

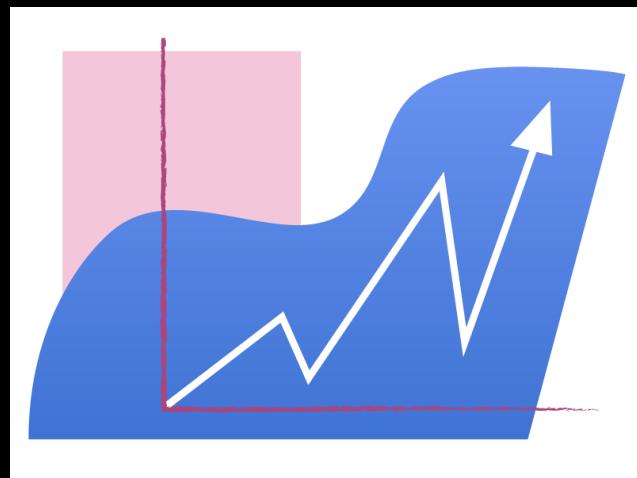
A photograph of a modern concrete staircase with a metal handrail. A glowing white line graph is overlaid on the image, starting from the bottom left and trending upwards towards the top right, symbolizing growth and progress.

The Business Problem: Optimizing E-commerce Profitability by Addressing Low-Performing Product-Region Combinations

Report by- Madhusree Purkayastha

BUSINESS PROBLEM:

A major e-commerce retailer wants to optimize its strategy for the next fiscal year by focusing resources on areas that offer the highest return and correcting weaknesses in its current sales model. The current challenge is that **high sales volume does not always translate to high profit**, indicating potential issues with pricing, discounts, and regional distribution efficiency.



PROJECT SCOPE

- ❖ The goal is to provide data-driven recommendations to the leadership team on **which product lines (Category/Sub-Category) and geographical areas (Region/City) require immediate intervention** to maximize overall profit.
- ❖ This End-to-End Report synthesizes the analysis performed on your E-commerce Sales Data, focusing on the two core business problems: **optimizing profitability** and establishing a **foundation for demand and inventory forecasting**.

EXECUTIVE SUMMARY

- ❖ The analysis of FY2024-2025 sales data confirms a healthy operation with over **533.67M in revenue** and a stable **14.98% overall profit margin**.
- ❖ The FY2023 and 2024 showed a year on year sales growth of 323.24 % whereas the sales have sharp dip of 11.76% in the FY2025.
- ❖ The promotional strategy should be more focussed on 1%-5% discount range as it has been observed to bring in efficient growth of 15.22% profit margin.
- ❖ The top performing category in FY2023-2025 based on overall profit has been found to be Furniture (profit: 8.7 M) and its top performing sub-category is Sofa (profit: 2.3M).
- ❖ The least performing category being Groceries.
- ❖ Goa made the best impression in Furniture category.

Financial Performance and Market Assessment

- ❖ Best Performing Categories and Sub-Categories

Financial Year	Category	Sub-Category
2023	Electronics	Smart Watch
2024	Home Décor	Lamp
2025	Furniture	Sofa

- ❖ The best performing months has been observed to be May, July and August.
- ❖ Net Banking and COD(Cash on Delivery) has been observed as the most profiting payment method. The customer repeat of people using the above mentioned payment method was high from 2023 to 2024
- ❖ A sudden rise in UPI users can be seen in 2025 and customer repeat is also the most among UPI users.

- ❖ The North Region is the volume leader but the East region has the best Profit Margin which is 15.12%.
- ❖ Best Performing Cities in different Region:
Recommendation: Focus on Sales and Stock up in these cities to generate the maximum revenue.

Region	Best performing cities by Profit
North	Lucknow
South	Bangalore
West	Surat
East	Guwahati

Pricing and Promotional Strategy

- ❖ It has been taken into account that 1%-5% discount band generates a profit margin of 15.22% which is higher than the profit margin generated by Full price i.e 14.74%.
- ❖ 10% and 20% has the maximum sold units but their profit does not match that of 1%-5% range.

Recommendation- Mandate 1%-5% discount range to drive profit margin. Strictly reserving the 15% and above discount range to clear inventory .

- ❖ It has been observed that Beauty category has the Maximum YoY profit but has the least customer repeat pattern.

Recommendation- Study the pricing pattern and reviews of products whether it caters to customers need.

- ❖ Kitchen Category has the most customer repeat but the least profit.

Inventory and Demand Forecasting

- ❖ High Value : Products with highest profit per unit like Headphones determine the revenue for the company, therefore this product going out of stock means loss for the company.

Recommendation: Implementing low-stock alerts on high profit per unit products to prevent loss.

- ❖ High Volume : Products with highest sold units ,example is Microwave Provident.

Recommendation: Focus on cost efficiency and warehousing efficiency.

- ❖ Identify the sales spike in different months of different products and categories and mandate that the procurement team finalize all major purchase orders at least **60 days prior** to the peak month to mitigate stock-out risk.

Conclusion: Actionable Strategy for Profit Growth

- ❖ Mandate 1%-5% discount range to drive profit margin. Strictly reserving the 15% and above discount range to clear inventory .
- ❖ Implementing low-stock alerts on high profit per unit products to prevent loss.
- ❖ Focus on cost efficiency and warehousing efficiency for high volume products.
- ❖ Focus on Sales and Stock up in high performing cities to generate the maximum revenue.
- ❖ Direct resources toward scaling operations in the high-volume **North Region** and maximizing efficiency in the high-margin **East Region**.

THANK YOU