

Break Even Point Analysis as a Tool for Sales and Profit Planning: A Case Study of PT Ultrajaya Milk Industry & Trading Company Tbk.

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ABSTRACT

Based on the results and discussions that have been presented in this study, PT. Ultrajaya Milk Industry & Trading Company, Tbk did not suffer a loss, it was concluded that the total production cost in 2020 was Rp. 15,185,422. The position of the BEP break-even point is at a nominal value of Rp. 14,780,337. The method used in this research is descriptive qualitative method. This method is a qualitative approach that describes conditions, situations, and variables. The purpose of this study is to analyze the Break Even Point of the company Ultrajaya Milk Industry Tbk, besides that this research will also explain the general description of sales planning and provide sales volume targets that must be generated at PT. Ultrajaya Milk Industry Tbk. The results of the company's research can plan sales in 2021 for Rp. 16,781,882, with a margin of safety or a safety limit of 37.43%. The minimum sales that must be made in 2021 are 1,049 units with a nominal value of Rp. 16,781,882. The weakness of BEP is that the selling price per unit does not stand alone regardless of sales volume. From the analysis of the break even point is the difficulty in classifying costs due to the existence of semi-variable costs so that sales made by PT. Ultrajaya Milk Industry & Trading Company, Tbk In accordance with the planning that has been done, the company must pay attention to the safety and sales limits that must be maintained by the company.

Keywords: break-even point, data, numbers, sales.

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Introduction

The Republic of Indonesia is still classified as a developing country. Currently, various forms of the economy continue to grow across multiple sectors and fields. As economic development accelerates, public needs have also increased. However, Indonesia was recently shaken by the COVID-19 pandemic, which has negatively impacted human life, particularly through an economic decline characterized by diminishing income for daily necessities. Many workers were laid off, leading to a significant increase in unemployment. Due to the difficulty of finding work and the lack of income to meet living expenses, many individuals are now seeking opportunities by starting their own businesses (Sahban, 2018).

In the present era, companies across all sectors compete to become market leaders, continuously creating high-quality products. Many entrepreneurs have begun to demonstrate creativity and innovative ideas in their ventures, which has intensified market competition (Suendro, 2010).

Essentially, companies are established and enter the business world to achieve high turnover and profits; furthermore, they aim to become role models and market leaders. However, achieving these goals requires a foundation of precise planning and strategies. Determining the minimum sales volume and expected profit is crucial for a company. This prevents losses due to low sales, as the minimum sales threshold is set based on the costs incurred. Break-even analysis should ideally be conducted by business owners at the beginning of a period by evaluating previous years' costs or projected future expenses. Data generated from daily operations—if recorded accurately—will provide valid information and serve as a reliable basis for planning.

Corporate profit planning encompasses all strategies used by a company to pursue profit. It is a procedural stage a company undergoes to reach a predetermined target. The primary goal of any company is to pursue profit, as profit is the surplus gained from production costs. Consequently, the

process of setting profit targets will always be linked to sales, costs, production volume, and selling prices (Saifi, 2013).

PT Ultrajaya Milk Industry is a company operating in the food and beverage industry. It has created many products well-known to the public. Therefore, the company must not only manage product costs but also be capable of effectively allocating the extensive production costs it generates. There are many other companies in the same field, albeit with different production scales. Based on the sales data of PT Ultrajaya Milk Industry Tbk. from 2018 to 2020, the company recorded a profit of Rp3,738,835 (in millions/specified units). Current sales planning has not been fully optimized; thus, its impact on future profits can be observed through encouraging development trends. It is hoped that this will provide comprehensive profit planning for the coming year.

The objective of this research is to analyze the Break-Even Point of PT Ultrajaya Milk Industry Tbk. Additionally, this study aims to describe general sales strategies and establish the minimum sales targets that must be achieved by PT Ultrajaya Milk Industry Tbk.

Research Method

The type of data utilized is descriptive quantitative data, consisting of fixed costs, variable costs, and sales profits from 2019 to 2021 at PT Ultrajaya. The data source used in this study is secondary data. Secondary data refers to data obtained indirectly from existing records that are relevant to the problem being researched. In this study, the data collection techniques employed are as follows: Secondary data is obtained through the company's website by reviewing financial statements and other relevant data related to the research. Additionally, the author conducted a brief observation of production activities via the website to identify the various costs incurred. The definition of cost accounting involves presenting detailed information regarding goods and services produced. Its purpose is to control company operations and to plan both financing and revenue targets for the future. According to Pomantow (2021), cost accounting is a process that encompasses recording, classifying, summarizing, and presenting costs related to the manufacturing and sale of products and services using specific interpretive methods.

Research by Ponomban (2012) suggests that cost accounting functions as a process for recording, classifying, summarizing, and presenting the costs of manufacturing and selling finished goods or providing services through specific methods and interpreting the results. Furthermore, Saputra (2019) defines cost as a measurable element that identifies, measures, and analyzes various components of direct and indirect costs related to the production and marketing of goods and services.

According to Carter (2009), the field of cost accounting serves to equip management with the ability to control and improve both routine and strategic operations. Meanwhile, Samsu (2013) defines cost accounting as the collection and analysis of data regarding costs, goods, and services to generate informative data. Irawati (2015) identifies cost accounting as a tool for preparing cost reports and budgets. Similarly, Kabuhung (2013) describes it as a tool for payment, recording, and studying information regarding the costs utilized.

Thus, it can be concluded that cost accounting is a financial recording process that classifies and summarizes financial reports through the application of specific formulas. Cost is the most critical object in discussing Break-Even Point (BEP) analysis. Therefore, for a business unit to generate profit in accordance with its expectations and objectives, it must be able to accurately allocate the fixed and variable costs that will be incurred.

According to Kabuhung (2013), cost can be defined as a measurement of economic factors utilized to achieve organizational goals. Carter (2009) states that cost is an exchange value, expenditure, or sacrifice made to ensure the acquisition of specific benefits. In accounting techniques, expenditures or sacrifices made on the date of acquisition provide a perspective on the arrangement of existing cash or assets.

According to Nisa (2019), there are two definitions of cost: Cost in a Broad Sense. Cost is a sacrifice of economic resources that possesses exchange value, represented by a nominal amount that can be used as a legal and legitimate medium of exchange.

Cost in a Narrow Sense Cost is defined as the sacrifice of economic resources specifically to carry out a particular activity. Ponomban (2012) conducted this research using a quantitative method. The results indicate differences in the break-even point, both in Rupiah and quantity, each year. This is caused by fluctuations in the nominal costs incurred by the company, which implies the company's

ability to achieve profits annually. The objective of this study is to determine the break-even point and the margin levels to be achieved by PT Tropica Cocoprime in 2010, 2011, and 2012. Saifi (2013) employed a descriptive quantitative approach. This analysis aims to determine the company's sales level at which it neither earns a profit nor incurs a loss. Through planned sales targets, the company can determine its desired profit. The study aims to describe the application of break-even analysis, outline sales planning, and establish the minimum sales volume that must be maintained for the years 2013, 2014, and 2015. Rusdiana (2012), in the study titled "Allocation of Joint Costs for Main Products and By-products at the Gempolkrep Sugar Factory, Mojokerto," aims to determine the method of allocating joint costs to each main product and to understand the accounting treatment for by-products at the factory.

This research uses a descriptive quantitative method. The results show that Gempolkrep Sugar Factory allocates joint costs to its main products—sugar and molasses—based on the market price method. Meanwhile, as the volume of by-products is relatively immaterial, the factory does not allocate joint costs to them. Indasari, Y. (2020) aims to separate fixed and variable costs and calculate the BEP based on product types at PT Bumi Sarana Beton.

The research type used is quantitative with a descriptive format, in which the author describes observations and analyzes data obtained from the field. This final project is the result of research conducted from August 2019 to October 2019. After analysis and discussion, it was found that the company achieved a profit and suffered no losses during 2018. This performance must be maintained and improved so that the company can achieve greater annual profits compared to 2017. Additionally, the company should separate fixed and variable costs for each product type. Muhammad Ali (2018) conducted research at the Takalar Sugar Factory in Pa'rappunganta, North Polombangkeng District, Takalar Regency, South Sulawesi. In its operations, the Takalar Sugar Factory faces changes in production volume, prices, and production costs. Variations in these variables affect the profit levels and the Break-Even Point (BEP) achieved by the company. Therefore, further analysis regarding the BEP and its sensitivity to changes in price, production volume, and costs is necessary. This study aims to analyze the company's revenue and production levels upon reaching the Break-Even Point. The method used is descriptive quantitative. Data analysis methods include the calculation of BEP in units and Rupiah. The results show that, overall, the revenue and sugar production at Takalar Sugar Factory from 2012 to 2016 reached the BEP, as evidenced by average revenue and production figures of Rp17,251,829,104.71 and 47,704.54 kg, respectively. Sabana Prawirawidjaja (44.20%) and PT Prawirawidjaja Prakarsa are the majority shareholders of PT Ultrajaya Milk Industry & Trading Company Tbk. According to the Company's Articles of Association, PT Ultrajaya Milk Industry operates in the food and beverage sector. Its product portfolio includes sweetened condensed milk, liquid milk, milk candy, and various other products manufactured by the company. Ultrajaya is widely recognized for utilizing UHT (Ultra-High Temperature) processing systems, which serves as a unique selling point and a competitive advantage in terms of industrial hygiene. The company distributes its products through direct sales, indirect sales, and modern market channels.

Result

1. Fixed Costs Fixed costs are costs that are not directly affected by production activities. They are an essential component in determining the Break-Even Point (BEP) in both nominal value (IDR) and units. In this study, fixed costs are derived from salary expenses, property rent, administrative and general expenses, and tax expenses.
2. Variable Costs Variable costs in this research are obtained from the company's annual financial statements. To acquire this data, the author identifies costs that directly impact activities related to production, which include: raw material costs, cost of goods sold (COGS), promotion expenses, selling expenses, and other operating expenses.

Table 4.1.1. Recapitulation of Total Fixed and Variable Costs for the Year 2020 (in millions of Rupiah)

Description	Fixed Costs	Variable Costs
Receipts from customers		6,601,124
Payments for salaries and benefits	-302,42	

Payments to suppliers for goods and services		(3,760,713)
Other cash payments for operating expenses		(1,066,903)
Cash generated from (used in) operations		1,471,088
Interest received from operating activities		58,666
Interest paid from operating activities		-27,785
Income tax refunds (payments) from operating activities		-321,089
Other cash receipts (outflows) from operating activities		36,183
Net cash flows generated from (used in) operating activities		1,217,063
Receipts from sale of productive livestock		24,108
Receipts from sale of investment properties	199,854	
Receipts from sale of fixed assets	4,345	
Payments for acquisition of fixed assets	-401,835	
Payments for acquisition of intangible assets	-421	
Payments for acquisition of other non-financial assets	(1,848,564)	
Liquidation (placement) of financial assets at fair value through profit or loss	(2,413,701)	
Receipts from disposal of interest in subsidiaries without loss of control from investing activities	-19,613	
Payments for acquisition of ownership in associates	-16,5	
Other cash receipts (outflows) from investing activities	-8,759	
Net cash flows generated from (used in) investing activities		(4,481,086)
Payments of bank loans	-17,634	
Payments of finance lease liabilities	-16,105	
Other loan receipts	2,998,212	
Other loan payments	-20,836	
Dividend payments from financing activities	-70,536	
Net cash flows generated from (used in) financing activities	2,873,101	
Net increase (decrease) in cash and cash equivalents	-390,922	
Cash and cash equivalents at beginning of period	2,040,591	
Total Fixed & Variable Costs	(5,527,846)	(9,657,576)
Grand Total Fixed & Variable Costs	(15,185,422)	
Total Receipts	15,483,744	
Cash and cash equivalents at end of period	1,649,669	
Net Profit (Variance)	3,988,582	

Source: *IDX Cash Flow Financial Statements (ULTJ) (processed data)*

Margin of Safety (MOS) MOS is utilized to calculate the 2021 sales planning by using the previous year's BEP. It provides information regarding the extent to which realized sales may decline, or the minimum safety limit required, to ensure the company does not incur a loss.

1. Contribution Margin Contribution Margin is a component used to measure the impact of a company's operational activities, which is determined by evaluating the company's variable costs in 2020.

The formula for the Contribution Margin is as follows:

$$\text{Contribution Margin} = \text{Revenue} - \text{Variable Costs}$$

$$\text{Contribution Margin Ratio} = \frac{\text{Contribution Margin} \times 100\%}{\text{Revenue}}$$

Table 4.1.2. MOS Classification for the Year 2020 (in millions of Rupiah)

Description	Amount
Sales Revenue	15,483,744
Total Variable Costs	9,657,576
Total Fixed Costs	5,527,846
Contribution Margin (CM)	9,516,428
Variance (Difference)	3,988,582

Source: processed data 2020

Based on the table above, it can be observed that the company's Contribution Margin (CM) is greater than its fixed costs. This indicates that the company will generate a net profit of Rp3,998,582.

The Contribution Margin Ratio, calculated as:

$$(\text{Fixed Costs} + \text{Net Profit Revenue}) \times 100 = 61.46\%$$

The result of the Contribution Margin Ratio calculation is 61.46%. This percentage is used to identify the company's safety margin percentage, ensuring the company does not suffer a loss.

Table 4.1.3. Contribution Margin per Unit (2020)

Description	Amount
Selling price per unit	15,7
VC per unit (9,657,576 / 9,828)	983
CM per unit (in IDR)	14,717

Source: processed data 2020

Table 4.1.4. Target Sales Volume in Units (2020)

Description	Amount
Fixed Costs	5,527,846

Target Profit (40% x Rp15,483,744)	6,193,498
Unit Production Cost	14,717
Target Sales Units	796

Source: processed data 2020

Table 4.1.5. Target Sales Volume in Rupiah (2021)

Description	Amount
Fixed Costs	5,527,846
Target Profit (120% x Rp3,988,582)	4,786,298
Contribution Margin (CM) Ratio	61.46%
Sales Target (in IDR)	16,781,882

Source: processed data 2021

Based on the table above, the company must achieve a sales plan of Rp16,781,882 for the year 2021.

Table 4.1.6. Target Sales Volume in Units (2021)

Description	Amount
Fixed Costs	5,527,846
Target Profit (120% x Rp3,988,582)	4,786,298
Unit Production Cost (2020)	9,828
Target Sales Units	1,049

Source: processed data 2021

Based on the table above, to achieve the 2021 sales plan, the company must reach a total production volume of 1,049 units sold.

Conclusion

Based on the results and discussions presented in this study, it can be concluded that to manage the 2021 planning by using the 2020 BEP data of PT Ultrajaya Milk Industry & Trading Company Tbk. without incurring profit, the total production cost for 2020 was Rp15,185,422. To manage these production costs, fixed and variable costs were allocated to calculate the company's BEP; fixed costs for 2020 amounted to Rp5,527,846, while variable costs were Rp9,657,576. This places the break-even point (BEP) at Rp14,780,337. Consequently, the company can plan for sales in 2021 amounting to Rp16,781,882, with a Margin of Safety (MoS) of 37.43%. The minimum sales that must be achieved in 2021 is 1,049 units, equivalent to Rp16,781,882.

A limitation of BEP analysis is that both the selling price per unit and the variable operating cost per unit do not remain independent of sales volume. A second weakness is the difficulty in classifying costs due to the existence of semi-variable costs. Separating semi-variable costs requires precision and a deep understanding of the existing costs and their nature—whether they should be categorized as fixed or variable. To ensure that sales at PT Ultrajaya Milk Industry & Trading Company Tbk. align

with the established planning, the company must pay close attention to the margin of safety and the minimum sales threshold that must be maintained.

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