

Business Data Management Capstone Project

Project Title:

**Business Transformation of a General Store:
From Manual to Data-Backed Operations**



Presented By: Divyanshu Verma (23f2005520)

Organizational Background:

- **Name of Business:** Verma General store
- **Type of Business:** A B2C retail store who sell daily used items.
- **Location :** Pahitipur Road, Shahjadpur market, Akbarpur, Ambedkarnagar.
- **Sold items Category are** House hold items(like Hanger, Hook, wiper, Scenery, Coffee mug, bottle, Decorative items), FMCG Goods (like pampers, Rubber, Gift wrap etc.) & Plasticware(Wiper etc)
- **Owned By :** Ritvik (since 2017)



Problem Statement and Methodology

- **Objective of the Project:** Enhance business efficiency and profitability by establishing a data-driven approach to demand forecasting and supplier management for informed decision-making.
- **Problem Statement:**
 - Poor supplier management system,
 - Poor Profitability ,
 - Lack in demand forecasting
- **Methodology:**
 - **Data collection :**Manually taking note of every sold item over 30 days.(From 15 october to 14 November
 - Types of data collected: Daily sales transaction data and Supplier delivery and pricing
 - Tools used: Just a khatabook or register.
 - **Data cleaning:** Missing and less impactful variables were removed and Tools used: Microsoft Excel.
 - **Data Analysis:** Analyzed historical sales & Suppliers data using Excel to identify gaps in demand forecasting & supplier performance. Insights drove strategies to boost profitability & optimize supplier management.

Key finding 1: Demand forecasting



Fig .4 | Daily sales Trend line

Key Points:

- Sales fluctuates sharply (0–30 units/day).
- Forecast model (3-day MA) gives a baseline but under/over-shoots during events.(such as Festival around 17 to 19 Oct)
- Certain products (Map, Scenery, Doll Set) showed consistent demand despite volatility.

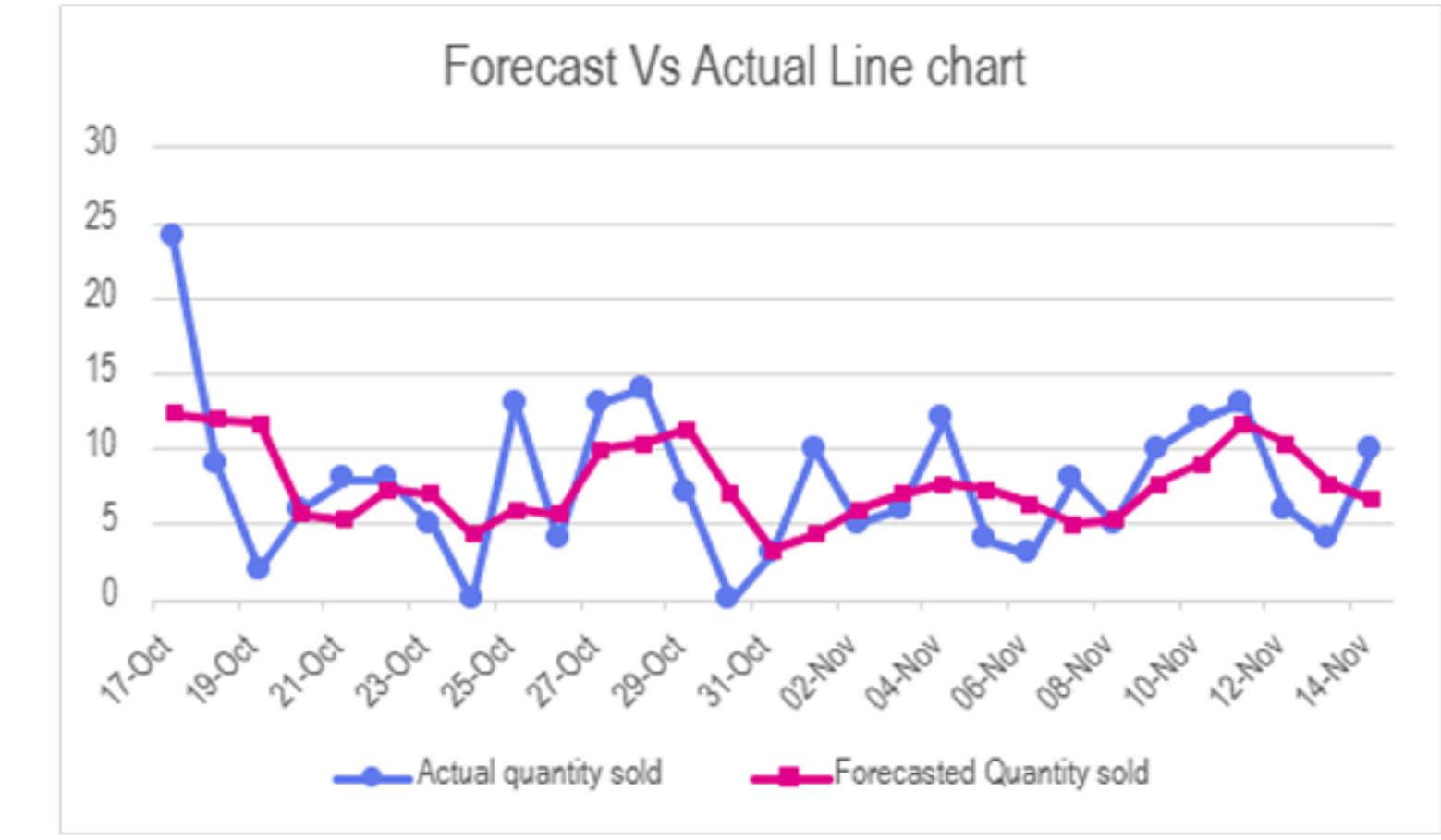


Fig 5. | Forecast Vs Actual Line chart

- It directly visualizes the challenge of forecasting with limited data.
- Shows volatility in actual demand vs. the smoother forecast line.
- Highlights under- and over-estimation during key dates (e.g., festivals).

Key finding 2 : Increasing Profitability & Revenue Generation

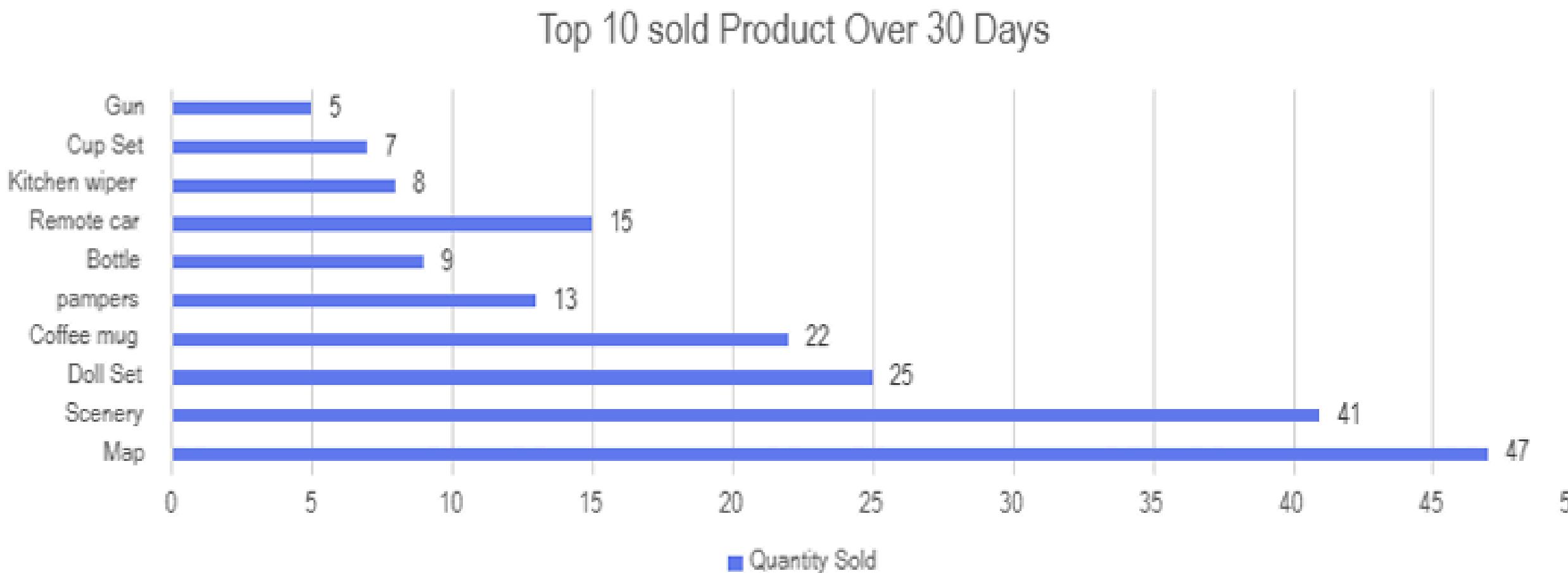


Fig 9 | 10 Bestselling product over 30 days

Key Points:

- **Most Sales** → Map (47) and Scenery (41) dominate demand, together contributing more than 40% of top-10 sales.
- **Consistently High Performers** → Doll Set (25) and Coffee Mug (22) also show strong demand.
- **Insight** → The mix includes decorative items (Map, Scenery, Doll Set) and utility/gift items (Coffee Mug, Bottle, Pampers), showing diverse customer interest.
- **Opportunity:**
 - Bundle product(coffee mug + cup set, etc)
 - Focus on House Items (since 7/10 top selling product are from that category only)
 - Allocating Prime self and promotion for home items category → Increase profitability.

Key finding 3: Profitability & Revenue Generation

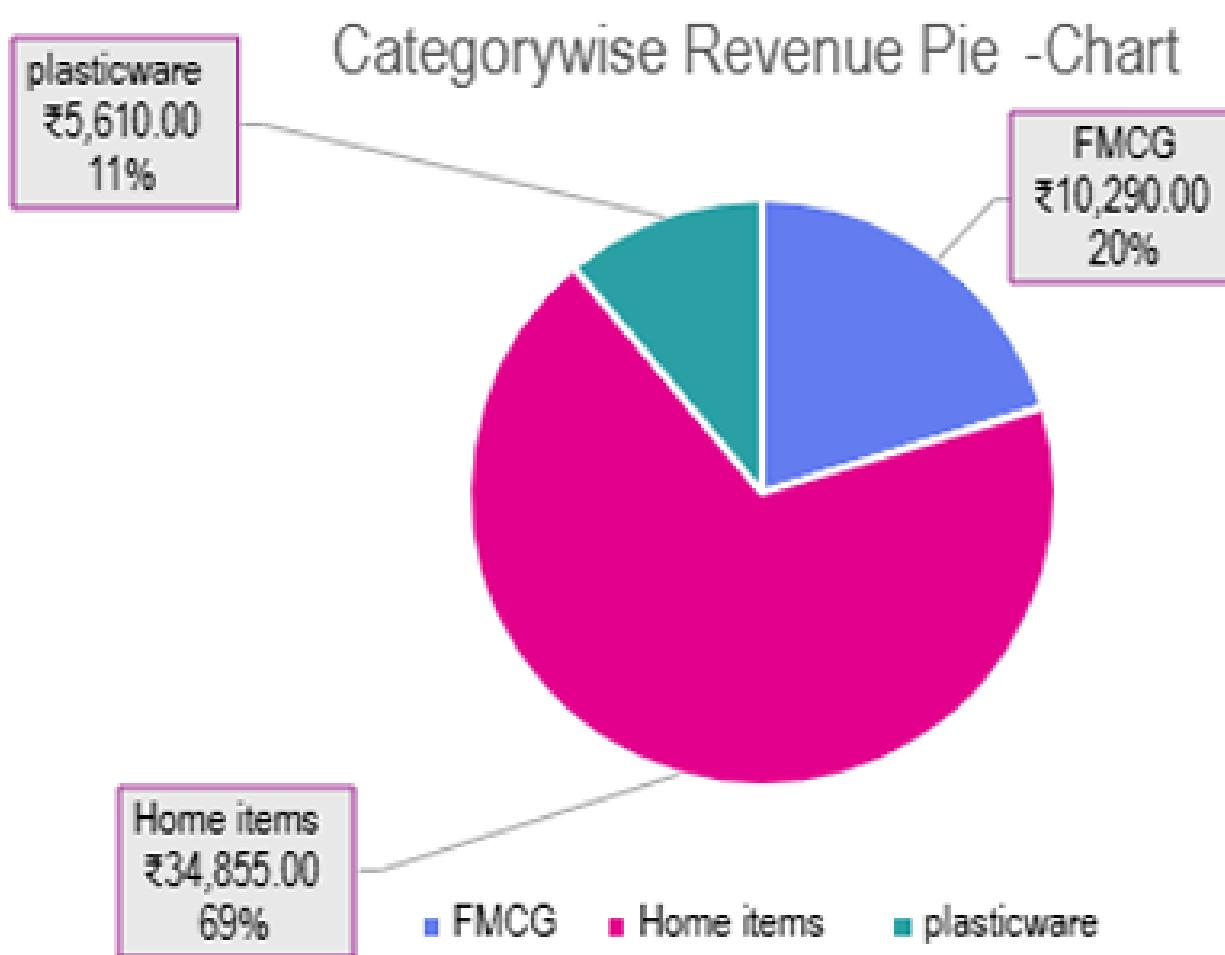


Fig 7 | Category wise Revenue Pie-Chart

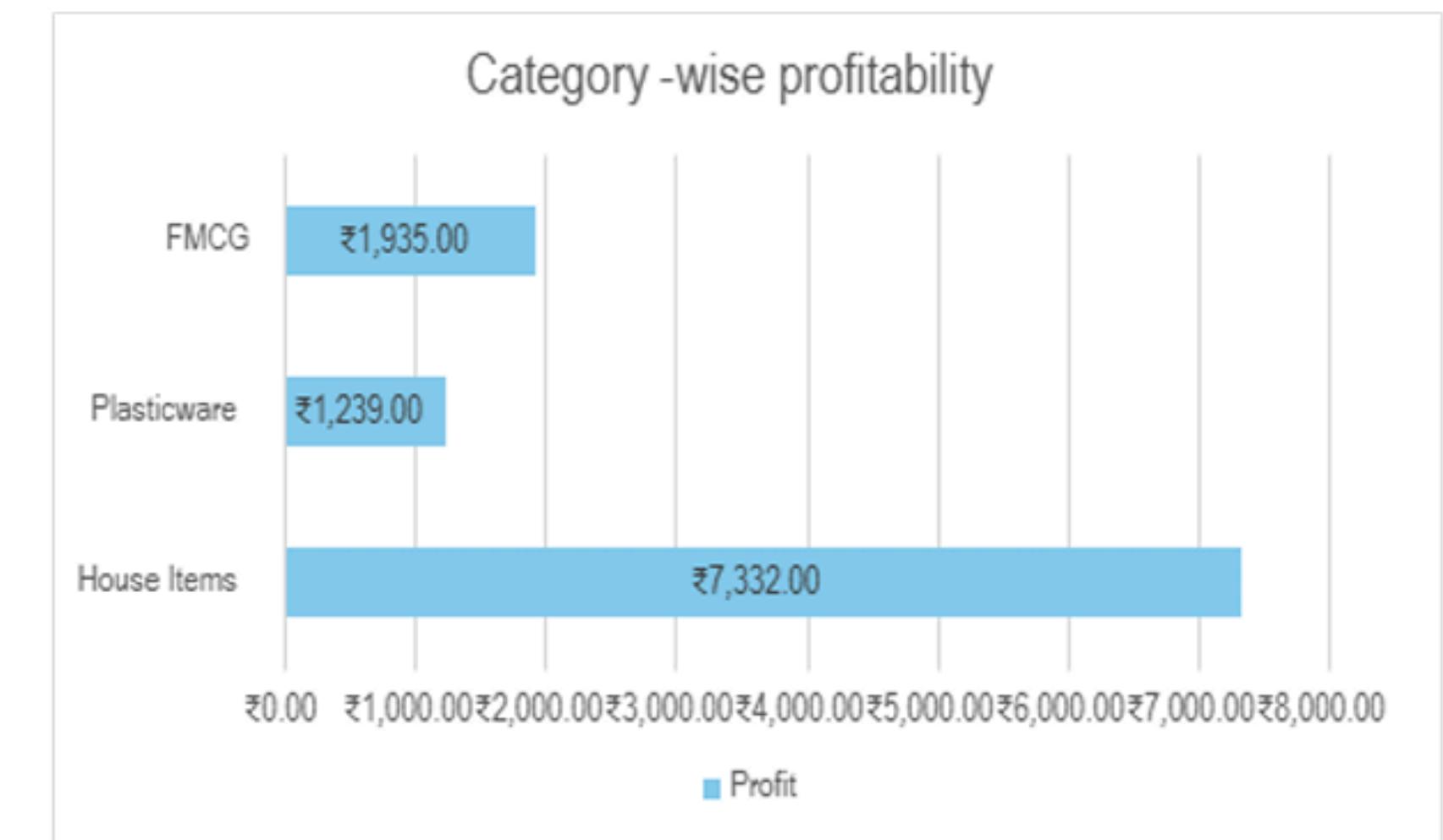


Fig. 8 | category-wise profitability

Key Points:

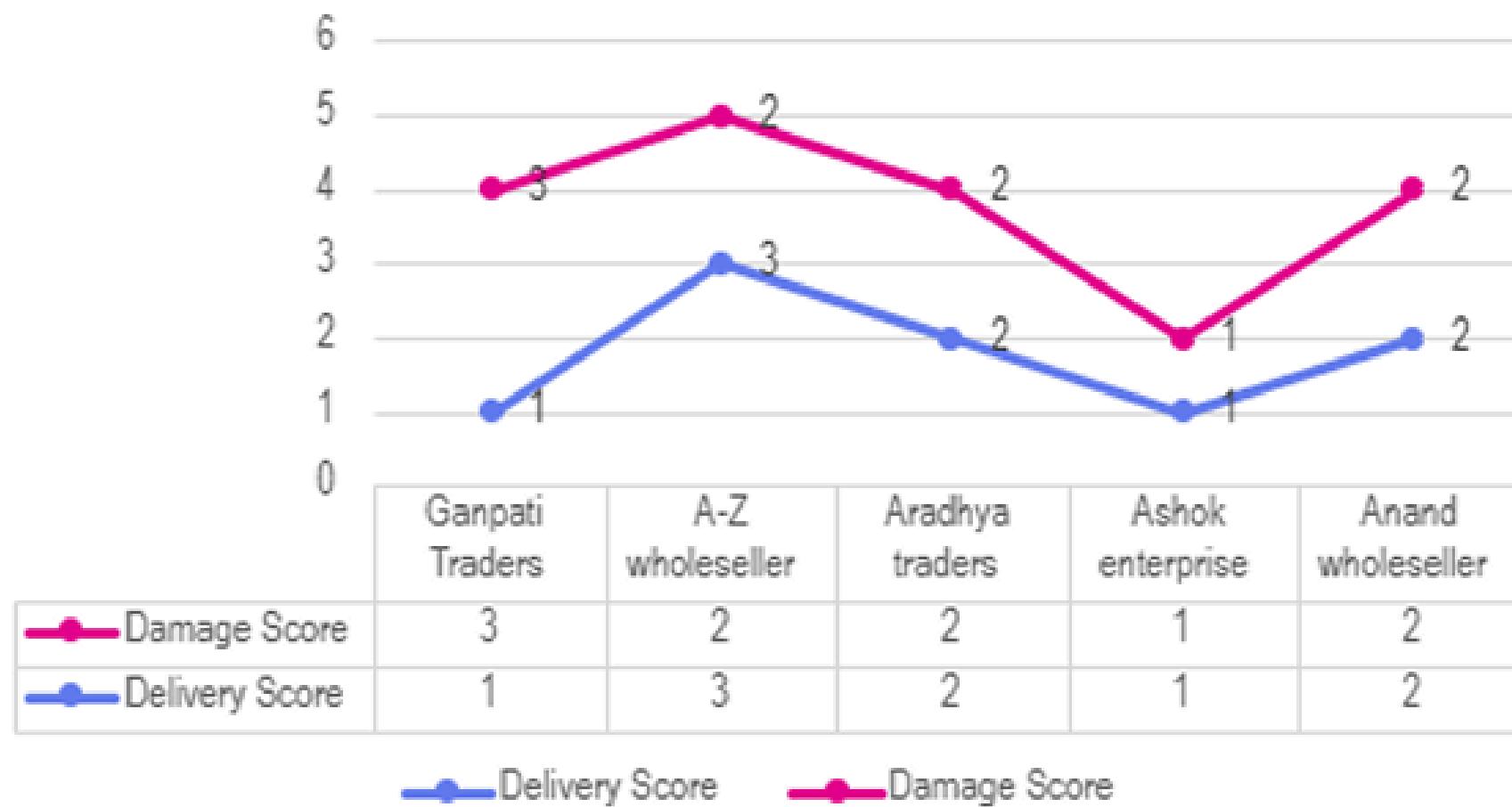
- House Items dominate both revenue and profit →
- Revenue: ₹34,855 (69% of total)
- Profit: ₹7,332 (highest among categories)
- FMCG contributes moderately to revenue but less to profit →
- Revenue: ₹10,290 (20%)
- Profit: ₹1,935 (lower margin than House Items)

• Category-level focus is critical →

- House Items are clearly the growth engine.
- FMCG & Plasticware need inventory selective promotion.

Key finding 4: Supplier Management Finding

Delivery delay vs Damage percentage



Credit Terms Distribution

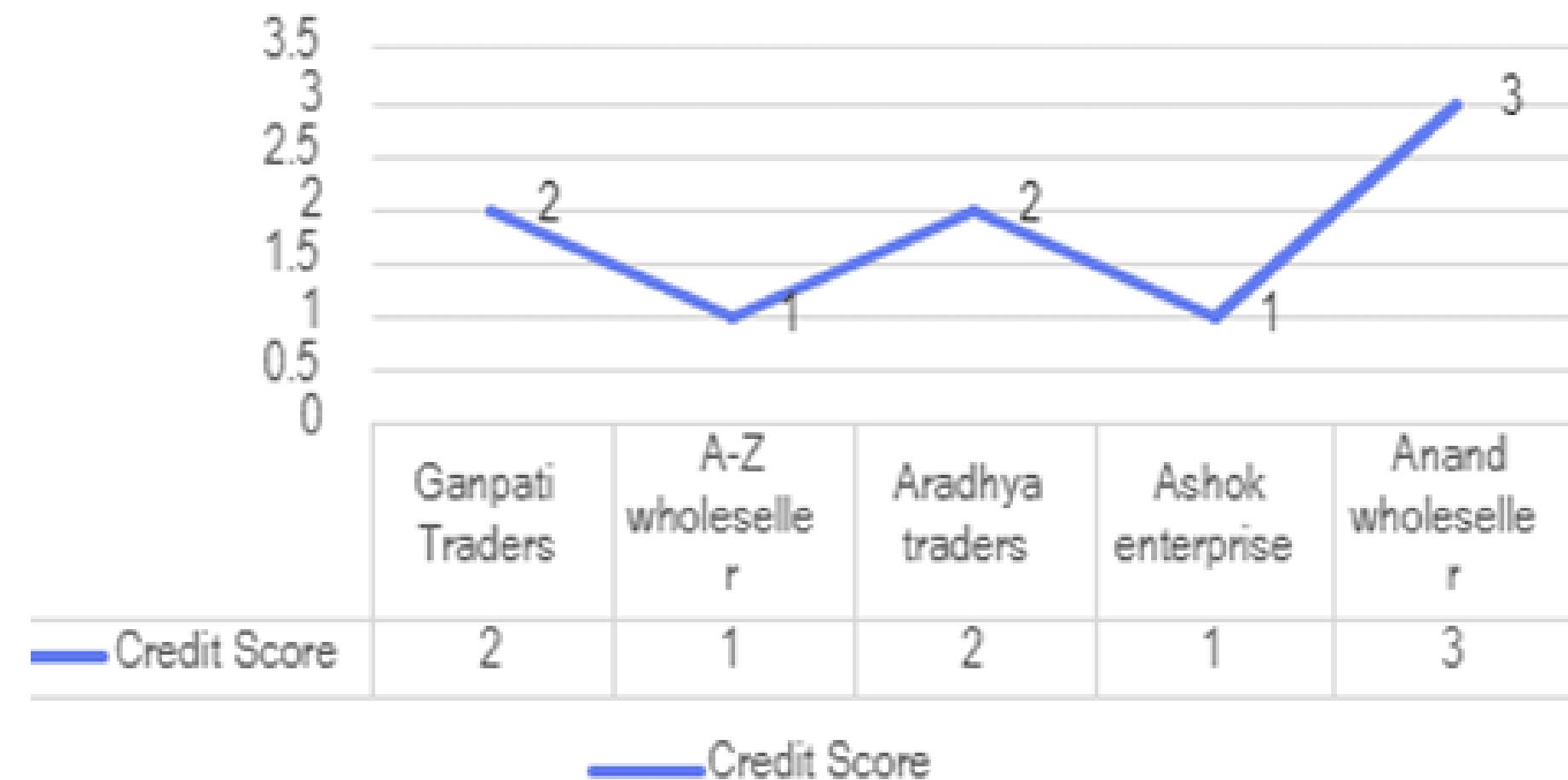


Fig. 13 | Delivery delay vs Damage percentage among Wholesaler

Fig 12 | Credit Terms distribution

Key finding 4: Supplier Management Finding



Fig 13 | Wholesaler performance comparison chart

1. Delivery Delay vs Damage Percentage (Fig. 13):

- Aradhya Traders & Anand Wholeseller → Most reliable supplier (low delays, low damages).
- Ganpati Traders → Acceptable damage score but weak delivery reliability.
- A-Z Wholesaler → Timely delivery but slightly higher damage issues.
- Ashok Enterprise → Worst performer (high delays and high damages).

2. Credit Terms Distribution (Fig. 12):

- Anand Wholesaler → Best credit flexibility (score 3: favorable postpaid terms).
- Aradhya Traders & Ganpati Traders → Offer moderate credit terms (score 2).
- A-Z Wholesaler & Ashok Enterprise → Least favorable credit terms (score 1, high upfront payment).

Opportunity:

- Best suppliers = **Aradhya Traders & Ganpati Traders** (high reliability & favorable terms (like Delivery delay, damage %age, category of prod., Min. order quantity, Delivery terms, credit, return policy)
- Anand Wholesaler → best credit flexibility.
- Ashok Enterprise → least reliable.
- Store should form strategic partnerships with top suppliers.

Interpretation & Recommendations:

Interpretation

- Top 10 bestsellers → dominated by House Items
- House Items → 69% of revenue & highest profit (₹7,332)
- FMCG & Plasticware → weaker contribution
- Supplier analysis → Aradhya & Ganpati most reliable
- Anand Wholesaler → best credit flexibility
- Revenue growth possible by phasing out slow movers
- Data gaps still limit forecasting accuracy

Recommendations

Profitability:

- Focus inventory on House Items and cut slow-moving FMCG/Plasticware.
- Expand complementary product lines to boost cross-selling.
- Run targeted promotions aligned with category performance.

Weak Supplier Management

- Build long-term partnerships with reliable suppliers (Aradhya, Ganpati).
- Use suppliers with flexible credit terms to ease cash flow.
- Reduce reliance on unreliable suppliers with delays or damages.

Demand Forecasting

- Start maintaining a structured daily sales database.
- Keep safety stock of top-selling items to avoid stockouts.

THANK YOU