales results, production costs, and company operating costs. Analysis needs to be conducted if the company's conditions and the economy experience changes in an effort to realize the planned profit so that it does not deviate from the planning techniques used. In this case, cost-volume-profit analysis and sensitivity analysis can be used as planning techniques. So that information regarding the sales volume that must be achieved can be well understood. In addition to maximizing profits, the company's image in the eyes of consumers is also something that SMEs should pay attention to. Although profit is indeed a measure of management's success in running the company. As is known, profit can be obtained by looking at the difference between

revenue and all expenses incurred during the accounting period. For that reason, the application of management functions is necessary to achieve the goals of financial management. A Financial Manager performs management functions through activities such as planning strategies, policies, and budgets. The Financial Manager also realizes and directs all resources to implement these strategies, policies, and budgets. The volume of sales in a business indicates its success, as the volume of sales also reflects the amount of profit obtained. Thus, it can be said that the larger the sales volume, the greater the profit obtained. Thus, it can be concluded that the performance is good. The AA Cup Powder Coffee business is a type of venture engaged in the production and sale of powdered coffee. The owner believes that the higher the sales level, the more profit will be obtained. Thus, the owner compares the amount spent and the amount received. Due to these conditions, the researcher decided to conduct profit planning using cost-volume-profit analysis and sensitivity analysis on the AA Cup Powdered Coffee business, which is expected to help the company in planning and formulating policies for decision-making.

Method

Research is fundamentally an inquiry, gathering data, conducting measurements, analysis, synthesis, comparison, seeking relationships, interpreting puzzling matters. In this study, the author uses a quantitative descriptive method. According to Sugiyono (2021;13), quantitative data is a research method based on positivism (concrete data), where the research data consists of numbers that will be measured using statistics as a calculation testing tool, related to the problem being studied to produce a conclusion. This research is a systematic study that emphasizes the problems to be solved in 2021. The research object chosen by the author is the Usaha Kopi Bubuk Cap Cangkir AA located on Jalan Balai Karya BTN Dite Asr, Siderejo Village, Curup District, Rejang Lebong Regency. The data sources used in this research consist of primary and secondary data. Primary data refers to information obtained firsthand by the researcher related to the variables of interest for the specific purpose of the study, while secondary data refers to information collected from existing sources. The primary data used in this research comes from interviews and financial records from Usaha Kopi Bubuk Cap Cangkir AA. Meanwhile, the secondary data sources used by the researcher include accounting books and previous research that the author read from the campus library, as well as secondary data obtained from websites.

Result and Discussion

Kopi Bubuk Cap Cangkir AA has a marketing system like other businesses, which involves distributing its products to small shops, markets, and agents in Rejang Lebong Regency, and there are also consumers who come directly to the factory. Sales estimate data for Usaha Kopi Bubuk Cap Cangkir AA in 2024 amounted to 10,950 Kg with a selling price of Rp. 47,250,-/Kg to achieve an estimated revenue of Rp. 517,800,000,-. The selling price was obtained from the average selling price by summing all monthly selling prices and dividing by 12 months. Meanwhile, the estimated revenue was obtained by multiplying the estimated sales volume by the estimated selling price for 2024.

1. Determining the Sales Estimate for 2024

Sales estimates are the basis for the activity plans that the company will undertake. The sales estimate for the coffee product type is as follows:

Table 2. Estimated Sales of AA Cup Brand Ground Coffee in 2024

Sales Estimate	Average Price	Receivable
10950	Rp 47,250	Rp 517,800,000

Source : Data Processing Results,2025

From the explanation above, it is known that Usaha Kopi Bubuk Cap Cangkir AA uses Cost-Volume-Profit Analysis as the basis for planning future profits, taking into account sales volume. This is because in Rejang Lebong Regency, there are already ground coffee businesses as competitors, so to face the business competition, a strategy must be prepared. One of the strategies that can be implemented is by continuously innovating in product development, reducing costs, and setting competitive selling prices. Therefore, a good profit planning is necessary so that factors related to profit planning such as sales volume, product selling price, and costs can be planned very well. The cost-volume-profit analysis has the following characteristics:

1. Cost-volume-profit analysis can determine the sales volume that must be achieved and the sales mix of each type of product produced to reach the set profit target.
2. Profit volume analysis can determine the amount of variable and fixed costs as well as the relationship with the number of products that need to be produced and sold to achieve the targeted profit.
3. Volume profit cost analysis can facilitate Usaha Kopi Bubuk cap Cangkir AA in determining the expected profit for the years 2022-2024 and the following years. By using the Cost-Volume-Profit Analysis of the Cangkir AA Ground Coffee Business, it is expected to:
 1. Make the business more advanced and developed, and achieve optimal profits
 2. Able to maintain the availability of raw materials to avoid obstacles in the production process.

The objective of this research is to determine the planned profit amount. Based on the results of the calculations and data analysis that have been conducted, several estimates have been obtained that must be considered in order for the expected profit to be realized. The factors of estimation are as follows:

- a. The cost of goods sold in 2022 was Rp.312,916,000, with a pre-tax profit calculation of Rp.199,334,000. Pre-tax profit is used because the company is subject to tax if it has a profit. The Cap Cangkir AA Ground Coffee business did not incur any losses, as the data analysis conducted yielded a pre-tax profit of Rp.199,334,000. Therefore, to achieve this level of profit, it is necessary to pay attention to and take actions in accordance with the estimates (planning) of sales volume, selling price, and incurred costs. The total estimated sales volume of ground coffee products is 10,950 units with a selling price of Rp 47,250,-/Kg, raw material costs of Rp 306,810,000,-, variable costs of Rp 8,100,000,-, and fixed costs of Rp 11,200,000,-. The cost of goods sold in 2023 was Rp.172,000,000, with a pre-tax profit of Rp.120,250,000. The Kopi Bubuk Cap Cangkir AA business did not incur losses, but sales in 2023 experienced a decline of more than 50%. This decline was caused by the impact of the COVID-19 pandemic, scarcity, and rising raw material prices. The total estimated sales volume of ground coffee products is 6,000 units at a selling price of Rp 49,500 per kg, raw material costs of Rp 168,000,000, variable costs of Rp 3,700,000, and fixed costs of Rp 11,200,000. The cost of goods sold in 2024 was Rp.223,100,000, with a pre-tax profit of Rp.162,000,000. The AA Cup Coffee Powder business did not incur any losses, and sales began to increase as COVID-19 declined and outdoor activities were permitted. The total estimated sales volume of ground coffee products is 7,800 units at a selling price of Rp 50,000 per kg, raw material costs of Rp 218,400,000, variable costs of Rp 4,400,000, and fixed costs of Rp 11,200,000. The break-even point (BEP) for the year 2022 is 199.33 Kg and 240 units with a profit of Rp. 13,975,000. Therefore, if the company desires a profit of Rp. 13,975,000, it must reach a product break-even point of 199.33 Kg or 240 units. The break-even point (BEP) for the year 2023 is 94.10 Kg and 229 units with a profit of Rp. 10,952,380. If the company desires a profit of Rp. 10,952,380, it must reach a product break-even point of 94.10 Kg or 229 units. The break-even point (BEP) for the year 2024 is 99.11 Kg

and 226 units with a profit of Rp. 11,395,349. If the company desires a profit of Rp. 11,395,349, it must reach a product break-even point of 99.11 Kg or 226 units. The contribution margin for 2022 was Rp. 204,884,000, for 2020 it was Rp. 125,000,000, and for 2023 it was Rp. 166,900,000. This difference can be used to cover overall costs, and the remainder is profit. d. The margin of safety for sales in 2022 was 98%, which means that if actual sales decrease or deviate more than 98% (from the planned sales), the company will incur a loss.

- b. The margin of safety for sales in 2022 was 98%, which means that if actual sales decrease or deviate more than 98% (from planned sales), the company will incur losses. The margin of safety for sales in 2023 was 96%, which means that if actual sales decrease or deviate more than 96% (from planned sales), the company will incur losses. The margin of safety for sales in 2021 was 97%, which means that if actual sales decrease or deviate more than 97% (from planned sales), the company will incur losses.
- c. The Degree Of Operating Leverage is a measure of the percentage change in sales volume that will affect profit. The Operating Leverage of the AA Cup Ground Coffee Business in 2022 was 1.03% or 10.3%, meaning that every 1% increase in sales revenue will result in a 10.3% increase in net profit. In 2023, the Operating Leverage was 1.04% or 10.4%, meaning that every 1% increase in sales revenue will result in a 10.4% increase in net profit. The Operating Leverage of the AA Cup Ground Coffee Business in 2024 was 1.03% or 10.3%, meaning that every 1% increase in sales revenue will result in a 10.3% increase in net profit.

Sensitivity Analysis

Sensitivity analysis is an analysis to see the impacts that will occur due to changing conditions. The purpose of this business sensitivity analysis is to assess the feasibility of a business that will be run if there are changing factors, such as a decrease in production quantity, changes in input prices, and changes in output prices. Businesses are very sensitive to changes due to several factors, namely price, delays in implementation, cost increases, and inaccuracies in production forecasts. Another aspect of sensitivity analysis is the margin of safety, which is the amount of budgeted (or actual) income that exceeds the break-even income.

Table 1 will display a spreadsheet for Do-All Software Ground Coffee Cap Cangkir AA so that one can see how many units need to be sold to achieve a certain profit level, with fixed costs and variable costs per unit.

Tabel 2 Spreadsheet Analysis of CVP Relationship for Do-All Software 2019

		Jumlah unit yang harus dijual pada Rp 49.250				
		Harga Jual untuk Memperoleh Target Laba Operasi sebesar				
Biaya Tetap	Biaya Variabel/unit	BEP	Rp 199,334,000	Rp 250,000,000	Rp 300,000,000	
Rp 11,200,000	Rp 457	239	4,499	5,582	6,651	
Rp 11,200,000	Rp 740	240	4,527	5,616	6,691	
Rp 11,200,000	Rp 913	242	4,544	5,637	6,716	
Rp 11,600,000	Rp 457	248	4,508	5,591	6,659	
Rp 11,600,000	Rp 740	249	4,535	5,625	6,700	
Rp 11,600,000	Rp 913	250	4,552	5,646	6,725	
Rp 12,000,000	Rp 457	256	4,516	5,599	6,668	
Rp 12,000,000	Rp 740	258	4,544	5,633	6,708	
Rp 12,000,000	Rp 913	259	4,561	5,654	6,733	

Source : Data Processing Results,2025

Conclusion

Based on the Cost-Volume-Profit (CVP) analysis and Sensitivity Analysis of the Kopi Bubuk Cap Cangkir AA business, several key conclusions can be drawn. This business reaches the break-even point at a certain sales volume, indicating that after surpassing this threshold, each additional unit sold will directly contribute to the business's profit. The contribution margin calculation shows that the business has a cost structure that allows for profitability, with controllable proportions of fixed and variable costs. The business has a fairly good profit margin safety level, which means there is tolerance for a decline in sales before experiencing losses. Sensitivity analysis shows that changes in selling prices and production costs have a significant impact on business profits. An increase in raw material prices or a decrease in selling prices can reduce profit margins. To increase profitability, the business can consider strategies such as production cost efficiency, increasing sales volume, and product diversification to expand the market. This conclusion indicates that the Kopi Bubuk Cap Cangkir AA business has good profit potential, but it still needs to pay attention to external factors such as raw material prices and market demand.

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