

INVENTORY MANAGEMENT: A Case Study of Saai Suruguru Enterprises

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ABSTRACTS

This study evaluates the inventory management system at Saai Suruguru Enterprises, a Puducherry-based bottled water manufacturing company. Through data analysis methods such as ABC and FSN techniques, turnover ratios, and conversion periods, the research assesses operational efficiency, cost control, and inventory dynamics. Findings reveal trends in raw materials, finished goods, and work-in-progress inventory, offering valuable insights for inventory optimization and decision-making.

Keywords: Inventory Management, ABC Analysis, FSN Analysis, Turnover Ratio, Conversion Period, Inventory Optimization

INTRODUCTION TO INVENTORY MANAGEMENT

Saai Suruguru Enterprises, originally founded as Herakle Industries in 2019, rebranded and expanded operations following a 2023 partnership.

The company specializes in mineral water production under the brand “VOW – Elite Waters.”

This study focuses on evaluating the company’s inventory management practices and financial implications related to raw materials, production processes, and finished goods.

The purpose of this analysis is to improve stock handling efficiency, reduce holding costs, and enhance profitability by applying inventory control tools and interpreting financial data from 2023–2024.

MISSION

To conduct business with ethical practices and also offer consistent products and services with uncompromising quality supported by continuous improvements and innovations.

To ensure the customers that they receive quality, cleanliness, and consistency while using our product every time.

VISION

To achieve multifold expansion by maintaining logical stability, enhancing brand recognition, and optimizing multi-tube operations to create a resilient and globally recognized enterprise.

Objectives

Primary Objectives:

- Evaluate inventory investment using ABC & FSN analysis.
- Assess turnover and conversion ratios.

Secondary Objectives:

- Analyze cost fluctuations in different inventory categories.
- Recommend inventory control improvements.

REVIEW OF LITERATURE

- Agnihotri, R., Ramachandran, I., & Patra, M. R. (2023). "Inventory Management in Omnichannel Retailing: Challenges and Opportunities." *Journal of Business Research*, 156, 113488.

• Summary
: The paper analyzes the complexities of inventory management in omnichannel retail environments, highlighting the challenges of coordinating inventory across online and offline channels and suggesting strategies for optimization.

MAJOR MACHINERIES

Fully Automatic Machine

- Pre form blowing
- Water Filling machine
- Caping machine
- Labeling machine
- Laser Printing

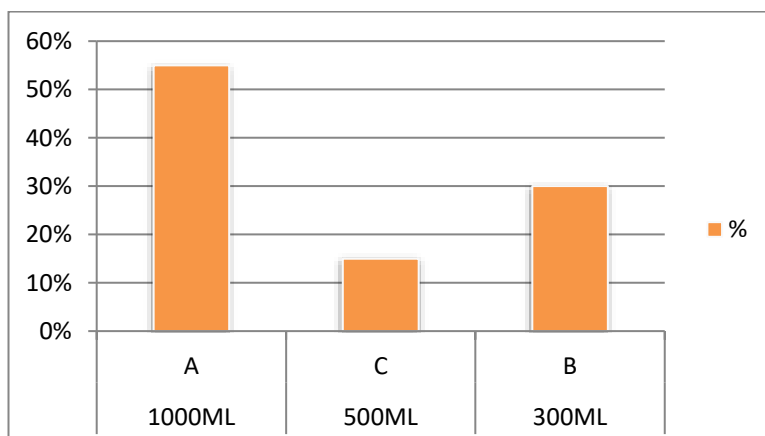
Semi-Automatic Machine

ABC ANALYSIS

TABLE ABC ANALYSIS

ITEMS	ANALYSIS	%
1000ML	A	55%
500ML	C	15%
300ML	B	30%

CHART ABC ANALYSIS



- Cleaning Unit
- Packaging machine
- Conveyor Loading

INVENTORY ITEM

- 300ml water bottle
- 500ml water bottle
- 1000ml water bottle
- 2000ml water bottle

METHODOLOGY

Primary data were obtained from company records and personnel interviews. Analytical tools such as ABC Analysis, FSN Analysis, FIFO, LIFO, and turnover ratios were applied. Data interpretation was based on quarterly performance in FY 2023–2024.

TOOLS USED IN THE ANALYSIS

- ABC Analysis.
- FSN Analysis.
- Linear Regression method.
- Inventory turnover ratios.
- Conversion period.

INTERPRETATION

Using the ABC analysis technique, A, B, and C classes are based on the units consumed per quarter. The unit value is the basis for the ABC analysis technique used in classes A, B, and C. Focus efforts primarily on 1000ML A for optimal inventory management, followed by 300ML B for balanced stock levels. 500ML C can be ordered less frequently without a significant impact on operations. This tiered approach enhances efficiency and resource allocation in inventory management.

Findings

- Inventory Turnover Ratio peaked at 20.06 in Q3, reflecting strong movement of stock.
- Raw Material Turnover Ratio declined from 1.9 (Q1) to 1.2 (Q4), suggesting slower consumption.
- Work-in-Progress (WIP) Turnover increased significantly, indicating improved process flow.
- 1000ml bottles (Class A) accounted for 55% of inventory by value, requiring close monitoring.
- 500ml (Class C) and 300ml (Class B) contributed less but still influenced stock planning.
- Fast-moving items made up 65% of stock, indicating strong product movement.
- 25% were slow-moving, and 5% were non-moving, indicating scope for optimization.
- Inventory conversion dropped from 8.22 days (Q1) to 8.34 days (Q4).
- Raw material conversion improved, falling to 3.06 days in Q4.
- Finished goods conversion stayed within the 3.2–3.8-day range, reflecting consistent sales and stock levels.

Suggestions

- Strengthen supplier negotiations and diversify sources. Apply discounting or clearance strategies.
- Match output with demand forecasts to reduce overstocking.

- Prioritize inventory efforts on Class A items to maintain profitability.

RECOMENATION

- Ozgun Caliskan Demirag, Sanjay Kumar, K.S. Mallikarjuna Rao (2017) "A note on inventory policies for products with residual-life-dependent demand" Applied Mathematical Modelling, Volume 43, Pages 647-658
- M.G. Matsebatlela, K. Mpofo (2015) "Inventory management framework to minimize supply and demand mismatch on manufacturing organization" IFAC PapersOnline, Volume 48, Issue 3, Pages 260-265

Conclusion

Inventory management at Saai Suruguru Enterprises shows positive strides in cost control and operational efficiency, particularly in handling fast-moving and finished goods inventory. Continued refinement using data-driven tools and strategies will further streamline operations, minimize waste, and enhance profitability. These findings provide a blueprint for inventory optimization in MSMEs operating in the manufacturing sector.