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Profit Planning Analysis with Break Even Point Approach at PT. Sinar Jaya

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Abstract

Sales management is important for a company to control profitability and avoid the risk of loss. In reality, companies are often faced with the possibility of loss and the ability to manage sales can affect the magnitude of this risk. Break Even Point (BEP) analysis can be an effective strategy to determine the minimum sales amount so that the company avoids losses. In this study, analyzed sales at PT Sinar Jaya using BEP analysis for the period January to December 2023. The results of the analysis show that the company is consistently able to achieve BEP and earn profits above 7% every month which reflects operational efficiency in profit stability. In addition, the Margin of Safety (MoS) value which is always above 20%, with a peak reaching 70%, shows that the company has strong protection against risk.

Keywords: Break even point analysis, margin of safety, sales results, risk of loss

1. Introduction

In the operation of a company, it certainly has a goal to maximize profits and minimize losses. However, in reality, it will be very possible that the company is faced with the risk of loss, especially if the company cannot manage its sales properly. The inability of a company to manage sales can be caused by a lack of strategy to determine the selling price that should be set to the buyer and the minimum amount of revenue that must be achieved.

Companies need the right strategy to avoid losses, one of which is by using Break Even Point (BEP) analysis. This analysis is carried out to see the break-even point or balance between total costs and total revenue. With the value of these two things balanced, it can be a way to avoid losses even though the company does not experience profits and losses. BEP analysis can be used by companies in making decisions regarding the minimum number of units that must be sold or the amount of revenue that needs to be achieved. In this way, in addition to avoiding losses, the company is able to achieve profits.

In this paper, we conduct a BEP analysis of PT Sinar Jaya's sales data for the period January to December 2023. This data includes volume and sales price per unit to see fluctuations in sales results in that period. The information obtained from the BEP analysis can be used by PT Sinar Jaya to determine the number of product units that must be sold and the amount of revenue that needs to be achieved, the percentage of risk factors that may be faced, and the sales target that needs to be achieved.

2. Literatur Review

2.1. Definition of Costs and Expences

Costs have a different meaning from expenses. Costs are expenses used to produce a product or service while expenses are expenses used to help the process of obtaining a good or service that can affect income (Burns, 2001).

According to Walter (2013), costs are sacrifices of economic resources measured in units of money to achieve certain goals, and expenses are costs that have provided benefits and are now exhausted.

2.2. Definition *Break Even Point* (BEP)

Break Even Point (BEP) or often known as the break-even point is a form of analyzing the relationship between sales, prices, the amount of sales, and profits. BEP is a situation when a company has a balance between the value of

cost expenditures and sales results. This means that the company does not make a profit and does not experience a loss. (Gunasekaran, 2012).

In Gunasekaran (2012), BEP is carried out with the aim of, among others:

a. To determine the minimum amount that needs to be produced so that the company does not experience losses
b. To determine the number of sales that need to be achieved so that the company is able to get a planned profit
c. To determine the value limit so that the company does not experience a loss

2.2.1. Fixed Cost

Fixed cost is a cost whose amount remains constant in a range, even though in the production process of a company there is a change in production volume (Fatmawatie, 2021).

Fixed costs are costs incurred by a company with a fixed amount, independent of sales volume, even if the company is not making sales (Roberts, 2003).

2.2.2. Variable Cost

Variable costs are costs that change proportionally to the volume of production. If production volume increases, variable costs also increase. Likewise, if the production volume decreases (Fatmawatie, 2021).

2.2.3. Selling Price

Selling price is an important thing for a company to determine because it can affect the profit results it wants to achieve. The selling price is the amount of price needed to obtain a number of goods or services charged to buyers or customers (Nasution, 2024).

2.2.4. BEP in Units

According to Maruta, in the book Management Accounting by Simamora (2012), BEP in units is that each unit or unit of product sold will generate a certain unit contribution margin that will cover fixed costs. The unit contribution margin is the difference between sales proceeds and variable costs. Simply put, BEP in units is the number of product units that must be sold to break even and is expressed in the following equation:

$$BEP = \frac{Fixed\ cost}{Unit\ selling\ price - Unit\ variable\ cost} \tag{1}$$

2.2.5. BEP in IDR

BEP in IDR is the amount of revenue that needs to be achieved in order to break even between total costs and total revenue expressed in the following equation:

$$BEP = \frac{Fixed\ cost}{1 - \frac{Unit\ variable\ cost}{Unit\ selling\ price}} \tag{2}$$

2.3. Definition of Margin of Safety (MoS)

Margin of safety is the units sold or expected to be sold above the break-even point. It can also be defined as the revenue generated or expected to be generated above the break-even point. The MoS figure can be used as a measure of the level of risk. If the greater the MoS value, the greater the risk of loss in the event of a decrease in expected sales. (Walter, 2013).

MoS can provide information on how much the budgeted sales volume or certain sales revenue is allowed to decrease so that the company does not suffer losses. MoS can be expressed as a percentage or ratio between sales and sales volume at break-even point (Khanifah, 2019).

The MoS value is obtained based on the following equation:

$$MoS(IDR) = Total\ sales - BEP\ sales \tag{3}$$

$$MoS = \frac{Total\ sales - BEP\ sales}{Total\ sales} \cdot 100\% \tag{4}$$

2.4. Definition of Degree of Leverage (DOL)

The Degree of Operating Leverage (DOL) is the percentage change in operating profit (EBIT) caused by a one percent change in output (sales). The higher the DOL, the riskier the company is because it has to bear greater fixed costs. Operating Leverage can be measured through the Degree of Operating Leverage (DOL) level at a certain production quantity level (Sukono, Ghazali, Mamat, Sambas, & Prabowo, 2024).

Operating leverage can also show the effect of revenue or sales on the company's operating profit. Knowing the level of operating leverage, management can estimate changes in operating profit as a result of changes in sales. This indicates that operating leverage is related to the company's sales and earnings before interest and taxes (Chen, 2020). The Degree of Operating Leverage (DOL) formula is:

$$DOL = \frac{Sales\ volume \times (Unit\ selling\ price - Unit\ variable\ cost)}{Sales\ volume \times (Unit\ selling\ price - Unit\ variable\ cost) - Fixed\ cost} \quad (5)$$

3. Materials and Method

3.1. Materials

This research focuses on the analysis of fixed costs and variable costs at PT Sinar Jaya. For research purposes, the data used is synthetic data. This synthetic data is used to simulate real conditions and provide an overview of BEP analysis without revealing sensitive information or company secrets.

The following is the sales data of PT Sinar Jaya for one full year, from January to December 2023. This data provides an overview of sales performance throughout the year.

Table 1: Sales Results of PT Sinar Jaya from January to December Year 2023

Month	Sales Volume (Unit)	Selling Price per Unit	Sales Results
January	8,790	65,000 IDR	571,350,000 IDR
February	7,661	65,000 IDR	497,965,000 IDR
March	8,925	65,000 IDR	580,125,000 IDR
April	7,401	65,000 IDR	481,065,000 IDR
May	7,365	65,000 IDR	478,725,000 IDR
June	6,000	65,000 IDR	390,000,000 IDR
July	9,043	65,000 IDR	587,795,000 IDR
August	5,505	65,000 IDR	357,825,000 IDR
September	6,909	65,000 IDR	449,085,000 IDR
October	6,717	65,000 IDR	436,605,000 IDR
November	9,742	65,000 IDR	633,230,000 IDR
December	8,408	65,000 IDR	546,520,000 IDR

3.2. Method

The type of research method used is descriptive analysis method with a quantitative approach. This method is used to describe, display, and summarize data in a structured and objective way. This method helps in collecting, processing, and analyzing numerical data to obtain an overview of the object under study.

Descriptive method is one of the types of quantitative research designed to describe social conditions thoroughly and in depth based on the formulation of certain problems. The purpose of this research method is to systematically describe the facts or characteristics of the population in a factual and accurate manner (Walter, 2013).

As part of this descriptive analysis, one of the research focuses is to determine the sales target for the data under study. In determining the number of units that must be sold to achieve a certain profit can use the following formula:

$$Sales\ target\ = \frac{Fixed\ cost + Profit\ target}{Unit\ selling\ price - Unit\ variable\ price} \quad (6)$$

4. Results and Discussion

Based on Table 1, it can be seen that the highest sales volume was in November, which amounted to 9,472 units, while the lowest sales volume was in August, which amounted to 5,505 units. PT Sinar Jaya realizes the challenges it

faces as its sales results fluctuate every month. This uncertainty arises due to the lack of information regarding the minimum sales that must be maintained. Therefore, profit planning is required that sets sales targets as previously described. The development of PT Sinar Jaya's sales, profit, and profit margin can be seen in Table 2.

Table 2: Sales Results, Profit, and Profit Margin at PT Sinar Jaya for the period January to December Year 2023

Month	Sales Results	Profit	Net Profit Margin
January	571,350,000 IDR	104,946,000 IDR	18.37%
February	497,965,000 IDR	66,021,000 IDR	13.26%
March	580,125,000 IDR	111,046,000 IDR	19.14%
April	481,065,000 IDR	58,329,000 IDR	12.12%
May	478,725,000 IDR	57,261,000 IDR	11.96%
June	390,000,000 IDR	29,297,000 IDR	7.51%
July	587,795,000 IDR	115,482,000 IDR	19.65%
August	357,825,000 IDR	26,453,000 IDR	7.39%
September	449,085,000 IDR	43,358,000 IDR	9.65%
October	436,605,000 IDR	40,675,000 IDR	9.32%
November	633,230,000 IDR	150,008,000 IDR	23.69%
December	546,520,000 IDR	96,447,000 IDR	17.65%

For example, the fixed cost of PT Sinar Jaya is 65,000,000 IDR, then to calculate the total cost is to add up the fixed cost with variable cost as presented in table 3.

Table 3: Fixed Costs and Variable Costs at PT Sinar Jaya for the period January to December Year 2023

Month	Fixed Cost	Variable Cost	Total Cost
January	65,000,000 IDR	401,404,000 IDR	466,404,000 IDR
February	65,000,000 IDR	366,944,000 IDR	431,944,000 IDR
March	65,000,000 IDR	404,079,000 IDR	469,079,000 IDR
April	65,000,000 IDR	357,736,000 IDR	422,736,000 IDR
May	65,000,000 IDR	356,464,000 IDR	421,464,000 IDR
June	65,000,000 IDR	295,703,000 IDR	360,703,000 IDR
July	65,000,000 IDR	407,313,000 IDR	472,313,000 IDR
August	65,000,000 IDR	266,372,000 IDR	331,372,000 IDR
September	65,000,000 IDR	340,727,000 IDR	405,727,000 IDR
October	65,000,000 IDR	330,930,000 IDR	395,930,000 IDR
November	65,000,000 IDR	418,222,000 IDR	483,222,000 IDR
December	65,000,000 IDR	385,073,000 IDR	450,073,000 IDR

In Table 3, variable costs per unit can be calculated, which are then presented in Table 4. Variable costs per unit are obtained from dividing variable costs by sales volume in that month.

Table 4: Variable Cost Calculation Results Per Unit

Month	Selling Price Per Unit	Variable Cost Per Unit
January	65,000 IDR	45,665.98 IDR
February	65,000 IDR	47,897.66 IDR
March	65,000 IDR	45,274.96 IDR
April	65,000 IDR	48,336.17 IDR
May	65,000 IDR	48,399.73 IDR
June	65,000 IDR	49,283.83 IDR
July	65,000 IDR	45,041.80 IDR
August	65,000 IDR	48,387.28 IDR
September	65,000 IDR	49,316.40 IDR
October	65,000 IDR	49,267.53 IDR
November	65,000 IDR	42,929.79 IDR
December	65,000 IDR	45,798.41 IDR

BEP calculation for the month of January:

$$BEP = \frac{65{,}000{,}000}{65{,}000 - 45{,}665.98} = 3{,}361.95 \approx 3{,}362$$

From the calculation, it is obtained that PT Sinar Jaya has a BEP value of 3,362 units, which means that after selling 3,362 units, all fixed costs will be paid and the company will report a net profit or loss of 0 IDR.

BEP calculation in IDR units:

$$BEP = \frac{65{,}000{,}000}{1 - \frac{45{,}665.98}{65{,}000}} = 218{,}526{,}767$$

The calculation results show that the BEP in IDR is 218,526,767 IDR. This value indicates the sales results that must be obtained to achieve BEP in January.

MoS calculation in January:

$$MoS = \frac{8790 - 3362}{8790} = 61.75\%$$

MoS in January of 61.75% indicates that the company's current sales can decrease by 61.75% before reaching BEP, or in other words before the company experiences a loss. This indicates that the company is in a relatively safe position as sales have to decline significantly before the company starts making losses.

The sales target is in January:

$$Sales\ target = \frac{65{,}000{,}000 + 104{,}946}{65{,}000 - 45{,}665.98} = 8{,}790$$

Suppose the profit to be targeted is the profit earned in January, it is found that the sales target is 8,790 units. This target is set to ensure the company not only breaks even but also makes the expected profit. However, it should be noted that the desired profit value may vary depending on the company's strategy and objectives.

The calculation of DOL in January:

$$DOL = \frac{8{,}790 \times (65{,}000 - 45{,}665.98)}{8{,}790 \times (65{,}000 - 45{,}665.98) - 65{,}000{,}000} = 1.619 \approx 162\%$$

Based on the equation above, it is found that DOL in January was 162%, it shows that if the sales of PT. Sinar Jaya increases by 1%, the profit will increase by 162%.

For the following months, the results of the BEP, MoS, and sales target calculations were calculated using equations (1), (2), (4), and (5) which are then presented in table 5.

Table 5: Calculation Results of Break Even Point, Margin of Safety, and Sales Target

Month	BEP (Unit)	BEP (IDR)	MoS	Sales Target (Unit)	DOL
January	3,362	218,526,767	61.75%	8,790	162%
February	3,801	247,042,268	50.39%	7,661	198%
March	3,295	214,194,728	63.08%	8,925	159%
April	3,901	253,543,165	47.30%	7,401	211%
May	3,916	254,513,909	46.84%	7,365	214%
June	4,136	268,831,458	31.07%	6,000	322%
July	3,257	211,692,440	63.99%	9,043	156%
August	3,913	254,323,259	28.93%	5,505	346%
September	4,144	269,389,662	40.01%	6,909	250%
October	4,132	268,552,874	38.49%	6,717	260%
November	2,945	191,434,505	69.77%	9,742	143%
December	3,385	220,033,819	59.74%	8,408	167%

5. Conclusion

Based on the results of the discussion, it can be concluded that during the period January to December PT Sinar Jaya consistently reached BEP. This shows that the company is able to cover all fixed costs and variable costs with the sales generated. Consistent profits above 7% indicate that the company achieved stable profits and managed its operations efficiently.

In addition, PT Sinar Jaya shows excellent financial performance. This is shown by the MoS value which is always above 20%, even reaching almost 70% in some months. PT Sinar Jaya has strong protection against fluctuations in sales and operating costs and is able to manage risks well.

Overall, PT Sinar Jaya had a satisfactory financial performance during the period with the ability to achieve a high level of security in its operations and achieve profits above the desired standard. The Degree of Leverage (DOL) value varies with the smallest value being 143% in November and the largest being 364% in August. It indicating that the sensitivity of operating profit to changes in sales also fluctuates throughout the year. However, BEP analysis and MoS calculations are needed to determine the minimum amount of sales and the desired profit target. This step is important so that the company can plan sales effectively for the next periods.

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