

Optimizing Inventory Management and Business Processes for Sustainable Growth in a Manufacturing SME





Organization Background

- Sterling Foods & Beverages ("Cubic")
- B2B packaged drinking water manufacturer
- Location: Jaipur, Rajasthan | Established: 2016
- Rapid growth but operational strain
- Core issue addressed: Inventory & working capital inefficiency

Problem Statement (Objectives)

Reduce overstocking & stockouts

Release working capital locked in inventory

Align procurement & production with demand

Enable scalable, data-driven operations

Data Collection

Collection and Time Period

- Primary data collected directly from business
- Period: Apr 2022 – Mar 2025 (36 months)

Datasets

- Sales (₹)
- Purchases (₹)
- Raw Materials (Qty, Rate, Value)
- Inventory Movement (Manufactured, Sold, Remaining)





Methodology & Tools

Methods Used:

- Descriptive statistics
- Trend & seasonality analysis
- Correlation & lead-lag analysis
- ABC analysis
- Inventory turnover & DII

Tools:

- Excel
- Google Colab



Key Result 1

Sales & Procurement Trends

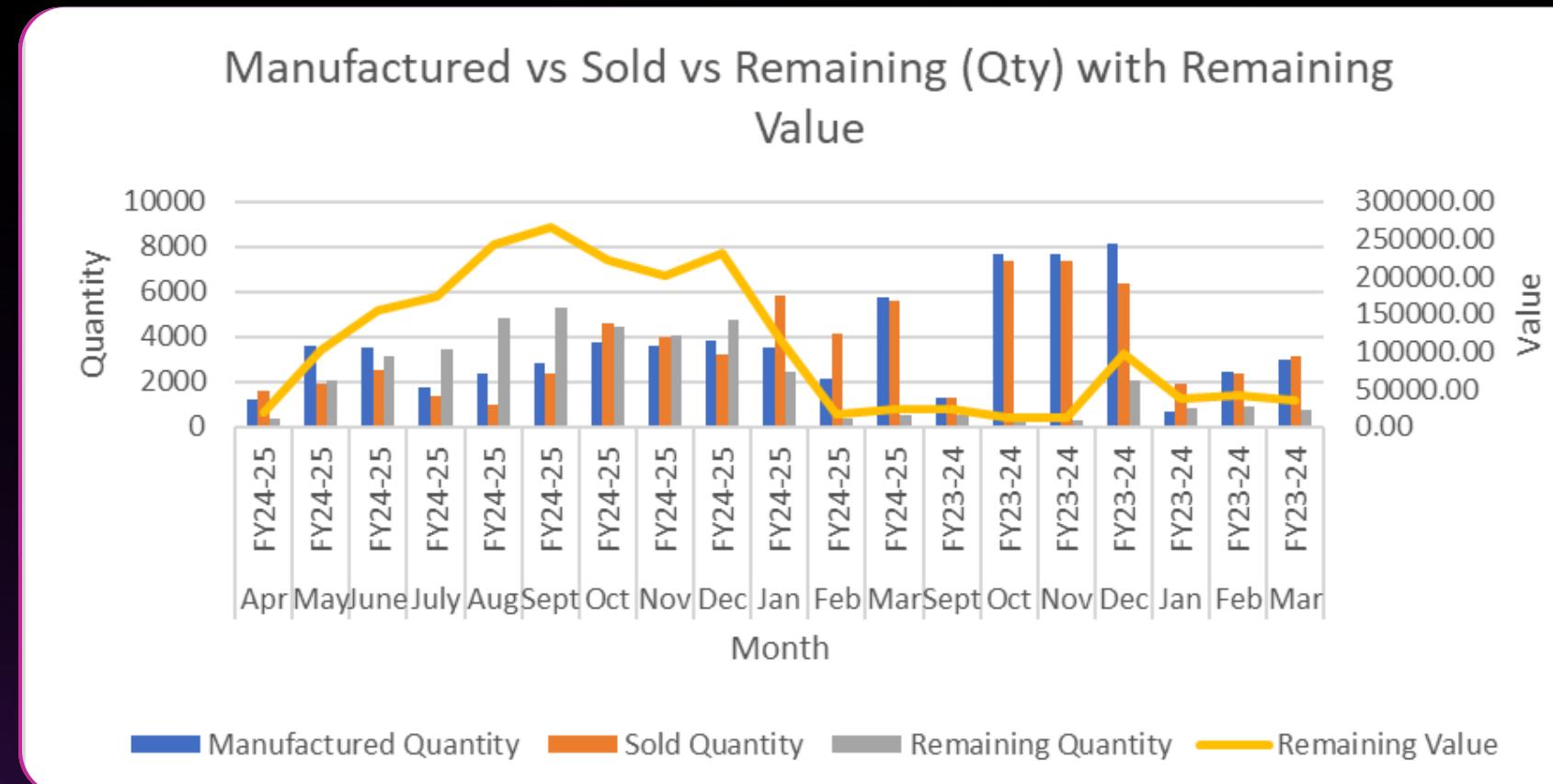
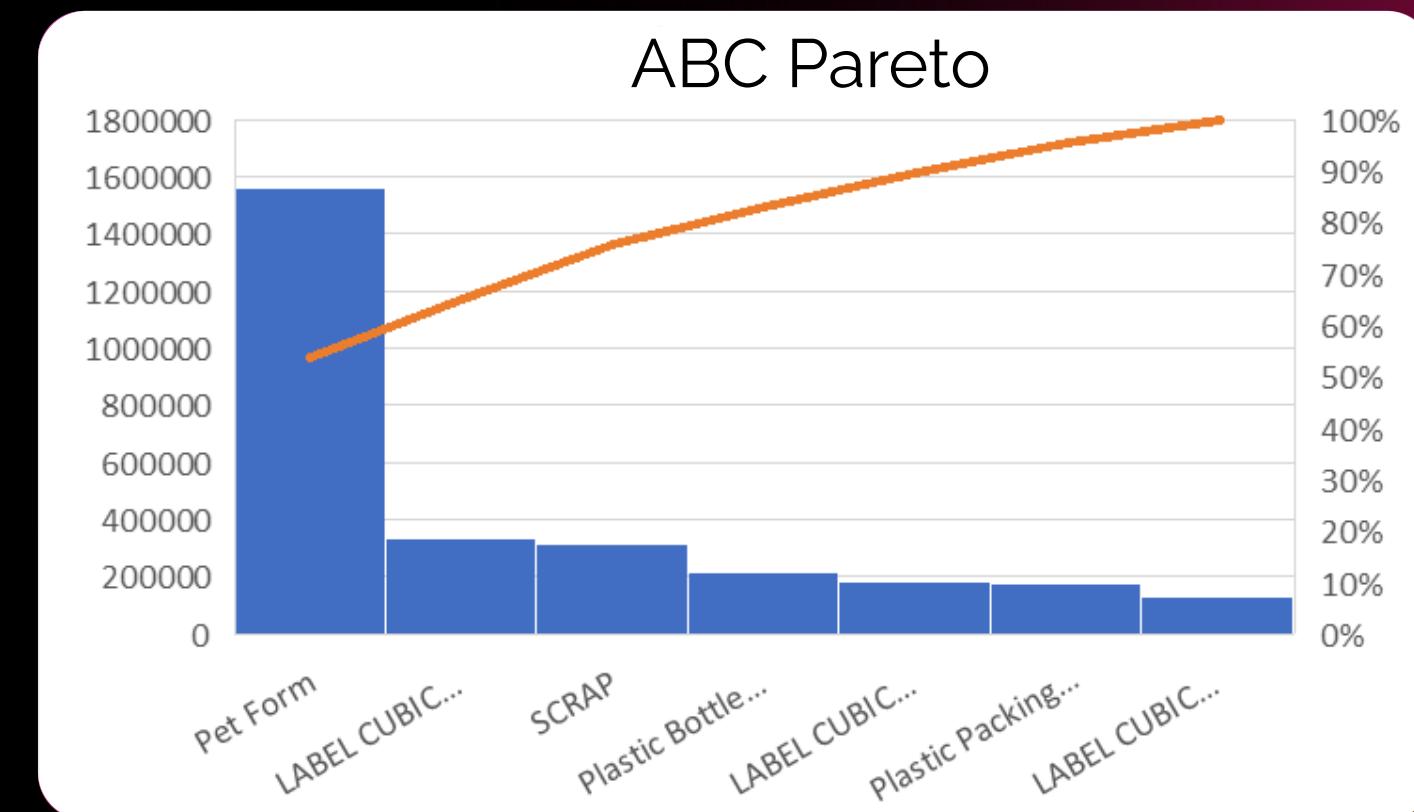


Insights:

- Strong revenue growth with volatility
- Clear seasonality (Oct & Mar peaks)
- Purchases more volatile than sales
- Procurement leads sales by ~1 month

Key Result 2

Inventory & ABC Analysis

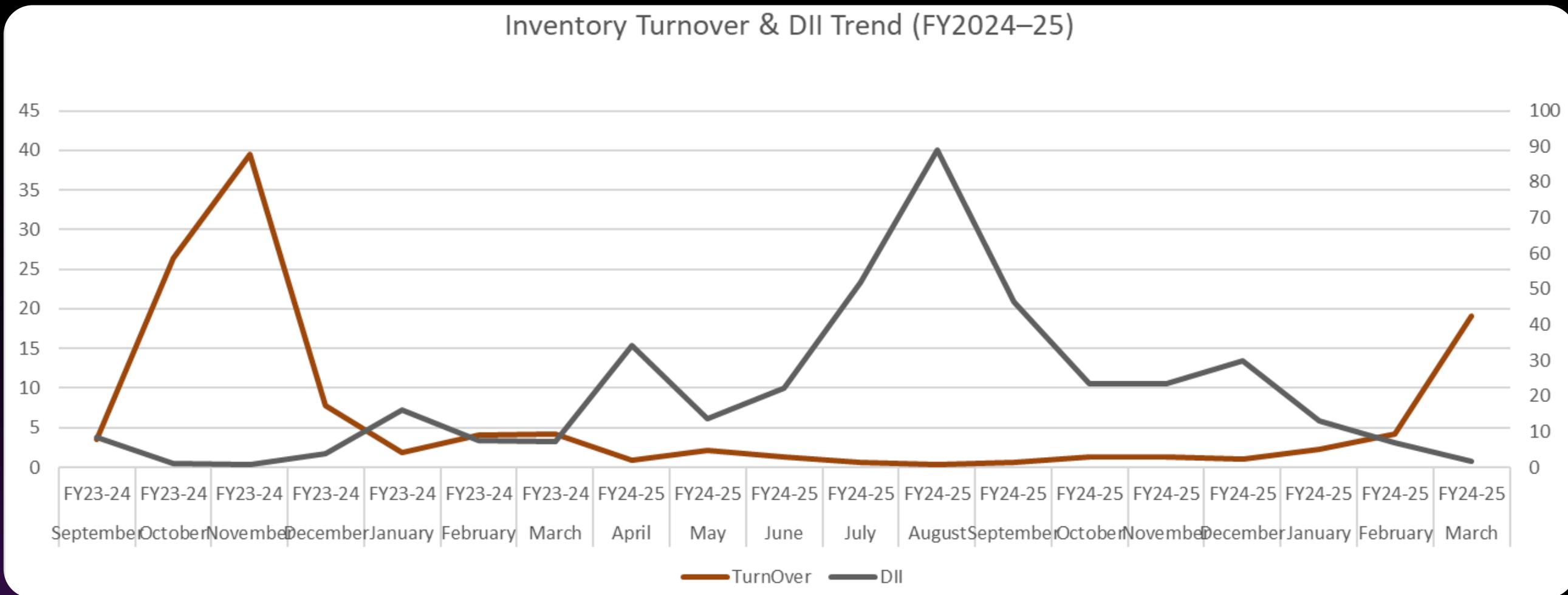


Insights:

- 2 items = 65% of inventory value
- Overproduction → stock buildup
- Inventory inefficiency confirmed

Key Result 3

Working Capital Impact



Findings:

- Avg inventory turnover: 7.79x
- ~₹10.8L working capital locked
- High DII during low-demand months

Interpretation, Recommendations and Impact

■ Interpretation:

- Inventory volatility despite sales growth
- Manual planning drives cash blockage

■ Recommendations:

- ABC-based min-max control
- Forecast-aligned procurement & production
- Seasonal staggered purchasing
- KPI dashboard (Excel/Python)

■ Project Impact:

- 20–30% inventory reduction potential
- ₹3–4L working capital release
- More scalable operations



Thank You!