

“Break-Even Point Analysis as a Tool for Profit Planning and Managerial Decision-Making: A Study of Rumah Bunga Medan MSME”

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Abstract

This study aims to analyze the application of Break-Even Point (BEP) analysis as a tool for profit planning and managerial decision-making at Rumah Bunga Medan, an MSME operating in the florist industry. This study employs a quantitative descriptive approach by examining fixed costs, variable costs, average selling price, sales volume, contribution margin, and break-even point. The analysis also determines the sales volume required to achieve a targeted operating profit. The results indicate that monthly fixed costs amount to IDR 6,000,000, with an average selling price of IDR 150,000 and an average variable cost of IDR 90,000 per product. The break-even point is calculated at 100 products, equivalent to monthly sales of IDR 15,000,000. At a sales volume of 150 products per month, revenue reaches IDR 22,500,000, resulting in an operating profit of IDR 3,000,000. To achieve a target operating profit of IDR 4,500,000 per month, sales must reach 175 products, equivalent to IDR 26,250,000. These findings demonstrate that BEP analysis can support the determination of minimum sales targets, cost control, profit planning, and managerial decision-making. The analysis provides a basis for evaluating the relationship between costs, sales volume, and profitability at Rumah Bunga Medan.

keywords: Break-Even Point (BEP); Profit Planning; Managerial Decision-Making; Cost-Volume-Profit Analysis; Florist MSME.

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1. Introduction

Micro, Small, and Medium Enterprises (MSMEs) are the backbone of Indonesia's economy. Based on data from the Ministry of Cooperatives and SMEs cited by Delfira et al. (2025) and Nanta et al. (2025), this sector contributes more than 60% of Gross Domestic Product (GDP) and absorbs approximately 97% of the national workforce. This role is also evident in North Sumatra, where MSMEs drive the regional economy while also helping to reduce unemployment and economic inequality (Nanta et al., 2025).

Despite their significant role, MSMEs still face internal constraints, including limited capital and human resources (Delfira et al., 2025) as well as a lack of financial literacy and management skills in managing money (Nanta et al., 2025). These constraints affect profit planning. Many MSME actors set profit targets based on simple estimates without analyzing the relationship between fixed costs, variable costs, and sales volume (Oktaviani et al., 2026). In some businesses, owners even know only their sales results without knowing the profit actually earned (Husna et al., 2024), making it difficult to set realistic sales and profit targets.

One tool that can be used for profit planning is *Break-Even Point* (BEP) analysis, that is, the condition in which total revenue equals total costs so that the business earns neither a profit nor a loss (Husna et al., 2024; Oktaviani et al., 2026). This analysis shows the minimum sales level that must be achieved and can be extended to determine the sales volume required to achieve a certain profit (Husna et al., 2024; Pamungkas & Sumiati, 2026).

Therefore, BEP serves not only as a calculation tool but also as a basis for managerial decision-making, such as setting minimum sales targets, evaluating cost efficiency, and determining pricing strategies (Oktaviani et al., 2026). A study of small and medium enterprises in Kailali, Nepal, also showed that the application of cost-volume-profit analysis is strongly and positively correlated with profit planning and pricing decisions (Joshi & Sapkota, 2026). Accurate BEP calculation requires costs to be classified into fixed costs and variable costs first, and in businesses with more than one type of product, the break-even point of each product is calculated based on the *sales mix* (Amanda et al., 2024).

The *florist* business has characteristics that make profit planning more challenging. Flower demand is tied to various occasions, such as weddings, religious events, births, congratulations, and condolences, while sales volume and flower prices can fluctuate with supply, making it difficult for traders to estimate revenue and calculate monthly profit accurately (Hidayattulloh et al., 2024). In addition, fresh flowers are prone to wilting during storage and delivery, are seasonal products whose availability is affected by the weather, and at certain times their prices at the supplier level can rise significantly (Zain et al., 2025). This pattern can be seen in one florist in Bogor Regency, which, according to the owner's data, earned about 71% of its annual turnover in the four peak-season months (Zain et al., 2025).

Rumah Bunga Medan is a florist business located in Padang Bulan, Medan Baru District, Medan City, North Sumatra. The business sells and arranges flowers, including bouquets and gift arrangements, and also provides order delivery services. Given these characteristics of a florist business, Rumah Bunga Medan needs calculation-based profit planning so that its sales volume can be directed in a more measurable way.

The application of BEP has been studied in various types of businesses. Husna et al. (2024) applied BEP and *Margin of Safety* at a fishing supplies store in Medan and found that monthly sales from January to April 2024 were above the break-even point. Oktaviani et al. (2026) showed that BEP has a positive and significant effect on profit budgeting at a retail store in Padang. Pamungkas and Sumiati (2026) concluded that BEP and *Margin of Safety* help tilapia aquaculture business operators set sales targets, control costs, and anticipate market uncertainty. In the flower business, Hidayattulloh et al. (2024) assessed the feasibility of cut-flower traders in Bekasi City using BEP and *R/C ratio* and concluded that the business was profitable. Hesti et al. (2024) applied cost-volume-profit analysis to a bouquet MSME and calculated the break-even point, *margin of safety*, and *operating leverage*, while Zuhdi (2025) combined BEP with sales forecasting and scenarios for a bouquet MSME in Pekanbaru. In Medan City, the study of a florist business found by the author focused on cost of goods sold and cost of production to increase profit (Fitriyani & PS, 2024). However, based on the author's search, studies of BEP in florist businesses in this city remain limited, so there is not yet a picture of the break-even point and sales targets that fit the cost structure and demand patterns of florists in Medan.

2. Literature Review

2.1. Managerial Accounting

According to Mulyadi (2022), managerial accounting is the process of providing financial and nonfinancial information used by management in planning, control, evaluation, and decision-making activities. The information produced is internal and is used to help management determine the company's strategy.

2.2. Production Costs

According to Mulyadi (2009:14) in his book entitled Cost Accounting (Akuntansi Biaya), production costs are defined as follows: "Production costs are the costs incurred to process raw materials into finished products that are ready for sale".

2.3. Break-Even Point (BEP)

According to Sigit (2002), the *Break-Even Point* (BEP) analysis is an analysis used to determine the level of production volume or sales volume at which the company is in a condition of neither suffering a loss nor yet earning a profit. BEP analysis can help management determine the minimum sales level that must be achieved so that the company can cover all the costs incurred.

2.4. Profit

According to Soemarso S.R (in 2017:3), "Profit is the excess of revenue over the costs incurred in connection with business activities to earn that revenue during a certain period." According to Kotler (in 2017:3), "Profit is revenue minus costs."

2.5. Profit Planning and Managerial Decision-Making

Profit planning is the process of determining the profit target to be achieved by considering the relationship between costs, sales volume, and revenue. *Break-Even Point* (BEP) analysis can be used as one of the tools in profit planning because it helps the company determine the minimum sales level to avoid losses and set sales targets to achieve the expected profit (Pamungkas & Sumiati, 2026).

In addition to being used for profit planning, information from BEP analysis can serve as a basis for management in making operational decisions, such as setting sales targets and exercising cost control. Thus, BEP analysis provides information that can help decision-making based on the cost and sales conditions of the business (Oktaviani et al., 2026).

2.6 Calculation of Break-Even Point (BEP)

1. Calculation of BEP Using Contribution Margin (CM)

$$CM = Sales - Variable Costs$$

$$CM Ratio = \frac{CM}{Sales} \times 100\%$$

$$Unit CM = Selling Price per Unit - Variable Cost per Unit$$

$$BEP (Q) = \frac{\text{Fixed Costs}}{\text{Unit Contribution Margin}}$$

$$BEP (Rp) = \frac{\text{Fixed Costs}}{\text{CM Ratio}}$$

2. Calculation of BEP as a Basis for Profit Planning Calculations

$$\text{Target Volume (Q)} = \frac{\text{Fixed Costs} + \text{Target Profit}}{\text{Unit Contribution Margin}}$$

$$\text{Target Volume (Rp)} = \frac{\text{Fixed Costs} + \text{Target Profit}}{\text{Contribution Margin Ratio}}$$

3. Methods

3.1 Problem-Solving Steps and Methodology

This study uses a quantitative approach with a quantitative descriptive analysis method. According to Sugiyono (2013), quantitative methods can be used for research problems that are clearly defined, observable, and measurable, and for which the collected data can be analyzed quantitatively.

In this study, quantitative descriptive analysis is used to process data on fixed costs, variable costs, selling prices, sales volume, and revenue or profit earned by Rumah Bunga Medan MSME. The data are then used to calculate the Break-Even Point (BEP) and prepare profit planning, making it possible to identify the business's condition and the sales level required to reach the break-even point and profit target.

The problem-solving process begins with a preliminary study that includes a literature review and a field study. The next stages involve formulating the problem and determining the research objectives, collecting data, processing the data, calculating the BEP, analyzing the calculation results, and finally drawing conclusions and providing recommendations.

3.2 Data Collection Method

Data collection techniques are the procedures used by researchers to obtain information from respondents in accordance with the established scope of the study. Sugiyono (2013, p. 225) explains that data can be collected through observation, interviews, questionnaires, documentation, or a combination of several techniques.

The author used interviews as the data collection technique. The type of data used in this study is quantitative data. According to Sugiyono (2013), quantitative data consist of numerical information or information that can be measured in the form of scores. The data source used in this study is primary data obtained directly from the business owner.

3.3 Data Analysis Tools

Several tools are used in the data analysis process, including tabular calculations of production costs per unit, tabular calculations of total sales, classification of costs into fixed

and variable costs, calculation of the contribution margin and contribution margin ratio, calculation of the Break-Even Point (BEP) in rupiah and units, and calculation of the Break-Even Point (BEP) as a basis for profit planning.

3.4 Research Location

This study was conducted at Rumah Bunga Medan, located at Jl. Pembangunan No. 3A, Padang Bulan, Medan Baru District, Medan City, North Sumatra 20153, Indonesia. The study aims to analyze the application of the Break-Even Point method as a tool for profit planning and as support for managerial decision-making.

4. Results and Discussion

4.1 Research Results

4.1.1 Business Overview

Rumah Bunga Medan is a florist business that offers products such as flower bouquets, gift arrangements, and floral arrangements tailored to customers' needs. The business requires various materials, including fresh flowers, wrapping paper, ribbons, and additional supplies to produce items ready for sale.

In operating its business, Rumah Bunga Medan needs to consider the costs of purchasing raw materials, labor costs, rent, electricity, and other operating expenses. In addition, fresh flower prices may change, and flower quality must be maintained to prevent damage. These conditions make cost and sales planning important for maintaining business profitability.

The following calculations use monthly data to the application of the Break-Even Point (BEP) method at Rumah Bunga Medan. The selling price and cost per product values across different product types.

4.1.2 Costs and Sales

To calculate the break-even point (BEP), business costs are classified into fixed and variable costs. Fixed costs are considered relatively unchanged regardless of the number of products sold during the period, while variable costs change according to the number of products produced or sold.

Table 1. Monthly Fixed Costs of Rumah Bunga Medan

Fixed Cost Components	Monthly Cost
Rent	Rp1.500.000
Permanent Employee Salaries	Rp3.000.000
Electricity and Water	Rp400.000
Internet dan administrasi	Rp200.000
Equipment Depreciation	Rp400.000
Other Fixed Costs	Rp500.000
Total Fixed Costs	Rp6.000.000

Source: MSME Rumah Bunga Medan (2026)

Variable costs are at IDR 90,000 per product, including flowers and primary materials, wrapping paper, ribbons, and other supporting supplies. This value used to simplify calculations across different types of florist products.

Table 2. Monthly Sales

Description	Mark
Average Selling Price per Productk	Rp150.000
Average Variable Cost per Product	Rp90.000
Number of Products Sold per Month	150 product
Total Sales Revenue	Rp22.500.000
Total Variable Costs	Rp13.500.000
Total Fixed Costs	Rp6.000.000
Total Costs	Rp19.500.000
Operating Profit	Rp3.000.000

Source: MSME Rumah Bunga Medan (2026)

Based on these figures, sales of 150 products generate revenue of IDR 22,500,000 per month. After deducting variable costs of IDR 13,500,000 and fixed costs of IDR 6,000,000, toperating profit is IDR 3,000,000 per month. This calculation does not include taxes, loan interest, or other costs that are not covered by the data.

4.1.3 Contribution Margin Calculation

The contribution margin represents the amount of revenue remaining after variable costs have been deducted. This amount is used to cover fixed costs and, once fixed costs have been covered, to generate profit. The contribution margin per product is calculated as follows:

Contribution margin = Average selling price – Average variable cost

= IDR 150,000 – IDR 90,000

= IDR 60,000 per product

The contribution margin ratio is calculated by dividing the contribution margin per product by the average selling price.

Contribution margin ratio = $\text{IDR } 60,000 \div \text{IDR } 150,000 \times 100\%$

= 40%

Therefore, for every IDR 150,000 in sales revenue, IDR 60,000, or 40%, is available to cover fixed costs and generate profit.

4.1.4 Break-Even Point (BEP) Calculation

The BEP is the point at which total revenue equals total costs, meaning that the business neither earns a profit nor incurs a loss.

a. BEP in Units

$$\begin{aligned}\text{BEP in units} &= \text{Total fixed costs} \div \text{Contribution margin per product} \\ &= \text{IDR } 6,000,000 \div \text{IDR } 60,000 \\ &= 100 \text{ products per month}\end{aligned}$$

This result indicates that Rumah Bunga Medan needs to sell 100 products per month to reach the break-even point.

b. BEP in Rupiah

$$\begin{aligned}\text{BEP in rupiah} &= \text{Total fixed costs} \div \text{Contribution margin ratio} \\ &= \text{IDR } 6,000,000 \div 40\% \\ &= \text{IDR } 15,000,000 \text{ per month}\end{aligned}$$

This means that the business needs to achieve sales of IDR 15,000,000 per month to cover all the costs included in the calculation.

Table 3. Summary of BEP Calculation Results

Indicator	Results
Monthly Fixed Costs	Rp6.000.000
Contribution Margin per Product	Rp60.000
Contribution Margin Ratio	40%
BEP in Units	100 product
BEP in Rupiah	Rp15.000.000
Monthly Sales Revenue	Rp22.500.000
Operating Profit	Rp3.000.000

Source: MSME Rumah Bunga Medan (2026)

Based on these results, estimated sales of IDR 22,500,000 exceed the BEP of IDR 15,000,000. The difference between sales and the break-even point is IDR 7,500,000. In this case, Rumah Bunga Medan has passed the break-even point and generated an operating profit of IDR 3,000,000.

4.1.5 Profit Planning

BEP analysis can also be used to the sales volume required when a business sets a specific profit target. The operating profit target is set at IDR 4,500,000 per month.

The number of sales required to achieve the profit target is calculated using the following formula:

Target units = (Fixed costs + Target profit) ÷ Contribution margin per product

= (IDR 6,000,000 + IDR 4,500,000) ÷ IDR 60,000

= 175 products per month

The sales target in rupiah is then calculated as follows:

175 products × IDR 150,000 = IDR 26,250,000 per month

Table 4. Profit Planning

Description	Sales	Profit Target
Number of Products Sold	150 product	175 product
Sales Revenue	Rp22.500.000	Rp26.250.000
Variable Costs	Rp13.500.000	Rp15.750.000
Fixed Costs	Rp6.000.000	Rp6.000.000
Total Costs	Rp19.500.000	Rp21.750.000
Operating Profit	Rp3.000.000	Rp4.500.000

Source: MSME Rumah Bunga Medan (2026)

Based on Table 4, to reach the operating profit target of Rp4,500,000 per month, sales volume must increase from 150 to 175 products, an addition of 25 products per month. This calculation shows that the average selling price, variable costs per product, and fixed costs remain unchanged.

4.2 Discussion

4.2.1 BEP Analysis as a Business Evaluation Tool

Based on the results, the break-even point for Rumah Bunga Medan stands at 100 products sold or Rp15,000,000 per month. Meanwhile, sales of 150 products generate revenue of Rp22,500,000. Consequently, sales operate 50 products above the break-even threshold.

This margin indicates a sales buffer above the break-even point under the conditions. However, this margin does not guarantee perpetual profitability. If flower prices rise, products suffer damage, sales decline, or operational costs increase, profit margins will shift.

The inherent characteristics of a florist business must be carefully considered because products rely on fresh flowers whose quality and pricing are highly variable. Therefore, BEP calculations should be updated regularly.

4.2.2 BEP as a Foundation for Profit Planning

The findings demonstrate that achieving an operating profit target of Rp4,500,000 per month requires selling 175 products or generating Rp26,250,000. This volume exceeds the initial sales baseline of 150 products.

These results provide valuable guidance for managers in establishing monthly sales targets. However, targets do not necessarily have to be met solely by increasing total product volume. Management can also evaluate selling prices, material selection, flower usage efficiency, and material waste reduction without compromising product quality.

4.2.3 Implications for Managerial Decision-Making

BEP analysis assists the management of Rumah Bunga Medan in business decision-making in several ways. First, managers can utilize the break-even point as a minimum monthly sales benchmark. Second, systematic recording of fixed and variable costs aids in identifying expenses that demand stricter control.

Third, tracking sales by product category is necessary to identify items that provide higher contribution margins. Products with high selling prices do not necessarily yield the highest contribution margin if their material and labor costs are correspondingly high. Fourth, management can align flower purchases with demand forecasts to mitigate risks of unsold or spoiled flowers.

Thus, BEP serves not only as a tool for calculating break-even points, but also supports sales planning and cost control.

5. Conclusion

Based on the application of the Break-Even Point (BEP) method to Rumah Bunga Medan with monthly fixed costs of Rp6,000,000, an average selling price of Rp150,000 per product, and an average variable cost of Rp90,000 per product the break-even point is established at 100 products or Rp15,000,000 per month. At a sales level of 150 products per month, revenue at Rp22,500,000 with an operating profit of Rp3,000,000.

Profit planning analysis demonstrates that achieving a target operating profit of Rp4,500,000 per month requires sales of approximately 175 products or Rp26,250,000, constant cost structures and selling prices. These outcomes highlight that BEP analysis serves as an effective tool for setting sales targets, evaluating costs, and supporting strategic managerial decision-making.

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