

# A Study on Price Fluctuations of Raw Material Cost And Its Impact on Profitability At Mansio Aluminium Kitchen Private Limited

S. Subathra<sup>1</sup>, Ms. S. Visalakshi<sup>2</sup>

<sup>1</sup>Dept of Management Studies

<sup>2</sup>Assistant Professor, Dept of Management Studies

<sup>1,2</sup> Sri Manakula Vinayagar Engineering College (Autonomous), Puducherry.

**Abstract-** This study analyzes how fluctuations in aluminium raw material costs affect the profitability of Mansio Aluminium Kitchen Pvt. Ltd., Puducherry, using secondary data from 2020–21 to 2024–25. Tools such as trend analysis, ratio analysis, and regression analysis were applied to examine the relationship between raw material costs, revenue, and profit ratios. The results show a strong inverse relationship between aluminium prices and profitability: periods of higher raw material costs led to lower gross and net profit margins, while significant cost reductions improved financial performance. Regression findings further indicate that price volatility affects budgeting and financial planning. The study concludes that effective procurement strategies, supplier diversification, flexible budgeting, and accurate cost forecasting are essential to minimize the adverse effects of raw material price fluctuations and ensure sustainable profitability.

**Keywords-** Raw Material Price Fluctuation, Aluminium Industry, Profitability Analysis, Cost Management, Trend and Ratio Analysis

## I. INTRODUCTION

In the modern competitive business environment, every organization aims to achieve profitability, growth, and sustainability through efficient financial management and cost control. Among the various factors influencing profitability, raw material cost plays a crucial role, especially in manufacturing industries where materials constitute the largest portion of total production expenses. The success and stability of a manufacturing enterprise largely depend on its ability to manage and control fluctuations in raw material prices, as these directly impact production costs, pricing decisions, profit margins, and overall financial performance.

In the context of the aluminium industry, raw materials such as aluminium sheets, profiles, and allied fittings represent a substantial share of the total production cost. The industry is highly sensitive to market dynamics and price

fluctuations, which occur due to global economic conditions, changes in supply and demand, energy costs, government regulations, import and export duties, and currency exchange variations. Since aluminium is a globally traded commodity, any movement in international markets has an immediate impact on domestic manufacturers. This volatility poses a significant challenge for firms in maintaining cost stability and ensuring consistent profitability.

## OBJECTIVES OF THE STUDY

- To compare raw material cost trends with revenue trends over the same period.
- To compare the company's profitability before and after major price changes in raw materials.
- To analyze the price fluctuation in raw materials and its impact on profitability.

## II. REVIEW OF LITERATURE

### Banerjee (2023)

Price fluctuations in raw materials directly affect operational efficiency and the profitability of firms. The research emphasized that managers often face difficulties in balancing cost increases with competitive pricing. When firms are unable to adjust product prices, profit margins shrink considerably. The study also highlighted that prolonged cost instability creates uncertainty in investment and expansion decisions. To minimize the negative impact, Banerjee suggested adopting hedging strategies and long-term supplier contracts.

### Das and Mohan (2023)

Sustainable cost management practices are essential to reduce the negative effects of raw material price volatility. Their study revealed that firms that rely only on cost-cutting

measures often fail to maintain profitability in the long run. Instead, the use of sustainable practices such as waste reduction, efficient resource utilization, and supplier partnerships helps improve stability. The research emphasized that companies must move beyond short-term adjustments and focus on long-term sustainability.

**Ramesh and Kulkarni (2023)**

Continuous monitoring of raw material prices enables companies to take proactive measures such as bulk purchases and long-term contracts. Their research emphasized that firms that react late to cost changes often face higher losses. Proactive strategies, on the other hand, help reduce exposure to market volatility. Managers play a critical role in identifying cost trends and negotiating supplier terms. The study concluded that cost monitoring and quick response are vital for profitability.

**III. RESEARCH METHODOLOGY**

**Research Design:**

The present study adopts a descriptive and analytical research design to examine the fluctuations in raw material costs and their impact on the profitability of Mansio Aluminium Kitchen Pvt. Ltd. A descriptive design is used to present the trends and patterns of raw material costs and revenues over time, while the analytical design helps to interpret and evaluate the financial consequences of such fluctuations.

**Data Collection:**

**Secondary Data:** The research relies exclusively on Secondary Data, collected from the annual reports, corporate filings, and publicly available balance sheets and profit and loss accounts of Lenovo for the six-year period

**DATA ANALYSIS**

The data collected from the secondary sources have been analyzed using appropriate tools. The analysis aims to examine the effect of raw material cost fluctuations on the overall profitability of Mansio Aluminium Kitchen Pvt. Ltd.

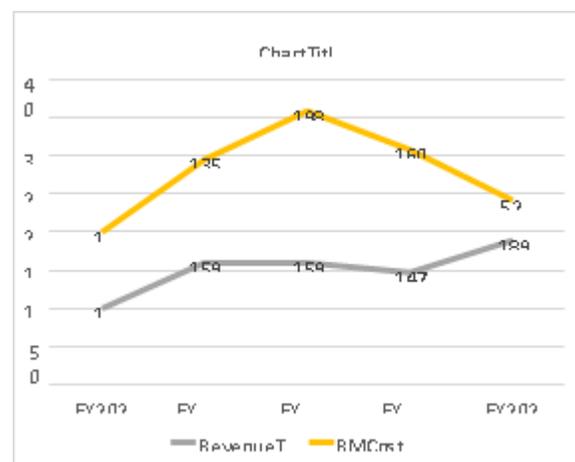
1. Trend analysis
2. Ratio analysis
3. Regression analysis

**IV. DATA ANALYSIS AND INTERPRETATION**

**TABLE SHOWING TREND ANALYSIS OF RAW MATERIAL AND REVENUE**

Financial Year	Revenue (₹ Lakh)	Raw Material Cost (₹ Lakh)	Revenue Trend (%)	RM Cost Trend (%)
2020–21	8,869.29	3,953.52	100.00	100.00
2021–22	14,180.81	5,359.61	159.89	135.57
2022–23	14,170.86	7,865.81	159.77	198.96
2023–24	13,070.12	6,339.59	147.36	160.35
2024–25	16,787.63	2,063.32	189.28	52.19

**CHART SHOWING TREND ANALYSIS OF RAW MATERIAL AND REVENUE**



**INTERPRETATION**

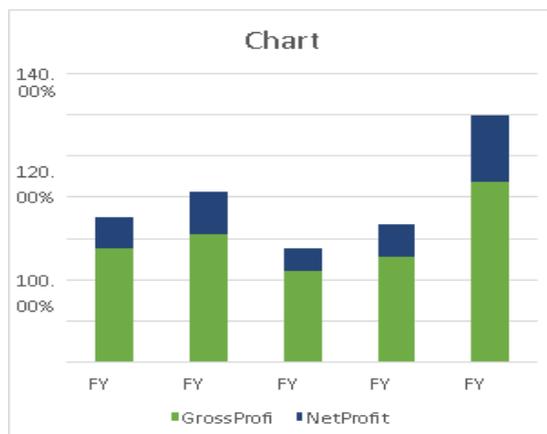
The trend analysis from financial year 2020–21 to financial year 2024–25 shows that fluctuations in raw material costs significantly influenced revenue. Revenue grew steadily until financial year 2021–22, but in financial year 2022–23,

raw material costs surged to 198.96% while revenue remained at 159.77%, creating cost pressure and reducing profitability. A gradual correction occurred in the financial year 2023–24, and a sharp drop in raw material costs to 52.19% in the financial year 2024–25 boosted revenue to 189.28%. This indicates that controlling raw material costs directly supports revenue growth and financial stability.

**TABLE SHOWING PROFITABILITY BEFORE AND AFTER CHANGES IN THE PRICE OF RAW MATERIALS.**

Financial Year	Revenue (₹ Lakh)	Raw Material Cost (₹ Lakh)	Profit Before Tax (₹ Lakh)	Profit After Tax (₹ Lakh)	Gross Profit (₹ Lakh)	Gross Profit Ratio (%)	Net Profit Ratio (%)
2020–21	8,869.29	3,953.52	1,316.52	1,299.53	4,915.77	55.42%	14.65%
2021–22	14,180.81	5,359.61	3,954.87	2,951.97	8,821.20	62.21%	20.82%
2022–23	14,170.86	7,865.81	1,954.99	1,544.49	6,305.05	44.49%	10.90%
2023–24	13,070.12	6,339.59	2,783.57	2,059.95	6,730.53	51.50%	15.76%
2024–25	16,787.63	2,063.32	7,135.10	5,324.67	14,724.31	87.71%	31.72%

**CHART SHOWING PROFITABILITY BEFORE AND AFTER CHANGES IN THE PRICE OF RAW MATERIALS.**



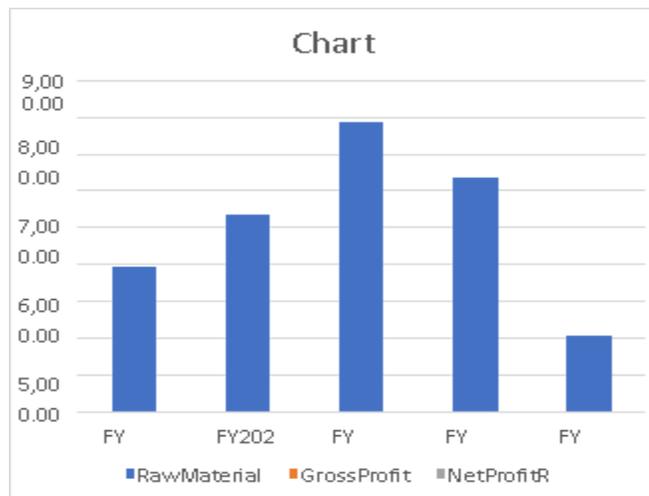
**INTERPRETATION**

From financial year 2020–21 to financial year 2024–25, profitability closely followed raw material cost fluctuations. profitability peaked in financial year 2021–22 with Gross Profit Ratio at 62.21% and Net Profit Ratio at 20.82%, but fell sharply in financial year 2022–23 (Gross Profit Ratio 44.49%, Net Profit Ratio 10.90%) due to a surge in raw material costs. A substantial cost reduction in financial year 2024–25 led to the highest profitability levels, with Gross Profit Ratio at 87.71% and Net Profit Ratio at 31.72%. This shows that effective raw material cost control significantly boosts both gross and net profit.

**TABLE SHOWING PRICE FLUCTUATION IN RAW MATERIALS AND ITS IMPACT ON PROFITABILITY.**

Financial Year	Raw Material Cost (₹ Cr)	Gross Profit Ratio (%)	Net Profit Ratio (%)
2020–21	3,953.52	55.42%	14.65%
2021–22	5,359.61	62.21%	20.82%
2022–23	7,865.81	44.49%	10.90%
2023–24	6,339.59	51.50%	15.76%
2024–25	2,063.32	87.71%	31.72%

**CHART SHOWING PRICE FLUCTUATION IN RAW MATERIALS AND ITS IMPACT ON PROFITABILITY.**



## INTERPRETATION

The analysis shows that raw material price fluctuations have a direct impact on profitability. When raw material costs increased sharply in 2022–23 (₹7,865.81 Cr), both Gross Profit Ratio (44.49%) and Net Profit Ratio (10.90%) declined significantly. Conversely, when costs dropped in 2023–24 and 2024–25, profit margins improved sharply, with NPR reaching 31.72%. This indicates that profitability is inversely related to raw material costs, highlighting the need for effective cost management and procurement strategies.

## V. FINDINGS

- The study revealed that fluctuations in raw material costs, especially aluminium, have a direct and significant impact on the profitability of Mansio Aluminium Kitchen Pvt. Ltd. During the analysis period from 2020–21 to 2024–25, it was observed that an increase in aluminium prices led to higher production expenses and reduced profit margins, whereas a decrease in raw material costs improved profitability. This shows a clear inverse relationship between raw material cost and profitability, emphasizing the importance of cost control in maintaining financial stability.
- Trend analysis indicated that the company's revenue and raw material costs moved in a fluctuating pattern over the years. While both increased during periods of economic growth, sharp rises in input costs, such as in 2022–23, caused pressure on profits. In contrast, when raw material costs declined in 2024–25, the company's revenue and profitability improved considerably. This confirms that efficient procurement and cost management practices contribute directly to better revenue performance and overall business sustainability.
- Profitability ratios such as Gross Profit Ratio and Net Profit Ratio closely followed changes in raw material costs. High aluminium prices reduced these ratios, while lower costs enhanced them. The findings clearly indicate that cost fluctuations are a major determinant of profit margins in the aluminium-based manufacturing sector.
- The study also found that variations in raw material prices affected the company's budgeting and financial planning. When input costs rose, the company's budget utilization increased, putting pressure on working capital and limiting flexibility in other operational areas. This highlights the need for accurate forecasting and flexible budgeting systems to adapt to cost changes and maintain operational balance during volatile periods.

## VI. SUGGESTION

- To minimize the negative impact of raw material price fluctuations, the company should adopt strong cost control and procurement strategies. Entering into long-term contracts with trusted suppliers and engaging in bulk purchasing when prices are favorable can help stabilize costs. Establishing a dedicated cost monitoring system will allow management to track price trends and make timely purchasing decisions that protect profit margins.
- The company should implement a flexible budgeting and forecasting approach to handle future variations in aluminium prices. Regularly reviewing market data and incorporating price projections into financial plans will help the organization respond quickly to changing conditions. Maintaining a contingency fund in the budget can also ensure that unexpected cost increases do not affect production or financial stability.
- Since the company's profitability depends heavily on aluminium prices, it should consider diversifying its supplier base and exploring alternative or recycled materials. This will reduce reliance on a single market and mitigate risks from global price volatility. Building long-term relationships with multiple suppliers can also help secure competitive pricing and ensure a consistent supply of raw materials.
- Finally, Mansio Aluminium Kitchen Pvt. Ltd. should focus on product diversification and strategic pricing to strengthen its profitability during fluctuating market conditions. Developing high-margin and value-added aluminium products can provide better returns even when input costs rise. Combined with continuous cost analysis and strong financial planning, these measures will support sustainable growth and long-term financial resilience.

## VII. CONCLUSION

Price fluctuation of raw materials means that the cost of the materials used to produce goods changes unpredictably, which can impact profitability by affecting production costs, pricing strategies, and overall financial health. When prices rise, it increases costs and can decrease profits unless prices are raised or production volume is increased. From the study, I conclude that fluctuations in raw material costs have a strong influence on the profitability of Mansio Aluminium Kitchen Pvt. Ltd. The company has shown strong adaptability by improving its cost control and operational efficiency, and it has successfully increased profitability during periods of lower raw material costs. It also benefits from effective management practices that help it recover quickly from market changes. However, the company remains vulnerable to global aluminium price volatility and faces challenges in maintaining

stable profit margins during cost surges. In addition, over-dependence on a single raw material limits flexibility in production planning.

## REFERENCES

- [1] Materials Management: a supply chain perspective – text and cases by A.K. Chitale & R.C. Gupta (3rd ed., phi learning, 2014) — covers materials planning, standardisation, purchasing, inventory control, vendor relations. (barnes & noble)
- [2] Handbook of materials management by P. Gopalakrishnan & Abid Haleem (2nd ed., Prentice-Hall India) — gives a comprehensive view on materials, inventory, warehousing, and integrated materials management. (barnes & noble)
- [3] Strategic global sourcing – best practices by Fred Sollish & John Semanik (Wiley, 2011) focuses on global sourcing, supplier risk, and procurement strategy, which is very relevant when raw-material costs fluctuate globally. (barnes & noble)
- [4] The complete technology book on aluminium and aluminium products by NPC's Board of consultants & engineers (Asia Pacific Business Press, 2007) — specific to the aluminium industry; useful for understanding cost drivers, production process, and raw-material dependencies. (Entrepreneur India)
- [5] Supply chain management by Sunil Chopra & Peter Meindl (latest edition) — broader supply chain context, including sourcing, cost control, global supply issues, which underpins the raw-material cost impact analysis. (o'reilly media)
- [6] A Study on the Effect of Material Price Fluctuations on the Profitability of Yarn Industry in India (with Special Reference to Precot Meridian Ltd) — E. Muthukumar & Nisha K.G., *Research Journal of Finance and Accounting*, Vol. 5, No. 19, 2014. Focuses on cotton price fluctuations and their impact on profitability in the yarn industry in India. (IISTE)
- [7] The Influence of Raw Materials and Direct Labor Costs on Profit Margin Ratio in UMKM Agan Cibinong, Bogor Regency — Yuppy Triwidatin, *Journal of Finance and Business Digital*, Vol. 1, No. 4, 2022. Examines raw material & labour cost effects on profit margin in micro/small manufacturing. (Formosa Publisher)
- [8] The Role of Resource Consumption Accounting in Achieving Competitive Prices and Sustainable Profitability — A. M. Mustafa, A. Azimli & R. A. Sabir Jaf, *Energies*, Vol. 15, No. 11, 2022. Relates cost accounting of resources (including raw materials) to profitability. (MDPI)