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A Study on Cost Control and Cost Reduction Techniques at Pharmaceutical Industry

AUTHOR : Ms. **M. Varshini**, Department of Management Studies, Manakula Vinayagar Institute of Technology, Puducherry, India. E-mail : varshinimanohar003@gmail.com

GUIDANCE : **Dr. G. Agalya**, Assistant Professor, Department of Management Studies, Manakula Vinayagar Institute of Technology, Puducherry, India.

ABSTRACT

The Pharma-medical industry operates in a highly competitive and cost intensive environment, where managing expenses effectively in critical for financial sustainability. High costs in research, production, and quality assurance make cost control and cost reduction essential for profitability. This study focuses on understanding the techniques and strategies used to monitor, manage, minimize costs in the industry. A key financial tool analysed in this project is Break-Even Analysis, which helps to determine the minimum sales required to cover total costs. Break-Even Analysis assists management in making decisions regarding pricing, production planning, and resource allocation. Other financial tools such as budgetary control, standard costing, and variance analysis are also explored for their role in enhancing cost efficiency. The study evaluates the impact of these techniques on operational efficiency, cost optimization, and overall financial performance. The project also identifies areas where companies can implement cost saving measures and improve resource utilization. Practical recommendation are provided to help pharma-medical companies achieve sustainable cost reduction. Ultimately, this study emphasizes the importance of integrating financial tools like Break-even analysis into cost management practice. The findings aim to guide management in making effective decisions to enhance both financial stability and long-term growth.

KEYWORDS: Cost control, Cost reduction, Break-Even Analysis, Budgetary control, Standard costing, Variance analysis, financial performance, Cost efficiency, Cost management, Sustainable growth

I.INTRODUCTION

The Pharmaceutical industry is vital for improving health, but it faces high-cost pressures from research, production, and quality needs. Effectively managing these costs is important for profitability and long-term growth. Cost control and reduction techniques allow companies to monitor expenses and use resources efficiently, which helps maintain product quality. One of these techniques, break-even analysis, is a key tool for understanding the link between cost, sales, and profit. This study looks at how these financial tools aid in better decision-making and enhances financial stability in pharmaceutical companies.

II.OBJECTIVES

- **Primary Objective**

➢ To analyse the effectiveness of cost control and cost reduction techniques in improving the financial performance of pharmaceutical companies

- **Secondary Objective**

➢ To examine the application of break-even analysis in cost management and decision-making.

➢ To evaluate the trend of break-even sales over a period of five years.

➢ To examine the Margin of safety and P/V ratio to understand financial stability

➢ To suggest measures for improving cost efficiency and profitability.

III.REVIEW OF LITERATURE

1. **COST CONTROL AND FINANCIAL PERFORMANCE OF PHARMACEUTICAL FIRMS IN NIGERIA AJALA OLADAYO AYORINDE-2021 –** This study examined how cost control affects the financial performance of pharmaceutical firms in Nigeria. Using data from annual reports, the researcher applied panel regression analysis to measure the impact of different cost components on profit. The findings showed that proper cost control significantly improves profitability. The study emphasizes the importance of adopting modern cost management practices to enhance financial performance.

2. **COST ACCOUNTING: A MANAGERIAL EMPHASIS- HORNGREN, DATAR & RAJAN (2021)-** This study explains how cost-volume analysis and break-even analysis help managers understand the relationship between cost, sales and profit. The authors highlight the break-even analysis is an important decision-making tool for pricing, production planning and profit forecasting. It also helps in identifying risk levels through margin of safety and contribution analysis. This study emphasis that effective cost control combined with CVP analysis improves financial stability and long-term sustainability.

3. **IMPACT OF COST CONTROL TECHNIQUES ON ORGANISATION PERFORMANCE-LAWAL BABATUNDE AKEEM (2017)-** The author examined how cost control and cost reduction techniques influence organisation performance. The study found that effective cost monitoring improves profitability and operational efficiency. It emphasized the importance of strategic cost management in achieving financial stability. The research concluded that organizations must adopt structured cost control system to remain competitive.

IV.RESEARCH DESIGN

- **Research study:** Analytical research design was adopted to examine cost control and cost reduction techniques using financial data and quantitative analysis.
- **Period of study:** The study covers five financial years from 2019-2020 to 2023-2024.
- **Data collected:** The research is based on secondary data collected from annual reports, financial statements, cost records, and company reports.
- **Financial tools used:** Break-even analysis, Economic order quantity, Inventory Ratio, Simple moving average, time series

V.DATA ANALYSIS AND INTERPRETATION

BREAK-EVEN ANALYSIS

2019-2020

Particulars	Formula	Substituted Values	Result
Variable Cost	Prime Cost + Selling OH	86,459,859 + 12,687,394	9,91,47,253
Contribution	Sales − Variable Cost	135,848,453 − 99,147,253	3,67,01,200
P/V Ratio	Contribution ÷ Sales	36,701,200 ÷ 135,848,453	27.02%
Fixed Cost	Total Cost − Variable Cost	122,591,685 − 99,147,253	2,34,44,432
BEP (Sales)	Fixed Cost ÷ P/V Ratio	23,444,432 ÷ 0.2702	8,67,78,901
Margin of Safety (₹)	Sales − BEP	135,848,453 − 86,778,901	4,90,69,552
Margin of Safety (%)	(MOS ÷ Sales) × 100	49,069,552 ÷ 135,848,453	36.12%

Interpretation

The company's P/V ratio is 27.02%, indicating that roughly ₹27 of every 100 sales goes toward profit and fixed costs. Sales must exceed the ₹86.78 crore break-even point in order to prevent losses. With actual sales of ₹135.85 crore, the company has a Margin of Safety of ₹49.07 crore (36.12%), indicating a healthy financial position and an effective reserve above the break-even point.

2020-2021

Particulars	Formula	Substituted Values	Result
Variable Cost	Prime Cost + Selling OH	79,181,428 + 15,258,456	9,44,39,884
Contribution	Sales − Variable Cost	150,678,582 − 94,439,884	5,62,38,698
P/V Ratio	Contribution ÷ Sales	56,238,698 ÷ 150,678,582	37.32%
Fixed Cost	Total Cost − Variable Cost	124,206,126 − 94,439,884	2,97,66,242
BEP (Sales)	Fixed Cost ÷ P/V Ratio	29,766,242 ÷ 0.3732	7,97,51,760
Margin of Safety (₹)	Sales − BEP	150,678,582 − 79,751,760	7,09,26,822
Margin of Safety (%)	(MOS ÷ Sales) × 100	70,926,822 ÷ 150,678,582	47.07%

Interpretation

The company's P/V ratio is 37.32%, suggesting that for every 100 ₹ in sales, roughly ₹37 goes toward paying fixed expenses and making a profit. There is no chance of losses because the break-even sales are ₹79.75 crore, which is significantly less than the actual sales of ₹150.68 crore. The company has a high margin of safety of ₹70.93 crore (47.07%), which shows outstanding profitability and financial stability and represents a very comfortable safeguard above break-even.

2021-2022

Particulars	Formula	Substituted Values	Result
Variable Cost	Prime Cost + Selling OH	65,617,540 + 16,656,907	8,22,74,447
Contribution	Sales − Variable Cost	170,457,631 − 82,274,447	8,81,83,184
P/V Ratio	Contribution ÷ Sales	88,183,184 ÷ 170,457,631	51.73%
Fixed Cost	Total Cost − Variable Cost	125,993,710 − 82,274,447	4,37,19,263
BEP (Sales)	Fixed Cost ÷ P/V Ratio	43,719,263 ÷ 0.5173	8,45,59,605
Margin of Safety (₹)	Sales − BEP	170,457,631 − 84,559,605	8,58,98,026
Margin of Safety (%)	(MOS ÷ Sales) × 100	85,898,026 ÷ 170,457,631	50.42%

Interpretation

With a P/V ratio of 51.73%, the company can now cover fixed costs and profits with approximately ₹52 for every 100 of sales. The actual sales of ₹170.46 crore are much higher than the break-even sales of ₹84.56 crore. Excellent profitability and financial stability are demonstrated by the Margin of Safety of ₹85.90 crore (50.42%), which provides a very strong safeguard above the break-even point.

2022-2023

Particulars	Formula	Substituted Values	Result
Variable Cost	Prime Cost + Selling OH	62,981,918 + 17,700,045	8,06,81,963
Contribution	Sales − Variable Cost	210,165,713 − 80,681,963	12,94,83,750
P/V Ratio	Contribution ÷ Sales	129,483,750 ÷ 210,165,713	61.61%
Fixed Cost	Total Cost − Variable Cost	141,445,777 − 80,681,963	6,07,63,814
BEP (Sales)	Fixed Cost ÷ P/V Ratio	60,763,814 ÷ 0.6161	9,86,26,046
Margin of Safety (₹)	Sales − BEP	210,165,713 − 98,626,046	11,15,39,667
Margin of Safety (%)	(MOS ÷ Sales) × 100	111,539,667 ÷ 210,165,713	53.07%

Interpretation

The company's P/V ratio has increased to 61.61%, which indicates that for every 100 sales, roughly ₹62 goes toward paying fixed expenses and making a profit. The actual sales of ₹210.17 crore are significantly higher than the break-even sales of ₹98.63 crore. The company has a very strong cushion above break-even with a Margin of Safety of ₹111.54 crore (50.07%), which shows high profitability and a stable financial position.

2023-2024

Particulars	Formula	Substituted Values	Result
Variable Cost	Prime Cost + Selling OH	73,015,911 + 13,552,434	8,65,68,345
Contribution	Sales − Variable Cost	251,696,688 − 86,568,345	16,51,28,343
P/V Ratio	Contribution ÷ Sales	165,128,343 ÷ 251,696,688	65.61%

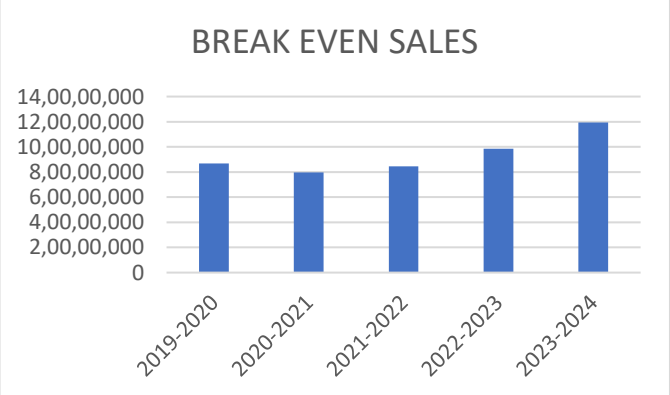
Fixed Cost	Total Cost − Variable Cost	164,969,674 − 86,568,345	7,84,01,329
BEP (Sales)	Fixed Cost ÷ P/V Ratio	78,401,329 ÷ 0.6561	11,95,03,136
Margin of Safety (₹)	Sales − BEP	251,696,688 − 119,503,136	13,21,93,552
Margin of Safety (%)	(MOS ÷ Sales) × 100	132,193,552 ÷ 251,696,688	52.52%

Interpretation

The company's P/V ratio is 65.61%, suggesting that for every 100 ₹ in sales, roughly ₹66 goes toward paying fixed expenses and making a profit. The actual sales of ₹251.70 crore are much higher than the break-even sales of ₹119.50 crore. The company's excellent profitability and financial stability are indicated by its strong safeguard above break-even, which is ₹132.19 crore (52.52%) Margin of Safety.

BREAK-EVEN ANALYSIS OF 5 YEARS

YEAR	BREAK EVEN SALES
2019-2020	8,67,78,901
2020-2021	7,97,51,760
2021-2022	8,45,59,605
2022-2023	9,86,26,046
2023-2024	11,95,03,136



INTERPRETATION

The Break-Even Over time, sales vary, beginning at ₹86.78 crore in 2019–20, declining marginally to ₹79.75 crore in 2020–21, and then increasing gradually to ₹119.50 crore in 2023–24. While the steady increase in subsequent years reflects growth in fixed costs and expanding operations, the initial decline suggests better cost control or higher contribution margins. Overall, actual sales each year stay well above these levels, indicating strong profitability and financial stability, even though BEP has increased.

VI.FINDINGS

- The company's sales remined consistently above break-even point throughout all five tears, indicating profitability.
- The P/V ratio showed a steady increase over the years, reflecting improved contribution and better cost efficiency
- The margin of safety improved significantly, which means the company had strong protection against potential losses
- Break-even sales increased gradually due to rising fixed costs, indicating expansion and higher operation expenses

VII.SUGGESTIONS

- The company should focus on reducing fixed costs to prevent rise in break-even point.
- Continuous monitoring of variable costs can further improve contribution and profitability.
- Management can use break-even analysis regularly for pricing decisions and production planning.
- Periodic cost reviews and variance analysis should be conducted to identify unnecessary expenses.

VIII.CONCLUSION

The study of cost control and cost reduction in the pharma-medical industry shows that managing costs effectively is essential for financial stability and growth. Among the various tools, Break-Even Analysis plays a vital role in helping companies determine the minimum sales required to cover total costs. By using Break-Even Analysis, management can make informed decisions about production levels, pricing, and resource allocation. It helps identify the point at which a company starts generating profit and highlights areas where costs can be optimized.

Overall, Break-Even Analysis proves to be an effective tool for guiding financial decisions, improving profitability, and supporting sustainable growth in the pharma-medical industry.

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