A Study On Cost Volume Profit Analysis On Medistark Biotech Pvt.Ltd

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Abstract- *This project study analyses the financial performance of Medistark Biotech Pvt. Ltd. using Cost-Volume-Profit (CVP) analysis as the primary evaluation tool. The study is based entirely on secondary data collected from the company's financial statements for the period 2020–2024. Key CVP techniques such as break-even analysis, contribution margin, profit-volume (P/V) ratio, margin of safety, and profitability ratios were applied to understand the relationship between cost, sales volume, and profit.*

The results indicate that the company achieved its strongest performance in 2021, with the highest levels of revenue, profit, and operational efficiency. However, from 2022 onwards, profitability declined due to rising fixed costs, decreasing contribution per unit, and reduced operating margins. The break-even point increased consistently, indicating higher sales requirements for achieving no-loss conditions. Although gross profit margins and P/V ratios remained relatively stable, net profit ratio, return on assets (ROA), and return on equity (ROE) exhibited downward trends. The margin of safety showed improvement in the later years, demonstrating the company's ability to maintain operations above the break-even point.

Overall, the study concludes that CVP analysis is an effective managerial tool for assessing financialstability, guiding pricing decisions, controlling costs, and supporting strategic planning. The findings emphasize the need for improved cost efficiency, enhanced sales strategies, and periodic review of pricing policies to strengthen the company's long-term financial sustainability.

I. INTRODUCTION

Cost volume profit (CVP)analysis is a financial tool used to understand how changes in cost and sales volume of medistack bio-tech and impact profitability. CVP analysis is useful for profit planning, pricing strategies, and decision-making by clarifying the financial implications of different choices .It also helps in assessing risk and controlling cost on medistark bio-tech by highlighting their impact on profitability. Cost volume profit analysis shows how changes in product margins, prices, and unit volumes impact the profitability of a business. It is one of the fundamental financial analysis tools for ascertaining the breakeven point, given different cost levels and sales volumes. The breakeven point is the sales level at which a business earns a profit of exactly zero, and is an essential concept for understanding
the profit potential of a business. CVP analysis is the analysis of three variable viz. cost, volume and profit. Such analysis explores the relationship existing amongst costs, revenue, activity level and resulting profit. It aims at measuring variation of cost with profit.

OBJECTIVES OF THE STUDY

- Toevaluatehow employer branding andorganizational culture influence the talent acquisition at integra Software Services.
- To study the cost structure of medistark bio-tech pvt.ltd.
- To examine the break-even point of the company and determine the level of sales required to avoid losses.
- To analyse the relationship between cost, volume and profit and how changes in sales volume impact profitability.

II. REVIEW OF LITERATURE

Dyatri Utami Arina Absari (2023) this research was a case study and was conducted at Ocean Garden Restaurant, Trunojoyo, Malang. The data were analysed by describing food cost, food percentage, contribution margin, and selling price. Based on the research findings, it was found that the cause of the high food cost was the ineffective food cost control process and food production control and the increase of raw material price that always fluctuated and did not followed by the increase of the selling price.

Santhoshkumar B (2021) Cost-volume-profit (CVP) analysis is one of the most common-and important chapters in an introductory managerial accounting course. While a CVP analysis for a single-product company is relatively easier to be illustrated, the CVP analysis for a multiproduct company necessarily takes extra steps to illustrate. For the case of a

multi-product company having a sales mix ratio among their products, this study developed a micro approach to the handling of decimals, if appearing, when the company finds their break-even point and target profit point. This study exemplifies how the developed approach gets to closer answers to a breakeven point and a target profit point than an existing approach

Santhoshkumar (2021) :explored Cost volume profit analysis of Sri Jayashree food corn Products. The research design of the present study is descriptive. Only the secondary data has been used in project study. The data required for the study were collected mostly from the annual report manuals and accounts of Sri Jayashree food corn Products, and various magazines and journals. The data were collected for Five years from 2016-2020. To arrive at research findings and the conclusion of the present study, ratio analysis, comparative balance sheet analysis and Trend analysis have been used. The findings show that CVP analysis influences the financial strength of Sri Jayashree food corn Products.

Chandrasekaran M., Bhuvaneshwari A., Rebeccal A. (2021): Industry: Mining/Crusher Operations (Sri Senthil Crusher, Tamil Nadu) Utilizing 2015–19 data, the study computed break-even analysis and margin of safety. Found that CVP analysis helped management plan pricing and production level adjustments based on cost-volume relationships

Gopika G. S. (2019): Industry: Steel Manufacturing (Gasha Steels Pvt. Ltd) Applied CVP tools—break-even point, contribution margin, PV ratio, margin of safety—to assess profitability risk and sensitivity to volume changes. Demonstrated how CVP analysis aids decision-making in Indian SMEs through structured financial modelling.

III. RESEARCH METHODOLOGY

Research Design:

This study uses a Analytical research design.

Data Collection:

Secondary Data:

- In research, secondary data is used when the required information is already available and can serve the current objectives without needing fresh data collection. It is especially useful in analytical and descriptive studies, where the researcher focuses on interpreting existing data to draw conclusions.
- This type of data is widely used in academic and business research due to its easy accessibility, lower cost, and time-saving nature. Researchers use secondary data to analyze trends, make comparisons, test hypotheses, or support decision-making—especially when original data collection is unnecessary or impractical.

Nature of research:

Quantitative in nature, it deals with financial data, numerical calculation and assessing cost changes.

Quantitative research focuses on numerical data, measurements, and statistical analysis to examine the relationship between costs, sales volume, and profits. In CVP, this means applying mathematical models and financial data to predict how changes in production levels, costs, or prices affect profitability.

Tools used in analysis:

- BREAK-EVEN- ANALYSIS
- P/V RATIO
- MARGIN OF SAFETY
- CONTRIBUTION
- SALES VOLUME ANALYSIS
- COST-VOLUME ANALYSIS

IV. DATA ANALYSIS AND INTERPRETATION

- Data analysis is the process of systematically applying statistical and logical techniques to evaluate data.
- It involves organizing, summarizing, comparing, and interpreting the collected data to identify useful information, patterns, and relationships.
- The main objective of data analysis is to transform raw data into meaningful insights that help in decision-making, problem-solving, and achieving research objectives.
- Data interpretation refers to the process of analysing and understanding the collected data to draw meaningful insights and conclusions.
- It involves examining financial figures, identifying trends, comparing results across different periods, and evaluating how various factors such as cost, sales volume, and profit interact with one another.
- In this study, data interpretation helps in understanding the financial performance of Tenneco Automotive India Pvt. Ltd. by analysing key indicators like the Profit Volume ratio, Break- even Point, Margin of Safety, and Profitability Ratios.

- Through proper interpretation, the numerical data is converted into useful information that supports decision-making, highlights strengths and weaknesses, and provides a clear picture of the company's cost behavior and profitability trends over the years.

BREAK EVEN POINT:

$$\text{BEP (Units)} = \frac{\text{Fixed Cost}}{\text{Contribution per Unit}}$$

Year	Fixed cost (Rs in lakhs)	Contribution (Rs in lakhs)	Break-even point
2020	100	13.5	7.41
2021	105	13.28	7.91
2022	110	13.15	8.37
2023	108	12.93	8.35
2024	112	12.7	8.82

INTERPRETATION:

The analysis of the break-even point over the five-year period (2020–2024) reveals that the fixed costs have remained relatively stable, showing only slight fluctuations across the years. However, the contribution levels are significantly lower compared to fixed costs, which results in consistently higher break-even points. This indicates that the company has to generate higher sales revenue in order to cover its costs before achieving profitability

PROFITABILITY RATIO:

$$\textbf{P/V Ratio} = \left(\frac{\text{Contribution}}{\text{Sales}}\right) \times 100$$

YEAR	SALES IN(LAKHS)	CONTRIBUTION IN(LAKHS)	P/V RATIO (%)
2020	15	13.5	90.00
2021	14.8	13.28	89.73
2022	14.7	13.15	89.46
2023	15.4	12.93	84.03
2024	14.3	12.7	88.81

INTERPRETATION:

The analysis of Sales, Contribution, and P/V Ratio (%) from 2020 to 2024 shows that both sales and contribution have remained stable with slight variations, reflecting consistency in business performance. However, the P/V Ratio (%) is relatively low throughout the period, indicating that profitability in relation to sales is not very strong. This highlights that while sales volumes are steady, there is scope for improving cost efficiency and pricing strategies to enhance the profit margin and overall financial performance.

MARGIN OF SAFETY:

$$\text{MOS} = \text{Actual Sales} - \text{Break-even Sales}$$

YEAR	ACTUAL REVENUE	BEP REVENUE (Rs in lakhs)	MOS REVENUE (Rs in lakhs)
2020	150	111.15	38.85
2021	155.4	117.07	38.33
2022	161.7	123.08	38.62
2023	166.75	121.08	45.67
2024	171.6	126.13	45.47

INTERPRETATION:

This indicates that although the company's cost structure increased, its revenue growth outpaced the rise in costs. The Margin of Safety (MOS) Revenue likewise showed improvement, reflecting that the company maintained a reasonable cushion above the break-even point each year. The Margin of Safety Ratio remained relatively stable, signifying that the firm's risk of incurring losses was kept under control.

COMPARING OF COST AND PROFIT:

PROFIT= TOTAL REVENUE- TOTAL EXPENSES

YEAR	COST (Rs in lakhs)	EXPENSES (Rs in lakhs)	PROFIT(%)
2020	150.0	115.00	35.00
2021	155.4	120.96	34.44
2022	161.7	127.05	34.65
2023	166.75	126.06	40.69
2024	171.6	131.20	40.40

INTERPRETATION:

The chart shows a steady increase in cost and expenses from 2020 to 2024, indicating rising operational spending over the years. Profit percentage also shows a mild upward trend, suggesting slight improvement in profitability. Overall, while expenses and costs are increasing, profit levels are gradually improving as well.

V. FINDINGS

1. Fixed costs increased steadily from 2020 to 2024, putting pressure on profitability.
2. Contribution per unit declined gradually, reducing efficiency in covering fixed costs.
3. Break-even point rose consistently, meaning the company needs higher sales volumes each year to avoid losses.
4. Gross profit margin stayed stable (10–11%), showing consistent cost control despite revenue fluctuations.
5. Highest revenue and profitability were recorded in 2021, highlighting peak performance.

VI. SUGGESTIONS

- Reduce the Break-Even Point

The break-even point has been rising each year. Improving operational efficiency, reducing fixed overheads, and enhancing productivity can help lower the required break-even sales.

- Boost Sales Volume and Revenue

Sales and revenue declined after 2021. The company should adopt strong marketing strategies, explore new markets, and promote high-margin products to increase overall sales.

- Enhance Profitability Ratios

Operating and net profit ratios have fallen sharply. The company should improve internal processes, minimize wastage, and monitor expenses closely to improve profit performance.

VII. CONCLUSION

The Cost–Volume–Profit analysis of Medistark Biotech Pvt. Ltd. provides valuable insights into the company's financial performance over the period from 2020 to 2024. The study reveals that while the firm experienced its strongest performance in 2021, profitability and efficiency gradually declined in the following years due to increasing fixed costs, declining contribution margins, and rising break-even levels. Although the company managed to maintain a stable gross profit margin and avoid major losses, the downward trend in operating profit, net profit, ROA, and ROE indicates growing pressure on its financial structure. The analysis also highlights that despite increasing sales and assets, the returns generated from these investments have weakened, signaling the need for corrective strategies. Based on the suggestions provided, it is evident that Medistark Biotech must prioritize cost control, improve contribution margins and enhance operational efficiency to restore profitability.

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