

BREAK-EVEN POINT ANALYSIS OF MICRO, SMALL, AND MEDIUM ENTERPRISES (MSMES) PRODUCING SASIRANGAN FABRIC IN SASIRANGAN VILLAGE, BANJARMASIN

Analisis Break Event Point Pada UMKM Kain Sasirangan, Kampung Sasirangan Banjarmasin

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Abstract

This study aims to analyze the break-even point (BEP) as a tool for profit planning in the Sasirangan Cloth Micro, Small, and Medium Enterprises (MSMEs) located in Sasirangan Village, Banjarmasin. Using a quantitative descriptive approach, data were collected through observation and documentation supported by financial records of the enterprise. The analysis involved classifying costs into fixed, variable, and semi-variable categories, followed by BEP calculation in both units and monetary terms, as well as contribution margin, safety, and profit planning analysis. The findings indicate that the enterprise reaches its break-even point at sales revenue of Rp. 54,042,553 or 1,633 units sold. The Contribution Margin Ratio (CMR) was found to be 47%, while the Margin of Safety (MOS) reached 53%, suggesting a relatively strong buffer against sales decline. Furthermore, to achieve a targeted profit increase of 5%, the MSME must generate revenue of Rp. 333,202,381, equivalent to 6,336 units sold. The implication is that BEP analysis can serve as a simple yet powerful instrument for MSMEs in traditional industries, enabling better decision-making, sustainability, and competitiveness in local and regional markets.

Keywords: Break-Even Point; Profit Planning; Contribution Margin; Margin of Safety; Banjarmasin.

Abstrak

Penelitian ini bertujuan untuk menganalisis Break-Even Point (BEP) sebagai alat perencanaan laba pada Usaha Mikro, Kecil, dan Menengah (UMKM) Kain Sasirangan yang berlokasi di Kampung Sasirangan, Banjarmasin. Dengan menggunakan pendekatan deskriptif kuantitatif, data dikumpulkan melalui observasi dan dokumentasi yang didukung oleh catatan keuangan UMKM. Analisis dilakukan dengan mengklasifikasikan biaya ke dalam biaya tetap, biaya variabel, dan biaya semi variabel, kemudian dilanjutkan dengan perhitungan BEP baik dalam unit maupun dalam nilai rupiah, serta analisis contribution margin, margin of safety, dan perencanaan laba. Hasil penelitian menunjukkan bahwa UMKM mencapai titik impas pada pendapatan penjualan sebesar Rp. 54.042.553 atau 1.633 unit terjual. Contribution Margin Ratio (CMR) ditemukan sebesar 47%, sedangkan Margin of Safety (MOS) mencapai 53%, yang menunjukkan adanya buffer yang cukup kuat terhadap penurunan penjualan. Lebih lanjut, untuk mencapai target peningkatan laba sebesar 5%, UMKM harus mampu menghasilkan pendapatan sebesar Rp. 333.202.381, yang setara dengan 6.336 unit terjual. Implikasi dari penelitian ini adalah bahwa analisis BEP dapat berfungsi sebagai instrumen yang sederhana namun efektif bagi UMKM di industri tradisional, guna meningkatkan pengambilan keputusan, keberlanjutan usaha, dan daya saing di pasar lokal maupun regional.

Kata Kunci: Break-Even Point; Perencanaan Laba; Contribution Margin; Margin of Safety; Banjarmasin.

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Introduction

The era of globalization is characterized by the rapid expansion of business activities, accelerated technological developments, and increasingly intense competition. Indonesia, as one of the developing countries, is currently undergoing significant development, particularly in the economic sector. The manufacturing sector is among those most affected by globalization. The high level of competition in this era compels management to be more responsive in anticipating market dynamics by working more effectively and efficiently in order to sustain business operations. Management thus plays a crucial role, as it is required to anticipate various situations and perform its functions effectively so that organizational goals can be achieved. Among the key management functions, planning is of primary importance.

Planning essentially involves selecting among possible alternatives by considering the company's objectives, available economic resources, and constraints. Sound planning enhances efficiency and ultimately increases profitability. The primary benchmark of successful management lies in the level of profit generated. Extremely low profits may lead to business failure, whereas excessively high profits may trigger more intense competition. Therefore, management may adopt various strategies to realize the expected level of profit, such as minimizing production and operational costs while maintaining existing sales prices and volumes, setting selling prices that enable the company to achieve its targeted profit, or maximizing sales volume.

To understand the relationship among costs, sales volume, and selling price in profit planning, companies may employ Break-Even Point (BEP) analysis. A company is said to reach break-even when, after calculating profit and loss within a given operating period, it neither incurs losses nor generates profits. In such cases, total revenues equal total costs incurred. BEP analysis helps management determine the sales volume required to avoid either losses or profits. It also serves as a valuable tool for managerial decision-making and as a guideline for profit planning.

The BEP is essential as a profit-planning tool because it provides management with information regarding the minimum sales revenue that must be achieved to avoid losses. Furthermore, industrial development, such as in the sugar industry, has significant implications for other industries. In addition to direct consumption, sugar serves as a raw material in the food and beverage industry. National sugar demand is projected to increase steadily alongside population growth, rising incomes, and the expansion of food and beverage processing industries. Thus, the sugar industry holds strong potential to become one of Indonesia's leading industries.

Furthermore, Horngren et al. (2002) explain that Break-Even Point (BEP) analysis is one of the most important tools in managerial decision-making. Similarly, Anthony and Govindarajan (2005) emphasize that BEP analysis is highly beneficial for companies in profit planning, as it assists management in evaluating the impact of cost changes on profitability. Utami and Rosidi (2017) also demonstrate that BEP analysis is highly effective in helping micro and small enterprises determine pricing strategies and production volumes.

The development of the domestic sugar industry is vital to prevent continued decline and to achieve self-sufficiency. National sugar industry development has multiple impacts: ensuring adequate domestic sugar supply, improving the welfare of sugarcane farmers, and generating employment opportunities. The Government of Indonesia, through relevant ministries, has initiated a sugar mill restructuring program aimed at increasing national production to meet short-term needs while also anticipating medium- to long-term demand by potentially establishing new sugar mills.

Takalar Sugar Mill, in particular, faces fluctuations in production volume, prices, and production costs. Sugar prices fluctuate annually, experiencing both increases and decreases, while

production volume and production costs also vary. These changes affect profitability and the company's break-even point. Consequently, further analysis of the break-even point (BEP) and its sensitivity to changes in price, production volume, and production costs is necessary.

Literature Review

Break-Even Point (BEP)

The Break-Even Point (BEP) represents the point at which total revenue equals total costs, meaning the company neither makes a profit nor incurs a loss. BEP serves as a fundamental managerial decision-making tool because it assists in controlling the company's operations. It also provides insights into the sensitivity of cost changes on the company's profitability (Anthony & Govindrajana, 2005; Horngren et al., 2002).

Fixed Costs

Fixed costs are a crucial component in determining the BEP (Garrison et al., 2010) as they play a central role in defining the company's break-even point (Mulyadi, 2016). Fixed costs are expenses that remain constant over a specific period, such as rent, managerial salaries, depreciation, and others.

Variable Costs

Variable costs are expenses that change proportionally with production volume, such as raw materials and direct labor. According to Hansen and Mowen (2009), variable costs directly affect the contribution margin, and any change in this component causes a shift in the BEP.

Profit

Profits are the positive difference between revenue and total costs. In the context of BEP, profit is obtained once sales exceed the break-even point. Anthony and Govindrajana (2005) stated that profit is the primary indicator of managerial success, and BEP serves as a key tool in achieving it.

Method

Type of Research

This study employs quantitative descriptive analysis. This approach aims to analyze the research problem in order to provide a clear description aligned with the research objective, namely, to determine the sales volume threshold required for a company to avoid losses and achieve the targeted profit. The unit of analysis in this study is the Sasirangan Fabric MSMEs located in Sasirangan Village, Banjarmasin.

Data Collection Techniques

The data collection techniques used in this study are as follows:

1. **Observation**

Direct observation was conducted to obtain a clear and comprehensive picture of the research object, specifically the conditions of Sasirangan Fabric MSMEs in Sasirangan Village, Banjarmasin.

2. Documentation

This technique was employed to collect secondary data by recording documents available at relevant institutions. The collected data included financial reports, personnel recapitulation, organizational structure, regulations, production data, business history, and other documents available at the MSMEs or related institutions.

Types and Sources of Data

1. Primary Data

Primary data refers to information obtained directly from the original source for specific research purposes. In this study, primary data were collected through interviews with the management and employees of Sasirangan Fabric MSMEs in Sasirangan Village, Banjarmasin.

2. Secondary Data

Secondary data refers to information that has been previously collected and reported by other parties. In this study, secondary data were obtained from documents belonging to Sasirangan Fabric MSMEs in Sasirangan Village, as well as from other relevant institutions.

Data Analysis Tools

1. Break-Even Point (BEP) Calculation

Break-even is defined as a condition in which the company neither generates profit nor incur losses, meaning that total revenue equals total cost ($TR = TC$) (Andrianto et al., 2016).

a. Break-Even Point Based on Units

$$BEP = \frac{FC}{P - VC}$$

Where:

BEP : Number of units/products to be produced and sold

FC : Fixed costs

P : Selling price per unit

VC : Variable cost per unit

$P - VC$: Contribution margin per unit

b. Break-Even Point Based on Sales in Rupiah

$$BEP = \frac{FC}{1 - \frac{VC}{S}}$$

Where:

BEP: Sales value of the product in Rupiah

FC: Fixed costs

VC: Variable costs

S: Total revenue

Results and Discussion

Sasirangan Fabric in Banjarmasin

Banjarmasin is renowned for its traditional Sasirangan fabric, a distinctive textile of the Banjar ethnic group in South Kalimantan. The uniqueness of Sasirangan lies in its diverse motifs and rich patterns. The term *Sasirangan* derives from the local word *sirang*, meaning “to be tied” or “stitched by hand and then pulled,” a technique similar to the hand-sewn gathering method in textile arts.

Sasirangan is a fabric decorated with specific motifs and colors patterned in accordance with the traditional cultural aesthetics of the Banjar community. Historically, Sasirangan was worn as ceremonial attire during customary rituals. It was also believed to serve a healing function (*pamintaan*) for individuals suffering from illness. In the past, Sasirangan garments were typically fashioned into *laung* (headbands), belts for men, or *selendang* (scarves), *kerudung* (veils), and *udat* or *kemben* (bodices) for women.

Over time, Sasirangan has evolved beyond its traditional function as ceremonial dress into an iconic textile of South Kalimantan, now widely used in daily life. It is crafted into both men’s and women’s clothing for formal and informal occasions, as well as into various household and decorative products such as *kebaya* (traditional blouses), shawls, curtains, tablecloths, handkerchiefs, and bed linens.

Kampung Sasirangan, located on Seberang Masjid Street in Kampung Melayu, has since 2010 been designated by the Banjarmasin City Tourism Office as a center for Sasirangan handicrafts and garments. This initiative was intended not only to attract visitors and buyers but also to provide support and training for local micro, small, and medium enterprises (MSMEs). The production process in Kampung Sasirangan still employs traditional techniques similar to batik-making in Java, while also preserving the cultural heritage of the Banjar people.

Traditionally, Sasirangan was also believed to possess healing properties and was worn in ritual contexts. Its forms included *laung* (headbands), *kekamban* (scarves or veils), and *tapih bumin* (sarongs). Natural dyes were commonly used, sourced from local materials such as ginger, banana sap, pandan leaves, and other plants.

Fixed Costs, Variable Costs, and Semi-Variable Costs

Before conducting the analysis, expenses must first be classified into fixed costs, variable costs, and semi-variable costs. Fixed costs are expenses whose total amount remains unchanged within the relevant range despite changes in activity output levels. Variable costs, on the other hand, vary in direct proportion to changes in activity output, while semi-variable costs change with variations in activity volume but not in direct proportion.

1. Fixed Costs

The fixed costs in this study include: (a) Employee salaries, (b) Employee meal allowances, and (c) Miscellaneous expenses.

2. Variable Costs

The variable costs consist of (a) Merchandise inventory costs, (b) Commission expenses, (c) Transportation costs, and (d) Labor wages.

3. Semi-Variable Costs

Semi-variable costs in this study are represented by electricity expenses. Based on the above classification, the breakdown of total costs into fixed, variable, and semi-variable categories incurred by Sasirangan Fabric MSMEs in May 2021 can be presented in Table 1.

Table 1. Costs of Sasirangan Fabric MSMEs

No.	Description	Variable Cost (Rp.)	Fixed Cost (Rp.)
1	Merchandise Inventory Cost	60,000,000	
2	Commission Expense	1,000,000	
3	Transportation Cost	600,000	
4	Labor Wages	200,000	
5	Employee Salaries		3,000,000
6	Employee Meal Allowances		900,000
7	Rent Expense		20,000,000
8	Miscellaneous Expenses		1,500,000
	Total	61,800,000	25,400,000

Source: Data Processed by Researchers, 2025

From the cost classification table, it can be observed that variable costs represent the largest expenditure of the Sasirangan Fabric MSMEs, amounting to Rp. 61,800,000, while fixed costs for May 2025 totaled Rp. 25,400,000.

Sales Volume, Selling Price, and Revenue

Break-even point (BEP) analysis is strongly influenced by sales volume and selling price. Both factors are essential for determining the break-even condition as well as for profit planning. Table 2 shows the research results from Sasirangan Fabric MSMEs with the sales volume and selling price data.

Table 2. Sales Volume, Selling Price, and Revenue of Sasirangan Fabric MSMEs, May 2025

No.	Revenue (Rp.)	Selling Price (Rp.)	Sales Volume (Units)
1	114,545,000	33,789	3,390

Source: Data Processed by Researchers, 2025

As shown in Table 2, in May 2025, the MSME generated revenue of Rp. 114,545,000 with a unit selling price of Rp. 33,789, resulting in a sales volume of 3,390 units.

Break-Even Point (BEP) Analysis

Profit planning is essentially a carefully prepared work plan whose financial implications are expressed in projected income statements, balance sheets, cash flows, and working capital budgets, both in the short and long term. BEP analysis forms the basis for profit planning, enabling the firm to determine the minimum sales required to avoid losses.

The following notations are used:

FC	= Fixed Costs
VC	= Variable Costs
P	= Selling Price per Unit
V	= Variable Cost per Unit
S	= Sales (Revenue)

BEP (Rp) = Break-even sales in Rupiah
 BEP (Q) = Break-even sales in units

Break-Even Point in Units and Rupiah

$$BEP(Q) = \frac{FC}{P - V} = \frac{25,400,000}{33,789 - 18,230.08} = \frac{25,400,000}{15,558.92} = 1,633 \text{ units}$$

$$BEP(Rp) = \frac{FC}{1 - \frac{VC}{S}} = \frac{25,400,000}{1 - \frac{61,800,000}{114,545,000}} = \frac{25,400,000}{0.47} = Rp.54,042,553$$

Thus, the MSME will break even when revenue reaches Rp. 54,042,553 or when 1,633 units are sold in June 2025, maintaining this sales level thereafter.

Contribution Margin Analysis

$$CM = S - VC = 114,545,000 - 61,800,000 = Rp.52,745,000$$

$$CMR = 1 - \frac{VC}{S} = 1 - \frac{61,800,000}{114,545,000} = 0.47 (47\%)$$

Thus, the contribution margin in June 2025 amounted to Rp. 52,745,000 with a ratio of 47%.

Margin of Safety (MOS)

$$MOS = \frac{S - BEP(Rp)}{S} \times 100\% = \frac{114,545,000 - 54,042,553}{114,545,000} \times 100\% = \frac{60,502,447}{114,545,000} \times 100\% = 53\%$$

This shows that sales revenue could decline by up to 53% before the MSME incurs losses.

Profit Planning

To plan for profits, the MSME set a target profit of 5%. Using BEP and contribution margin analysis, profit planning is calculated as:

$$S = \frac{FC + (\pi \times S)}{CMR}$$

$$S = \frac{25,400,000 + (0.05 \times S)}{0.47}$$

$$0.42S = 139,945,000 \Rightarrow S = 333,202,381$$

Thus, to achieve a 5% profit target, the MSME must generate sales of approximately Rp. 333,202,381.

Discussion

Based on the sales data for May, in break-even point (BEP) analysis, costs and selling prices must remain constant, as any fluctuations would affect BEP. The cost classification indicates that fixed costs amounted to Rp. 61,800,000, variable costs Rp. 25,400,000, and semi-variable costs Rp. 50,000. Based on the break-even point analysis, the Sasirangan Cloth MSME must maintain sales of Rp. 54,042,553 or 1,633 units in June 2025 to reach the break-even point. The contribution margin is 47%, with a margin of safety of 53%, meaning that at the current sales level and cost structure, the maximum allowable decline in sales revenue without incurring a loss is 53%. Furthermore, in June 2021, the analysis estimated a profit increase of 5%, indicating that in June

2025 the MSME would need to achieve revenue of Rp. 333,202,381. To achieve this profit growth, the enterprise must sell 6,336 units or generate Rp. 218,658,000 in additional sales. This project is supported by factors such as the rising consumer demand for Sasirangan cloth garments as contemporary apparel.

Profit planning through break-even analysis can be carried out using four approaches: break-even point, contribution margin, safety margin, and profit planning. The results of this study demonstrate that the determinants of BEP are the selling price, fixed costs, and changes in sales volume. Any change in one of these factors will affect the BEP: (1) if the sales volume changes, the composition of the contribution margin also changes; (2) if fixed costs increase while other factors remain constant, the BEP will increase and profits will decrease.

Break-even analysis provides management with insights into the relationship between costs, sales volume, and profit, thereby facilitating the evaluation of factors that influence the achievement of future profitability. As a tool for profit planning, break-even analysis highlights the level of sales required to cover costs and enables the separation of fixed, variable, and semi-variable costs, thus serving as a benchmark in determining the desired level of profit.

The findings of this study are consistent with several previous studies that emphasize the role of break-even point (BEP) analysis as a practical tool for profit planning and managerial decision-making. Like the study by Andrianto et al. (2016) on CV Langgeng Makmur Bersama, this research shows that proper classification of costs into fixed, variable, and semi-variable categories is fundamental for accurate BEP analysis. The present study, however, did not apply the least square method to separate semi-variable costs as in their research, but it nonetheless confirms the importance of cost categorization in determining contribution margin, break-even sales volume, and profit planning.

The results resonate with the study conducted by Rembet et al. (2013) on poultry farming in Manado, which demonstrated that BEP analysis not only identifies the break-even point but also confirms the profitability and sustainability of the business. Similarly, the Sasirangan Cloth MSME shows that once the enterprise reaches its break-even point at Rp. 54,042,553 (1,633 units), further increases in sales contribute directly to profit, thus indicating business prospects for long-term viability.

This study reinforces the conclusions drawn by Ariyanti et al. (2014) on PT Cakra Guna Cipta Malang, which highlighted that BEP analysis provides management with the minimum sales target required to avoid losses. The present findings confirm that BEP serves not only as a threshold indicator but also as a strategic reference for setting higher sales targets to achieve the desired profit, in this case a 5% increase amounting to Rp. 333,202,381. The implication is that BEP analysis remains a simple yet powerful financial planning tool, particularly for MSMEs that may lack access to sophisticated financial modeling. For Sasirangan Cloth MSMEs, applying BEP analysis enables clearer sales target setting, enhances cost control, and contributes to business sustainability in competitive markets

Conclusion

Based on the research findings and discussion in the previous chapter, the following conclusions can be drawn: The profit planning analysis using the break-even point (BEP) approach for the Sasirangan Cloth MSME in Banjarmasin enables the enterprise to determine the sales volume at which it neither incurs a loss nor generates a profit (the break-even point). The MSME can also identify the loss threshold through the margin of safety (MOS). By applying break-even analysis, the enterprise can determine the number of units that must be sold in order to achieve the desired profit target.

The Sasirangan Cloth MSME will reach its break-even point when sales revenue amounts to Rp. 54,042,553, or when 1,633 units are sold. The enterprise has a Contribution Margin Ratio (CMR) of 47% and a Margin of Safety (MOS) of 53%. To achieve a profit target of 5%, the MSME must increase sales to 6,336 units, equivalent to Rp. 218,658,000, resulting in total sales revenue of Rp. 333,202,381. The results of this study imply that BEP analysis can serve as a strategic tool for financial planning and decision-making in micro, small, and medium enterprises (MSMEs). For Sasirangan Cloth MSMEs, the use of BEP not only clarifies the relationship between costs, sales, and profit but also guides management in setting realistic sales targets, improving cost efficiency, and strengthening competitive positioning. More broadly, the findings highlight the importance of adopting simple yet effective financial analysis tools to ensure the sustainability and growth of traditional craft-based MSMEs in Indonesia.

The findings of this study provide important implications for MSME managers, particularly those in traditional and handicraft sectors. Integrating the Break-Even Point (BEP) analysis into routine financial planning is essential for assessing managerial performance and continuously monitoring business operations to maintain profitability and competitiveness. This study has certain limitations, as it focuses on a single case study; therefore, the results cannot be generalized to other sectors or regions. Future research is recommended to expand the scope by involving multiple MSMEs and integrating additional analytical models to gain a more comprehensive understanding of managerial decision-making and financial planning.

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