

Executive Summary – Inventory, Sales & Forecast Review

By – Ayushi Shukla

Period covered: 2022-2023 sales-data mart

Inventory Health

- Typical reorder thresholds sit at **600-740** units per product-week; SKUs with **ROP > 730** are **fast-moving** and demand closer tracking to avoid stock-outs.
- **26,272** records show stock on hand below the system's demand forecast, translating into a potential **₹18.97 million** revenue risk if every missed unit had sold at ticket price.
- Store-level under-stock events are similar in magnitude (**1,075-1,180** per store); **Store 4** tops the list, signalling process gaps in its replenishment loop.

Forecast Accuracy

- The model systematically over-forecasts on non-holiday days by **~12** units and records a mean absolute error of **13.74 units (15.82 % MAPE)**.
- Seasonally, winter months (**Jan, Feb, Nov, Dec**) show the greatest positive bias.
- Forecast error does not change across discount bands (**~13.7 units** throughout), indicating that current algorithms fail to capture price elasticity.
- Regional performance is uneven: **South** has the highest average error (**~13.80**), while **East** is the most accurate (**~13.68**).

Pricing & Promotion Insights

- As discounts deepen, average revenue per transaction declines, yet unit lift peaks in the “Moderate” **6–10 %** band, only **0.01 units** higher than “Very High” discounts.
- Stores **4** and **1** convert revenue efficiently relative to unit volumes, whereas Store **3**'s pricing strategy appears less effective according to internal commentary.

Product and Category Performance

<u>Metric</u>	<u>Insight</u>
Range of product revenue share	3.69 % (P0066) to 2.99 % (P0159)
Category mix	Clothing (39.9 %) and Electronics (24.3 %) dominate topline sales
Normalized revenue per product	Clothing still leads; Electronics trails by ~3 ppt when adjusted for SKU count
Regional spread	Revenue is balanced (~25% each); East edges others at 25.21%
Regional best-sellers	East – P0066/P0061; North – P0061/P0066/P0069; South – P0046/P0133; West – P0178/P0057

Store-Level Snapshot

- Average daily revenue is tightly clustered, from **₹4,942** (Store 5) to **₹4,900** (Store 2), a **<1 %** spread.
- Daily unit sales mirror this pattern: **96.84** units (Store 5) vs **96.59** units (Store 1).

Strategic Implications

- Tight margins between stores and modest category spreads signal limited room for organic growth; gains will come from reducing forecast bias, refining replenishment triggers for high-velocity SKUs, and sharpening mid-tier discount tactics.
- Prioritise fixing systemic forecast overestimation in winter and non-holiday periods and embed pricesensitivity features into the model.
- Focus inventory governance on Store 4 and high ROP items to curb the **₹18 million** revenue exposure.