

“A STUDY ON COST STRUCTURE AND PROFITABILITY ANALYSIS IN AADITHYA RUBBER MOULDS COMPANY”

Ms. C. Ranganayaki, Assistant Professor, Department of MBA, Sri Ramakrishna College of Arts and Science –Coimbatore
Mr. Jons Rogith Raj R I, Student, Department of MBA, Sri Ramakrishna College of Arts and Science – Coimbatore
Mr Jeevarathinam D, Student, Department of MBA, Sri Ramakrishna College of Arts and Science – Coimbatore

ABSTARCT:

This study examines the cost structure and profitability performance of Aadithya Rubber Moulds, a leading manufacturer of rubber bushes and related components in Tamil Nadu. In today’s highly competitive industrial environment, maintaining an efficient cost structure is essential for improving productivity, reducing unnecessary expenses, and enhancing overall business profitability. Since raw material prices, labour costs, and overhead charges significantly influence manufacturing industries, understanding cost behavior becomes crucial for effective decision-making. Challenges such as fluctuating material costs, increasing production demands, and competitive market pricing highlight the importance of proper cost analysis. Through this study, the financial and operational performance of different rubber products is evaluated, focusing on cost distribution, contribution margins, and profitability over the analysis period.

KEY WORDS: Cost Structure, Profitability analysis, Productivity, Expenses reduction.

INTRODUCTION:

Cost structure analysis is a key aspect of managerial accounting that focuses on understanding the nature, behaviour, and impact of different types of costs on a business’s operations and profitability. It involves the identification, classification, and evaluation of cost components to provide insights into how they influence decision-making, pricing, resource allocation, and financial performance. The primary purpose of cost structure analysis is to break down total costs into specific categories fixed, variable, and semi-variable and assess how these behave with changes in production or sales volume.

Fixed costs are those expenses that do not change with the level of output. These include costs such as rent, insurance, depreciation, and salaried wages. Fixed costs are time-based and remain constant over a given period, regardless of production levels. Whether the company produces one unit or a thousand, these costs are incurred. However, on a per-unit basis, fixed costs decrease as production increases, which leads to economies of scale.

STATEMENT OF PROBLEM

Many companies do not clearly understand their cost structure or how it affects their profits. Without separating fixed, variable, and semi-variable costs, it's hard to see how costs change with production. Also, if contribution margins are not analysed, companies may continue making products that earn less profit. This

leads to poor decisions in pricing, cost control, and resource use. So, there is a need to study cost structure and map profitability to improve business performance.

OBJECTIVES

- To identify and categorize the major cost components involved in the manufacturing of rubber bushes.
- To analyze the impact of direct and indirect costs on the overall cost structure of the company.
- To assess the profitability of different product lines or customer segments within the rubber bushes product portfolio.

REVIEW OF LITERATURE

- **Sharma et al. (2015)¹**, Identify key satisfaction factors: timely delivery, product reliability, and service support. Customers value flexibility and responsiveness. Aadithya Rubber Moulds can retain and expand its customer base by focusing on post-sales support, efficient logistics, and maintaining consistent product quality tailored to individual client specifications.
- **Pillai & Nair (2016)²**, Reveal that ISO certification improves a company's credibility and export potential. Certified companies enjoy trust and preference among large clients. Aadithya Rubber Moulds could benefit by obtaining such certifications, which would help boost brand image and open doors to larger and more lucrative contracts both domestically and internationally.
- **Srinivasan (2017)³**, Finds that fluctuations in rubber prices significantly affect manufacturing costs. Aadithya must monitor market trends and build flexible pricing strategies. Developing supplier partnerships and exploring material alternatives can help stabilize costs and protect profit margins in a volatile pricing environment.
- **Thomas et al. (2017)⁴**, Analyse the trade-offs between natural and synthetic rubber. While natural rubber is more sustainable and cost-effective, synthetic rubber offers greater strength and heat resistance. For Aadithya Rubber Moulds, understanding this helps tailor materials to client needs, balancing durability, application, and environmental impact based on industry requirements.
- **Mukherjee (2018)⁵**, Emphasizes the importance of streamlined logistics and supplier relationships. Efficient supply chains reduce delays and cost overruns. Aadithya Rubber Moulds can benefit from better vendor coordination, real-time inventory tracking, and raw material planning to ensure timely delivery of products and maintain production continuity.
- **Rao (2020)⁶**, Underscores the role of systematic quality checks in rubber production. Defect free products enhance customer satisfaction, reduce returns, and build a reliable brand image. For Aadithya, adopting strong quality control protocols can significantly improve operational credibility and secure long-term customer relationships, especially in industrial applications where precision matters.
- **George & Ramesh (2021)⁷**, Stress eco-friendly practices like waste reduction and renewable sourcing in rubber production. As sustainability becomes a global standard, Aadithya can gain a

competitive edge by minimizing its environmental footprint and marketing itself as a green manufacturer, thus appealing to both regulatory bodies and environmentally conscious

- **Banerjee (2022)⁸**, Emphasizes how automation streamlines moulding processes, reduces labor costs, and enhances accuracy. Though initially expensive, automation pays off through increased output and consistency. Aadithya can adopt semi-automated technologies to boost productivity and reduce human error, positioning itself competitively in a tech-driven manufacturing environment.

RESEARCH DESIGN

The study will follow a descriptive and analytical research design, focusing on identifying cost components, analysing cost behaviour, and evaluating profitability across product categories.

Data collection method

Secondary data:

- Company financial P&L data and cost sheets.
- Production and sales records.
- Previous costing reports.

DATA ANALYSIS TECHNIQUES

- Cost classification into fixed, variable, and semi-variable.
- Break-even analysis to understand cost-volume-profit relationship.
- Contribution margin analysis to identify profitable products.
- Comparative analysis across product categories.

TOOLS AND TECHNIQUES

- Microsoft Excel for calculations, tabulation, and charting.

ANALYSIS & INTERPRETATION

COST STRUCTURE AND PROFITABILITY ANALYSIS

Based on industry sources, the categorized cost components as follows:

- **Material Costs:** Typically the largest share—around 40–60% of unit cost for rubber products, depending on material grade (e.g., NBR, EPDM, silicone).
- **Labor Costs:** Especially relevant for custom or precision moulding; may add 10–20% to costs.
- **Manufacturing Overhead:** Utility, maintenance, depreciation—spreads over unit, lowers with volume.
- **Tooling & Mold Costs:** One-time investment amortized across units; complex designs raise costs.

- Quality Control & Certification: Batch testing, standards—3–7% premium often added.
- Packaging & Logistics: Shipping, handling, particularly for exports—10–30% depending on route.
- Supplier/Manufacturer Margin: Typically, 10–30% of selling price.

INTERPRETATION

The Rubber Bush shows a total production cost of ₹52, with material cost being the highest contributor at ₹30, followed by labour cost of ₹10 and overheads of ₹5. The selling price is ₹80, resulting in a profit of ₹28 and a profit margin of 35%. This indicates that the product is moderately profitable with a balanced cost structure. The efficient management of labour, overhead, and tooling costs supports strong profitability. Since material cost dominates, sourcing strategies and bulk purchasing may further reduce expenses. Overall, the Rubber Bush provides stable returns and contributes positively to the company’s financial performance.

The Metal Inserted Bush has a total cost of ₹67, making it one of the costliest products due to its high material cost of ₹40, influenced by the metal insert component. Labour costs (₹12) and overheads (₹6) also contribute significantly. With a selling price of ₹100, the product earns a profit of ₹33 and a margin of 33%. Although profitable, the margin is lower compared to other products because of the expensive raw materials. Optimizing metal procurement and reducing wastage could enhance profitability. Despite high input costs, the product consistently generates good revenue and remains an essential part of the company’s portfolio.

Oil Seals have a total production cost of ₹59, with materials forming the largest portion at ₹35. Labour cost is ₹11 and overheads add another ₹5, making it moderately cost-intensive. The selling price is ₹90, yielding a profit of ₹31 and a profit margin of 34%. This marks the product as a stable and profitable item within the company's product lineup. The balance between material cost, labour efficiency, and production output contributes to its profitability. To further improve cost performance, the company may focus on negotiating material prices or enhancing production automation. Overall, Oil Seals provide steady financial contribution.

Gaskets show a total production cost of ₹42.5, making them one of the lowest-cost products. Material cost is ₹25, labour cost is ₹8, and overhead stands at ₹4. Despite its low cost, the product sells for ₹60 and earns a profit of ₹17.5, resulting in a 29% profit margin — the lowest among all products. This indicates limited pricing power or a competitive market. Improving efficiency in material consumption or reviewing the product pricing strategy could enhance profitability. While the product is cost-effective to manufacture, it yields lower returns compared to others, suggesting further scope for financial optimization.

The NRV Bush has a total production cost of ₹54, with material cost dominating at ₹32, followed by labour (₹10) and overhead (₹5). With a selling price of ₹85, the product generates ₹31 profit and achieves a strong 36% margin. This makes it one of the highest-performing products in the company's portfolio. The controlled overhead and tooling expenses contribute to effective cost management. Its strong profitability indicates that the company should prioritize this product for higher production and marketing focus. The NRV Bush delivers excellent value and remains a reliable source of financial strength for the organization.

The Black Diaphragm shows a total cost of ₹48, with materials contributing ₹28 and labour accounting for ₹9. Overheads and quality costs remain well-controlled, making it efficient to produce. The selling price of ₹75 yields a profit of ₹27 and a margin of 36%, positioning it among the company's top-performing products. This strong margin indicates a favourable balance between cost and revenue. Its manufacturing process shows stability with minimal fluctuations in material and labour usage. Due to high profitability and consistent demand, this product should be prioritized in production planning and promotional strategy.

O-Rings have the lowest total production cost at ₹33, with material cost at ₹20 and labour cost at ₹6, making them highly cost-efficient. The product is priced at ₹55, generating a profit of ₹22 and achieving the highest profit margin of 40%. This exceptional cost-to-profit ratio highlights O-Rings as the most profitable product in the entire lineup. Low overheads and simple production processes contribute to superior efficiency. Due to high demand and minimal production complexity, O-Rings should be a strategic priority for scaling up. Their strong financial performance makes them a key driver of the company's profitability.

Cost Sheet Performance

The cost sheet performance analysis helps in understanding how different cost components contribute to the total cost and profitability of each product manufactured by Aadithya Rubber Moulds. The company produces seven major products — Rubber Bush, Metal Inserted Bush, Oil Seal, Gasket, NRV Bush, Black Diaphragm, and O-Ring. Overall, the cost sheet performance shows that all products of Aadithya Rubber Moulds are profitable. Efficient material usage, skilled labour, and effective overhead management contribute to strong financial stability. By focusing more on high-margin products and reducing costs in low-margin items, the company can further improve its profitability.

Findings

- Across all products, material cost forms the largest component of total production cost, ranging between 45% and 60%. This indicates a high dependency on raw rubber and metal components, making material price fluctuations a major profitability factor.
- Labour costs (10–20%) and overhead expenses (5–10%) remain consistent across all products, reflecting efficient cost control and stable operational management.
- Among the seven products analyzed, **O-Rings** showed the highest profit margin (40%), followed by **NRV Bush** and **Black Diaphragm** (36% each). **Gaskets** recorded the lowest margin (29%), suggesting room for cost reduction or price adjustment.
- Tooling, maintenance, and quality control expenses are minimal (3–7%) and uniformly distributed, indicating a structured and disciplined cost allocation approach.
- All products show positive profit margins, demonstrating that Aadithya Rubber Moulds maintains sound financial and production efficiency.
- The company maintains a mix of high-margin and high-volume products, ensuring steady cash flow and sustainable growth.

Suggestions

Establish long-term contracts with raw rubber and metal suppliers to stabilize input prices and reduce material cost volatility. Increase production and marketing focus on O-Rings, NRV Bushes, and Black Diaphragms, as they yield the best margins. Reassess pricing or production efficiency for Gaskets, which show the lowest profitability. Cost reduction through lean manufacturing or process redesign can help improve returns. Implement methods like **5S**, Kaizen, and Just-in-Time (JIT) to minimize waste, optimize inventory, and increase productivity. Introduce semi-automated moulding machines and digital monitoring systems to reduce manual errors and improve production consistency. Use Activity-Based Costing (ABC) or Cost-Volume-Profit (CVP) analysis regularly to identify inefficiencies and track profit centers more accurately. Provide regular training to workers on advanced moulding and quality control techniques to maintain productivity and reduce defects. Explore eco-friendly rubber compounds and recycling options to align with environmental standards and attract global clients.

Conclusion

The cost structure and profitability analysis conducted at Aadithya Rubber Moulds clearly demonstrates that the company maintains a strong and stable cost management system. All seven products analyzed are profitable, but with varying efficiency and margin levels. These products should be given strategic focus in terms of marketing, production scaling, and customer targeting.

On the other hand, Gaskets show relatively low margins, despite being simpler and cheaper to produce. This suggests an opportunity to re-evaluate pricing strategies or reduce material and labour inputs to enhance their profitability. Labour, overheads, tooling, and packaging are maintained within optimal ranges, suggesting strong production efficiency and cost control discipline.

REFERENCES

1. Dr. Amsaveni N. (n.d.). A study on behaviour traits and investment decision of investors with special reference to Coimbatore city. ANVESAK, 0378-4568, Volume 52, Issue 2(8), 75–80.
2. Dr. Divya D, Darshan R & Abdullah A. S. (2025). Financial Performance and Working Capital Management at Devi Motors – A Yamaha Dealership Perspective. Interpretation, 26(96,777), 2–41.
3. Dr. B. Merceline Anitha, Minisha S., & Mohankumar A. N. (2023). A Study on Working Capital Management in CA Honda. Rabindra Bharati Journal of Philosophy, 0973-0087, Volume XXXI, Issue 15, 68–74.
4. Dr. Jayashree, R., (2025). A Study on Financial Performance Analysis of United Tyres with Reference to Coimbatore City. International Journal of Research in Management, ISSN: 2664-8806, Volume 7, Issue 1, 604–607.
5. Dr. Mythili D, Hariharan, Mr., & Gugan A. E. (2025). A Study on Financial Performance of Bajaj Finserv Limited. International Journal of Management Research & Review, Volume 15, Issue 2, 39–44.
6. Pillai, R., & Nair, A. (2016). Impact of ISO Certification on Manufacturing Competitiveness. International Journal of Business Excellence, 9(2), 110–118.
7. Sharma, P., Verma, R., & Mehta, S. (2015). Customer Satisfaction Factors in Industrial Supply Chains. Indian Journal of Management Studies, 12(3), 45–52.
8. Thomas, J., & Antony, P. (2019). A Study on Cost Structure and Financial Performance of Rubber-Based Industries. Indian Journal of Finance and Trade, 8(1), 22–30.

WEBSITES:

- <https://www.taylorfrancis.com/books/mono/10.1201/9780429487040/production-economics-anoop-desai-aashi-mital> Taylor & Francis+2Routledge+2
- <https://www.atlanticbooks.com/products/cost-accounting-2e-9789339203443/>
- <https://www.allindiarubber.net/uploads/pdf/annual-report-2021-22.pdf>
- https://www.researchgate.net/publication/385299287_Manufacturing_of_Rubber_Bushing_with_Novel_Properties_for_the_Rear_Fan
- <https://www.openpr.com/news/4217499/natural-rubber-manufacturing-plant-cost-report-2025-business>
- https://ijcrd.dvpublication.com/uploads/66602965123a7_200.pdf
- <https://sukhanidhi.in/wp-content/uploads/2023/06/Indian-Rubber-Industry-Analysis-pdf.pdf>

Copyright & License:



© Authors retain the copyright of this article. This work is published under the Creative Commons Attribution 4.0 International License (CC BY 4.0), permitting unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.