

Break Even Point and Margin of Safety Analysis at Cangkir Pertama Coffee Shop, Purwakarta

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Abstract. Coffee Shop Cangkir Pertama was a local coffee shop business in Purwakarta operating since 2019, but its financial management remained simple, without a systematic break-even or sales safety margin analysis, so management could not determine the minimum sales volume needed to avoid losses or gauge the safety of its financial condition against a potential sales decline. This study analyzed the minimum sales volume based on the Break-Even Point (BEP), analyzed the sales safety margin based on the Margin of Safety (MOS), and evaluated the level of safety and feasibility of the business through the integration of both methods. This research used a descriptive quantitative method with primary and secondary data on sales and operational costs for the period of March 2025 to February 2026, collected through interviews, observation, and documentation, then analyzed using BEP, MOS, and Contribution Margin calculations. The results showed that the average quarterly BEP was IDR42,533,333 or 1,519 units, with an average MOS of 62.03% and a Contribution Margin Ratio of 75%. Annual revenue of IDR448,476,000 far exceeded the annual BEP of IDR170,133,333, indicating that Coffee Shop Cangkir Pertama was in a healthy, safe, and viable financial condition.

Keywords: *Break Even Point, Margin of Safety, Contribution Margin, Financial Optimization, Coffee Shop.*

A. INTRODUCTION

The *coffee shop* business has grown very rapidly in Indonesia and has become part of people's lifestyle, particularly among students and young workers. The number of coffee shop outlets in Indonesia is estimated to have increased from around 8,500 units in 2022 to 10,000 units in 2023, and is projected to reach 11,500 units in 2025 (T. dan Goodlife Magazine, 2023). Global *point of interest* data as of November 2025 even recorded 461,991 *coffee shop* locations in Indonesia, making Indonesia the country with the largest number of coffee shops in the world (CNA Indonesia, 2026).

Increasingly intense competition has caused many coffee shops to close, not because of poor product quality, but because of unplanned financial management. Business owners often do not know exactly the minimum sales volume needed to avoid losses, which is one of the main causes of small business failure in the culinary sector (Susanto et al., 2024). The absence of a systematic break-even calculation also makes it difficult for business owners to ensure that the selling price set already covers all operational costs (Siallagan et al., 2025). The structural characteristics of MSMEs in Indonesia, including limited financial literacy and management that underlie this problem, have been comprehensively mapped by Tambunan (2012); although published more than a decade ago, this study remains a key reference because the structural issues of MSMEs it describes are still relevant to the condition of small businesses in Indonesia today.

Break Even Point (BEP) is a financial analysis tool that shows the point at which total revenue equals total costs, so that a business neither profits nor loses. Devi, Sihabudin & Fauji (2023), in his research on B.O Coffee Shop in Karawang, proved that BEP calculations provide information on how much sales are needed to reach a profit target without incurring losses. Similar findings in research on the effectiveness of BEP and MOS in service companies show

that both tools are effectively used by management to monitor the safe sales limit over time (Imron & Ardiana, 2023).

BEP analysis becomes more useful when combined with *Margin of Safety* (MOS), which is the safe sales limit that shows how far actual sales may decline before the business reaches its break-even point. Liestiana & Novianty (2021) asserts that calculating BEP and MOS together provides a far more comprehensive picture of profit planning than using either method alone, and this combined approach has been shown to help business owners determine selling prices as well as the tolerance limit for sales declines (Risdayani & Susilawati, 2024).

Coffee Shop Cangkir Pertama is a local coffee shop business in Purwakarta that has been operating since 2019. Income and expenses have been recorded, but no systematic BEP or MOS analysis has ever been conducted, so management does not yet know the sales break-even point or the level of financial safety of its business. This condition is consistent with findings that many local coffee shops have not applied BEP and MOS analysis, making them vulnerable to undetected losses (Nurkholisa, Idris & Prasasti, 2024).

Based on this gap, this study aims to analyze the minimum total sales based on the BEP value, analyze the sales safety margin based on the MOS value, and evaluate the level of safety and feasibility of the business based on the integration of both methods at Coffee Shop Cangkir Pertama. This study is expected to provide a practical contribution for the owner of Coffee Shop Cangkir Pertama in setting minimum sales targets and assessing the safe limit for sales declines, as well as a theoretical contribution in the form of a case study on the application of integrated BEP and MOS analysis at a local coffee shop MSME, which can serve as a reference for similar business operators.

B. METHOD

This study uses a descriptive quantitative approach, a method used to systematically, factually, and accurately describe a phenomenon based on numerical data from the research object (Sugiyono, 2019). This approach was chosen because it fits the research objective, namely to measurably analyze the BEP and MOS values at Coffee Shop Cangkir Pertama based on real financial data for the period of March 2025–February 2026. This analysis is based on several assumptions: the selling price per unit and fixed cost structure are assumed to be constant throughout the research period, all products sold are treated as a single sales unit with a uniform average price, and the cost and sales data obtained from the business owner are considered to reflect actual operational conditions.

The research was conducted at Coffee Shop Cangkir Pertama, Purwakarta, West Java, which was selected because it has been operating since 2019 but has never conducted a systematic financial analysis. The data used consisted of primary data (structured interviews with the owner and business manager, direct observation of operations, and transaction documentation) and secondary data (monthly sales records, operational cost reports, price lists, and theoretical references). Data validity was obtained through source triangulation, *member check*, and *cross-check* of sales data.

The data analysis technique was carried out through four stages: (1) separating fixed and variable costs; (2) calculating *Contribution Margin* (CM) and *Contribution Margin Ratio* (CMR); (3) calculating BEP; and (4) calculating MOS. The formulas used (Garrison et al., 2021; Horngren et al., 2018; Mulyadi, 2018) are as follows:

$$\text{CM per Unit} = \text{Selling Price per Unit} - \text{Variable Cost per Unit} \quad (1)$$

$$\text{CMR} = (\text{CM per Unit} / \text{Selling Price per Unit}) \times 100\% \quad (2)$$

$$\text{BEP (Units)} = \text{Fixed Costs} / \text{CM per Unit} \quad (3)$$

$$\text{BEP (IDR)} = \text{Fixed Costs} / \text{CMR} \quad (4)$$

$$\text{MOS (IDR)} = \text{Actual Sales} - \text{Sales at BEP} \quad (5)$$

$$\text{MOS (\%)} = (\text{MOS in IDR/Actual Sales}) \times 100\% \quad (6)$$

The resulting MOS value is interpreted based on the criteria of Horngren et al. (2018), where an MOS above 20% is considered to be at an adequate level of safety. The evaluation was carried out by comparing actual sales for each quarter during the research period with the calculated BEP value to assess the level of safety and feasibility of the business.

C. RESULTS AND DISCUSSION

1. Cost Classification and Sales Volume

The fixed costs of Coffee Shop Cangkir Pertama were recorded consistently at IDR31,900,000 per quarter, while variable costs varied following production volume in Table 1 below:

Table 1. Fixed and Variable Costs of Coffee Shop Cangkir Pertama (in IDR)

Period	Fixed Costs	Variable Costs
Quarter I	31,900,000	27,125,000
Quarter II	31,900,000	27,622,000
Quarter III	31,900,000	28,497,000
Quarter IV	31,900,000	28,875,000

Source: processed data, 2026

Sales volume showed an increasing trend throughout the research period, with the highest revenue in Quarter IV (Table 2).

Table 2. Revenue, Selling Price, and Sales Volume

Period	Revenue (IDR)	Selling Price (IDR/Unit)	Volume (Units)
Quarter I	108,500,000	28,000	3,875
Quarter II	110,488,000	28,000	3,946
Quarter III	113,988,000	28,000	4,071
Quarter IV	115,500,000	28,000	4,125
Total	448,476,000	-	16,017
Average	112,119,000	-	4,004

Source: processed data, 2026

The highest revenue occurred in Quarter IV (IDR115,500,000; 4,125 units), while the lowest was in Quarter I (IDR108,500,000; 3,875 units), indicating a stable sales growth trend throughout the year.

2. Break Even Point (BEP) Analysis Results

Using Equations (3) and (4), the BEP results in rupiah and units were obtained as shown in Table 3 and Table 4.

Table 3. BEP Calculation (IDR)

Period	Fixed Costs	Variable Costs	Revenue	BEP (IDR)
Quarter I	31,900,000	27,125,000	108,500,000	42,533,333
Quarter II	31,900,000	27,622,000	110,488,000	42,533,333
Quarter III	31,900,000	28,497,000	113,988,000	42,533,333
Quarter IV	31,900,000	28,875,000	115,500,000	42,533,333
Total	127,600,000	112,119,000	448,476,000	170,133,333

Source: Processed Data, 2026

Table 4. BEP Calculation (Units)

Period	Fixed Costs	AVC (IDR)	Selling Price (IDR)	BEP (Units)	Units Sold
Quarter I–IV (average)	31,900,000	7,000	28,000	1,519	4,004
Total for 1 year	-	-	-	6,076	16,017

Source: Processed Data, 2026

The average BEP value per quarter was IDR42,533,333 or 1,519 beverage units, while the total annual BEP was IDR170,133,333 or 6,076 units. This value was consistent across quarters because the fixed cost structure and selling price did not change during the research period.

3. Margin of Safety (MOS) and Contribution Margin Analysis Results

Using Equations (5) and (6), the MOS values were obtained as shown in Table 5.

Table 5. Margin of Safety Calculation

Period	Revenue (IDR)	BEP (IDR)	MOS (IDR)	MOS (%)
Quarter I	108,500,000	42,533,333	65,966,667	60,78%
Quarter II	110,488,000	42,533,333	67,954,667	61,51%
Quarter III	113,988,000	42,533,333	71,454,667	62,67%
Quarter IV	115,500,000	42,533,333	72,966,667	63,16%
Average	112,119,000	42,533,333	69,585,667	62,03%

Source: Processed Data, 2026

The MOS value increased consistently from quarter to quarter (60.78% → 63.16%), far above the 20% safety threshold (Horngren et al., 2018), indicating that actual sales have substantial room to decline before the business reaches its break-even point. Meanwhile, the average *Contribution Margin* was recorded at IDR84,089,250 per quarter with a consistent CMR of 75%, meaning that every IDR1,000 in sales contributes IDR750 toward covering fixed costs and generating profit.

4. Comparison of Revenue, BEP, and Sales Volume

The comparison between actual revenue, sales volume, and the Break-Even Point (BEP) serves as an important indicator of business performance and financial viability. By comparing actual sales outcomes with the BEP, it can be determined whether the business has generated sufficient revenue to cover total costs and produce profit. The comparison results are presented in Table 6.

Table 6. Comparison of Revenue and Sales Volume against BEP

Period	Revenue (IDR)	BEP (IDR)	Volume (Units)	BEP (Units)	Difference (Units)
Quarter I	108,500,000	42,533,333	3,875	1,519	2,356
Quarter II	110,488,000	42,533,333	3,946	1,519	2,427
Quarter III	113,988,000	42,533,333	4,071	1,519	2,552
Quarter IV	115,500,000	42,533,333	4,125	1,519	2,606
Total	448,476,000	170,133,333	16,017	6,076	9,941

Source: Processed Data, 2026

Actual revenue in each quarter consistently remained far above the BEP value, with the difference between sales volume and BEP continuing to increase from 2,356 units (Quarter I) to 2,606 units (Quarter IV). This finding is consistent with Rono and Palame (2024), who found that BEP analysis helps coffee business owners set realistic minimum sales volumes according

to their cost structure, as well as with Susanto et al. (2024), who confirmed that BEP is an important instrument for measuring the financial sustainability of coffee shop businesses.

This study has limitations because the BEP and MOS analyses were calculated in aggregate for all products, not per menu item, so it has not yet been possible to identify which menu items contribute the largest or smallest margin. The stable fixed cost structure throughout the year also causes the BEP value to not fluctuate with seasonal changes, which in practice could more significantly affect the variable costs of raw materials.

D. CONCLUSION

The Break Even Point calculation results for Coffee Shop Cangkir Pertama show an average break-even point per quarter of IDR 42,533,333 or 1,519 units, with a total annual BEP of IDR 170,133,333 or 6,076 units. The average Margin of Safety value is 62.03% (IDR 69,585,667), far above the 20% safety threshold, with a trend that continued to increase from 60.78% to 63.16% throughout the year. Based on the integration of both methods, with a Contribution Margin Ratio of 75% and total annual revenue of IDR 448,476,000 that far exceeds the BEP value, Coffee Shop Cangkir Pertama is stated to be in a healthy, safe, and viable financial condition. Future research is recommended to analyze BEP and MOS per product type and to add *cost-volume-profit* projections for future periods in order to provide a more comprehensive picture for similar culinary business operators.

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