A STUDY ON COST VOLUME PROFIT ANALYSIS AT GKM NEW PHARMA

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Abstract - This study aims to assess the cost volume profit analysis of GKM NEW PHARMA. A size of product produced in India. Using Break even sales, profit margin ratio, p/v ratio, target profit given in sales, Cumulative sales and cumulative contribution, comparative balance sheet, operating leverage, margin of safety, the research analysis the company details and ability to sustain profit tools ratio analysis. This includes valuable financial data's of the company.

Index Terms – BEP , Margin of safety, Contribution Margin ratio, P/V ratio, Comparative Balance sheet, Target profit given sales, Cumulative sales and Contribution.

I. INTRODUCTION:

In an era marked by rapid globalization, technological advancements, and intense market competition, businesses face constant pressure to maximize profitability while managing limited resources efficiently. CVP analysis on the relationship between costs (fixed and variable), sales volume, selling price, and profit It allows managers to determine the level of sales needed to cover costs (known as the break-even point) and to predict the effects of changes in pricing, product mix, or cost structures on profitability. A step towards health, we, GKM New Pharma brings forth highly effective and sate medicines. With constant efforts, we have become one of the leading manufacturers and exporters of the same. We are having wide range of products in tablets, Capsules, Liquid and oral suspension.

1.1 Need of the Study:

The study of Cost-Volume-Profit (CVP) analysis is essential for every company as it provides valuable insights into the relationship between costs, sales volume, and profit. In a highly competitive and dynamic business environment, companies are under continuous pressure to control costs, improve efficiency, and maximize profitability.

1.2 Objective of the Study:

1. To analysis the impact of fixed cost and variable cost onbreak-even point and profit margins
2. To Evaluate how sales volume fluctuation influence business profitability using CVP tools
3. To calculate the contribution margin per service to evaluate profitability
4. To analysis how sales volume influences profitability through CVP analysis
5. To analysis the margin of safety and use cost volume profit

II. REVIEW OF LITERATURE

Siena (2018). CVP is an important indicator for planning and decision-making across manufacturing and service firms.

Ghost, P. (2023). Using listed Nigerian manufacturers (2012–2021), break-even–based variables showed that higher production costs depressed profit after tax, while selling price and sales volume had positive effects evidence that BEP/CVP metrics inform real-world investment and pricing decisions.

Karla Buddha (2025). A recent case on Debar Nepal applied CVP to assess margin of safety, BEP, and contribution ratios, illustrating how CVP frameworks translate into actionable targets for cost control and pricing in FMCG.

Osmania, C. (2020). Their research on Nigerian manufacturing firms found that sales volume, variable cost, fixed cost, and selling price significantly influenced profitability

Sharma, M.,(2021) The authors emphasized the importance of CVP tools such as Current Ratio, Break-Even Sales, and Contribution Margin in consultancy firms. Their findings revealed that effective use of CVP analysis helps firms overcome liquidity issues and withstand downturns.

Thomas, K. (2020), this study revealed that firms with strong Net Profit Margins and high ROE achieved better long-term sustainability

Divehi, S., (2022). This study applied CVP and sales-mix analysis in the Indonesian pharmaceutical sector. It showed how changes in sales mix significantly impact contribution margin and break-even point.

Mishra, R.(2023). An empirical analysis of Nigerian listed manufacturers (2012–2021) found that rising production costs reduced profit after tax, while selling price and sales volume had positive effects.

Buddha, S. K. (2024).A case study on Aloft Kathmandu Hotel in Nepal showed that CVP analysis is vital for the hospitality sector. The research used BEP, MOS, and DOL to demonstrate how fluctuating demand affects profitability, making CVP crucial for profit planning and budgeting.

III RESEARCH METHODOLOGY

The present study adopts a descriptive and analytical research methodology to examine the application of Cost-Volume-Profit (CVP) analysis in pharmaceutical companies, with particular reference to their profitability and international expansion strategies. The research is based secondary data. Primary data, where applicable, may be collected through structured the finance professionals and cost accountants in selected pharmaceutical firms.

3.1 RESEARCH DESIGN

The research design for this study is primarily descriptive and analytical in nature. It aims to systematically examine and explain the relationship between cost, volume, and profit in pharmaceutical companies, with a specific focus on how CVP (Cost-Volume-Profit) analysis can aid in strategic decision-making, including international expansion.

3.2 Nature of the Study:

The present study analysis is focusing on Cost Volume Profits tools of GKM NEW PHARMA for last 5consecutive financial years.

3.3. Sources of Data:

This study based on the secondary data collected from the company's financial statements and annual reports and other relevant published sources.

3.4. Scope of the Study:

A Study on Cost Volume Profit (CVP) Analysis" encompasses a comprehensive examination of how cost behaviour influences profitability in various business scenarios. This study is specifically focused on understanding the interrelationship between costs (fixed and variable)**,** sales volume**,** selling prices**,** and profit margins**,** and how these variables contribute to critical financial decisions within an organization.

3.5. Tools of Analysis:

1. Comparative Financial Statements.
2. Cost Volume Profit Analysis.

3.6. Formulas:

1. **Contribution Margin Ratio (CM Ratio) = Contribution Margin/sales * 100**
2. **Break Even Sales = Fixed Cost / CM ratio**

IV. RESULTS AND DISCUSSION

COMPARATIVE STATEMENTS:

A Comparative Statement is a financial statement that shows the figures of two or more accounting periods side by side for easy comparison. It helps in analysing the changes in financial performance and position of a business over time. By comparing items such as sales, expenses, profits, assets, and liabilities across different periods, managers, investors, and other stakeholders can identify trends, growth patterns, strengths, and weaknesses.

TABLE 1 COMPARATIVE STATEMENT, AS ON 31ST MARCH 2022 – 23

Particulars	Mar-22	Mar-23	Changes in increase +	Changes in decrease -
Equity Capital	240	240	--	-
Reserves	47,771	55,755	7,984	-
Borrowings +	1,290	6,886	5,596	-
Other Liabilities +	20,474	17,831	-	2,643
Total Liabilities	**69,776**	**80,712**	**10,936**	-
Fixed Assets +	22,665	24,065	1,400	-
CWIP	1,287	4,973	3,686	-
Investments	12,849	14,824	1,975	-
Other Assets +	32,975	36,849	3,874	-
Total Assets	**69,776**	**80,712**	**10,936**	-

INTERPRETATION:

The financial statement comparison between March 2024 and March 2025 shows that total liabilities and total assets increased from ₹85,328 core to ₹91,908 core, reflecting an overall rise of ₹6,580 core. On the liabilities side, reserves increased significantly by ₹8,551 core, strengthening the company's financial base, while borrowings declined by ₹912 core, indicating reduced debt dependency. Other liabilities also decreased slightly by ₹1,059 core.

TABLE 2. COMPARATIVE STATEMENT, AS ON 31ST MARCH 2024 – 25

Particulars	Mar-24	Mar-25	Changes in increase +	Changes in decrease -
Equity Capital	240	240	-	-
Reserves	63,427	71,978	8551	
Borrowings +	3,274	2,362	-	912
Other Liabilities +	18,387	17,328	-	1059
Total Liabilities	**85,328**	**91,908**	**6580**	-
Fixed Assets +	23,248	22,586	-	662
CWIP	5,354	6,644	1290	-
Investments	15,026	18,354	3328	-
Other Assets +	41,700	44,324	2624	-
Total Assets	**85,328**	**91,908**	**6580**	-

INTERPRETATION:

March 2025 shows an overall increase in total liabilities and assets by ₹6,580 core, indicating expansion in business activities. Equity capital remained unchanged, while reserves increased significantly by ₹8,551 core, reflecting improved profitability and retention of earnings. Borrowings decreased by ₹912 core and other liabilities also reduced by ₹1,059 core, showing better financial management and reliance on internal funds rather than external debt.

CONTRIBUTION MARGIN RATIO:

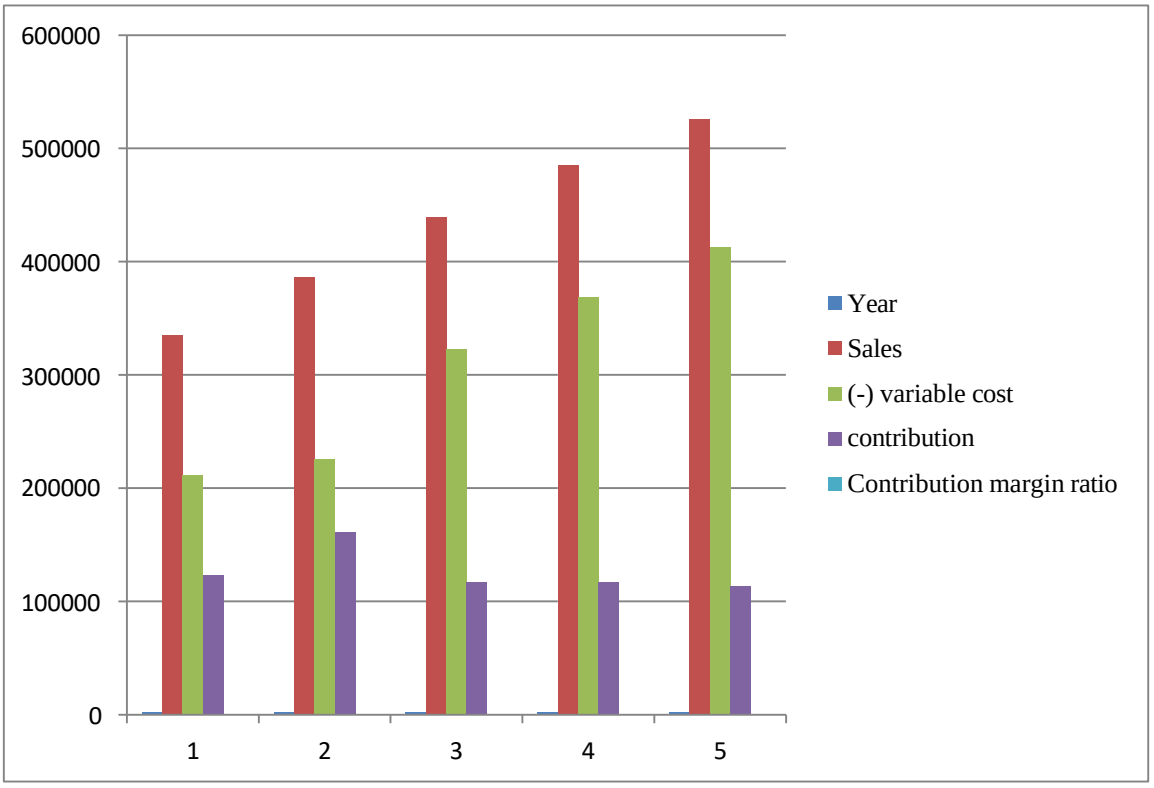
The contribution margin is the difference between the sale price of a product and the variable costs associated with making the product. The money a company generates over a period of time (monthly, quarterly, or annually). Revenue is calculated as the price of a product or service multiplied by the quantity sold.

Contribution Margin Ratio = Contribution / sales * 100

TABLE 3 CONTRIBUTION MARGIN RATIO

Particulars	2021	2022	2023	2024	2025
Sales	3,34,981	3,86,545	4,38,857	4,84,969	5,25,784
(-) Variable cost	2,11,801	2,25,305	3,22,520	3,68,120	4,12,520
Contribution	1,23,180	1,61,240	1,16,337	1,16,849	1,13,264
Contribution margin ratio	36.8	41.7	26.5	24	21.5

CONTRIBUTION MARGIN RATIO



INTERPRETATION:

The company has successfully increased sales every year its profitability efficiency has worsened due to a rising proportion of variable costs. The contribution margin ratio has nearly halved over five years (from 36.8% to 21.5%), showing that sales growth is not translating into proportional profit growth. This situation indicates a need for cost control measures or review of pricing strategies to improve contribution and protect margins.

BREAK EVEN SALES:

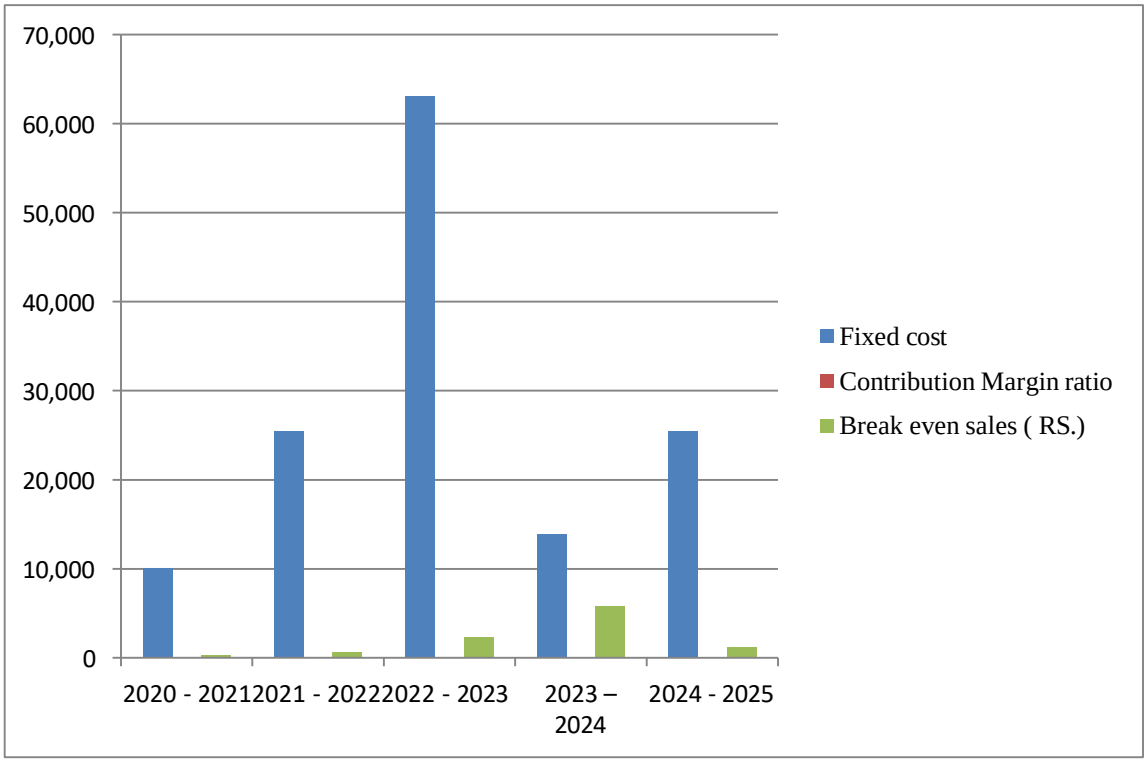
Product price can be based on the cost of producing the product. However, there is not a specific price level that you can charge that will assure you that you will cover your costs. Because fixed costs need to be covered regardless of the number of units produced and sold, the number of units you produce and sell determines the price needed to break even.

Break Even Sales = Fixed Cost / Contribution Margin ratio

TABLE 4 BREAK EVEN SALES

Year	Fixed cost	Contribution Margin ratio	Break even sales (RS.)
2020 - 2021	10,033	36.8	272.63
2021 - 2022	25,447	41.7	610.23
2022 - 2023	63,122	26.5	2381.96
2023 – 2024	13,903	24	5792.29
2024 - 2025	25,488	21.5	1185.4

BREAK EVEN SALES:



INTERPRETATION:

The company's cost structure has become riskier over time. Although fixed costs sometimes decreased, the consistent fall in Contribution Margin Ratio has raised the break-even point, reducing profit safety. For long-term sustainability, the business needs to improve margin efficiency (CMR) either by reducing variable costs or increasing selling price. Break-even Sales: Lowest in 2020–21, highest in 2023–24, reflecting instability. Business Risk: Increasing year by year because lower CMR means the company needs more sales to cover costs.

Margin of Safety:

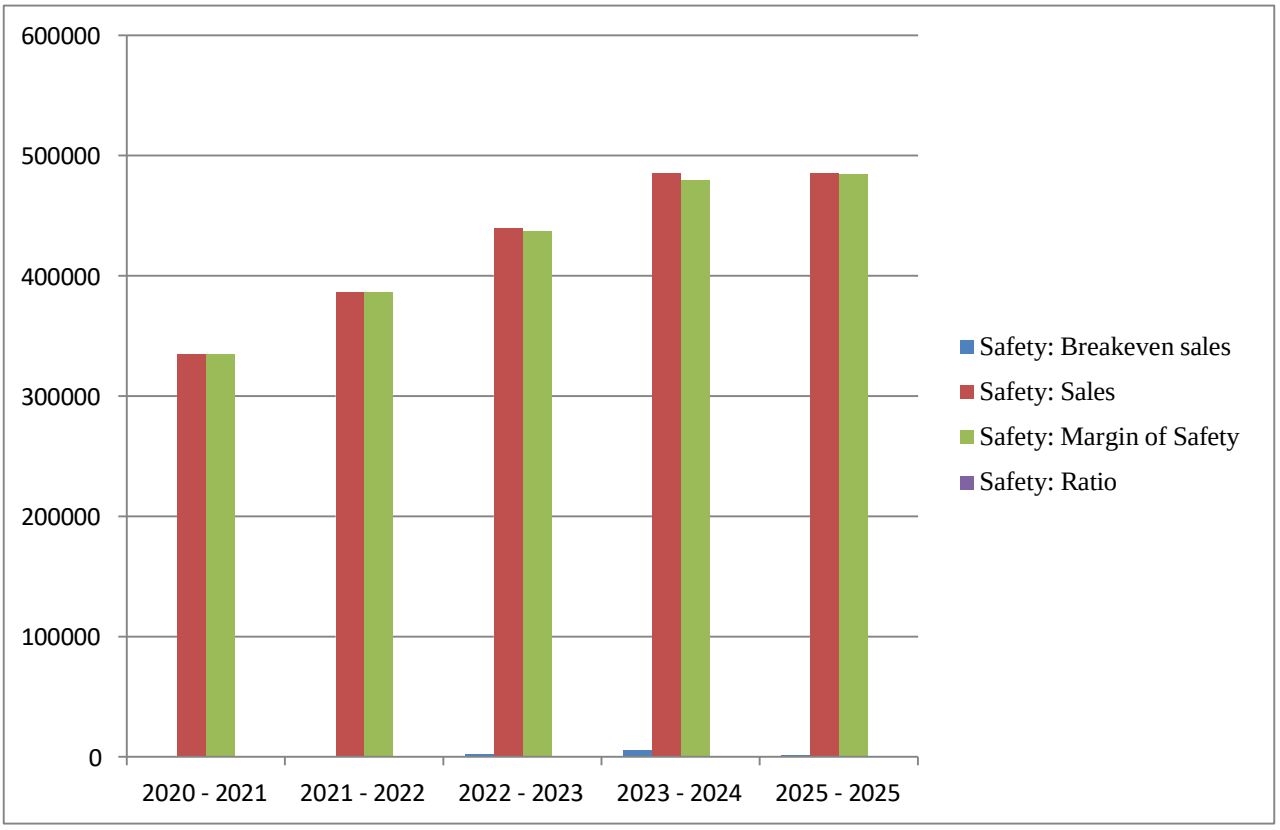
A financial ratio called the Margin of Safety calculates the sales that have surpassed the break- even point. This financial ratio shows the company's actual profit after all fixed and variable costs have been covered. You might be curious why it is called the Safety Margin Ratio. This is the point at which a company will begin to lose money. The business needs a positive Margin of Safety to continue being profitable. The company is no longer in a loss or profit position once it reaches the break-even point.

Margin of safety ratio = Margin of safety / Sales * 100

TABLE 5 MARGIN OF SAFETY RATIO

Year	Breakeven sales	Sales	Margin of Safety	Ratio
2020 - 2021	272.63	3,34,981	3,34,708	99.91861329
2021 - 2022	610.23	3,86,545	3,85,935	99.84213222
2022 - 2023	2381.96	4,38,857	4,36,475	99.4572355
2023 - 2024	5792.29	4,84,969	4,79,177	98.80563706
2025 - 2025	1185.4	4,84,969	4,83,784	99.75557201

MARGIN OF SAFETY:



INTERPRETATION:

The business is in a very strong financial position with high efficiency in covering fixed costs. There is practically no risk of losses in any of the years observed, although management should keep an eye on the declining contribution margin ratio to avoid future strain. 2023–2024 was the relatively weakest year (lowest MOS: 98.8%) due to a combination of low contribution margin ratio and higher break-even sales. Except for that dip, the company consistently shows a huge safety cushion, suggesting that even if sales drop drastically, it will still stay profitable

V CONCLUSION

The company should strengthen its financial base by lowering dependence on borrowings and building strong reserves, which will support future growth and reduce financial risk. The company should stabilize its Contribution Margin Ratio through better cost control and revised pricing, ensuring sales growth leads to sustainable profit growth and reduced business risk. The company can sustain profitability only by controlling rising costs and improving efficiency; otherwise, the falling P/V ratio will reduce future profits. The company should strengthen its financial position by maintaining a proper balance between equity and debt, ensuring financial stability and reducing risk. The firm is financially strong and profitable; however, for ensuring stable and sustainable growth, it must exercise strict control over both fixed and variable costs. The company's sales performance is strong; however, to sustain profitability, it must focus on effective cost control, safeguard its contribution margins, and ensure that sales growth is consistently aligned with profit growth.

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