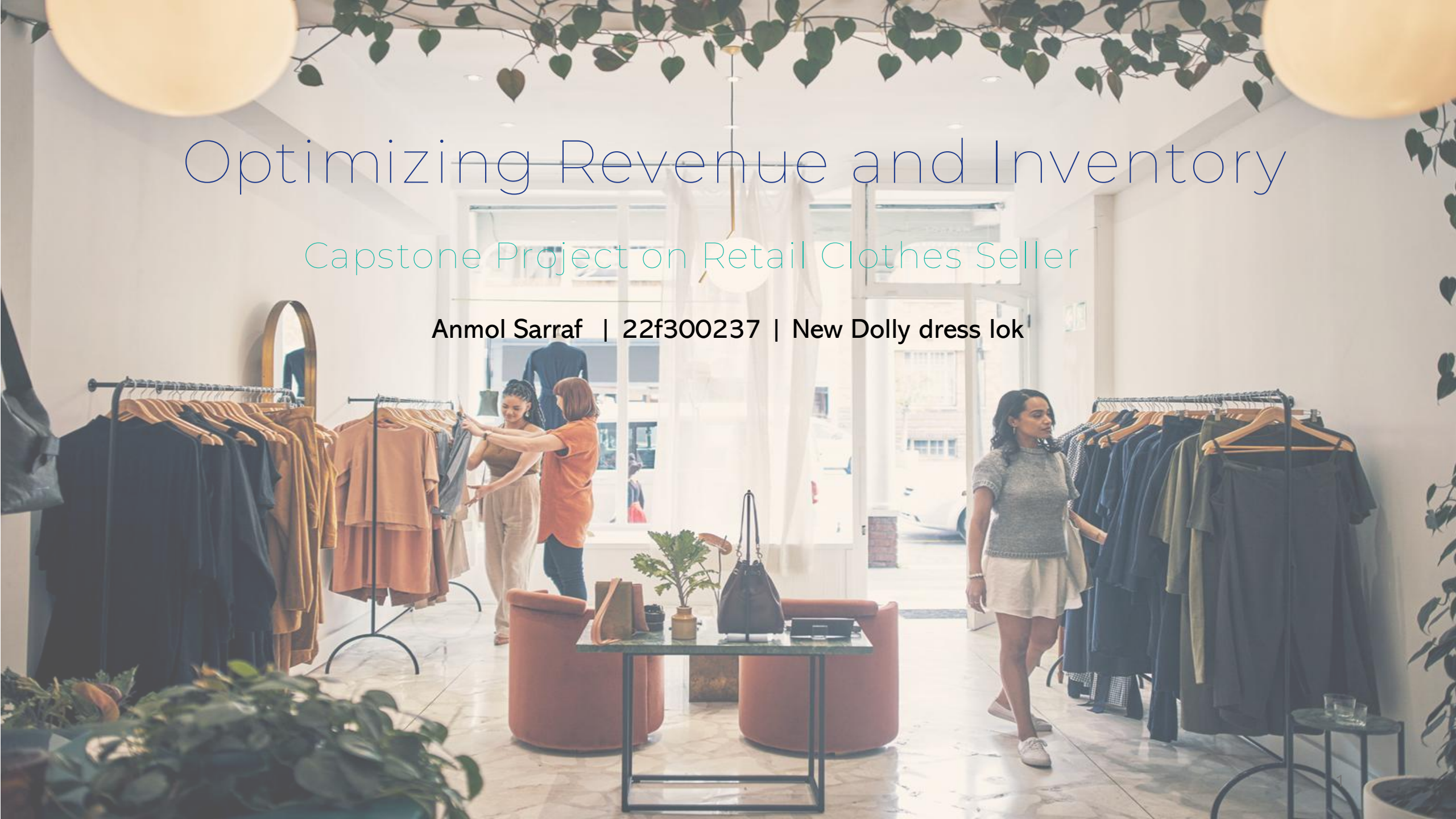
Optimizing Revenue and Inventory

Capstone Project on Retail Clothes Seller

Anmol Sarraf | 22f300237 | New Dolly dress lok



Organization Background

- This Project focuses on small retail shop Named “New dolly dresslok” located at bara bazar, Madhubani in Bihar opened in 1997.
- This shops sells traditional Indian clothes like kurta, Salwaar suit, jeans, coat-pants and pants.
- This business primarily deals in B2C, selling to customers. This is my Father’s business.

Problems

- **Loss of revenue and wanted to know why**
- **Improper stock managements**
- **Wanted some ideas about increasing profits potentially by moving toward online business.**

Data Overview

I have collected three types of data. This data was collected over span of 3 months from 1st April to 30th June 2025. Stock data was collected on 31st March 2025. No new stock was ordered during 3 months span.

Sales data

- Date
- Item
- Quantity
- Price per item
- Total Price
- Week

Customer feedback data

- Date
- Looking for
- Reason for not buying
- Feedback
- week

Stock data

- Items
- Count

Data Preparation steps

Cleaning

- Data was written in very structured way, no cleaning was required

Categorization

- Grouped similar items (e.g. - all types of kurta like cotton kurta, silk kurta -> “Kurta”. Added Week columns so I can apply time series analysis.

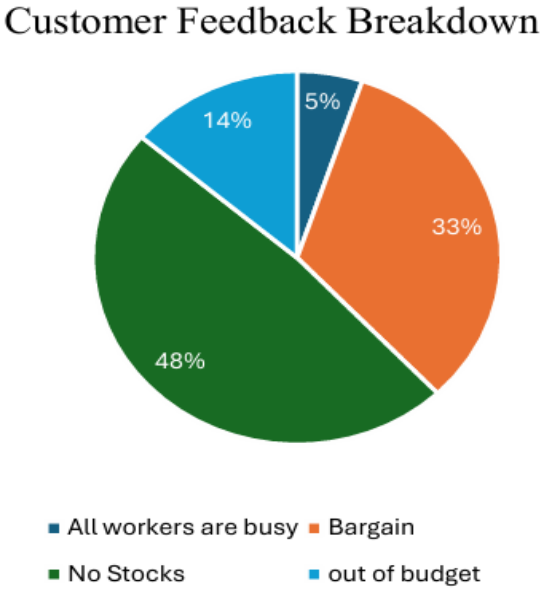
Aggregation

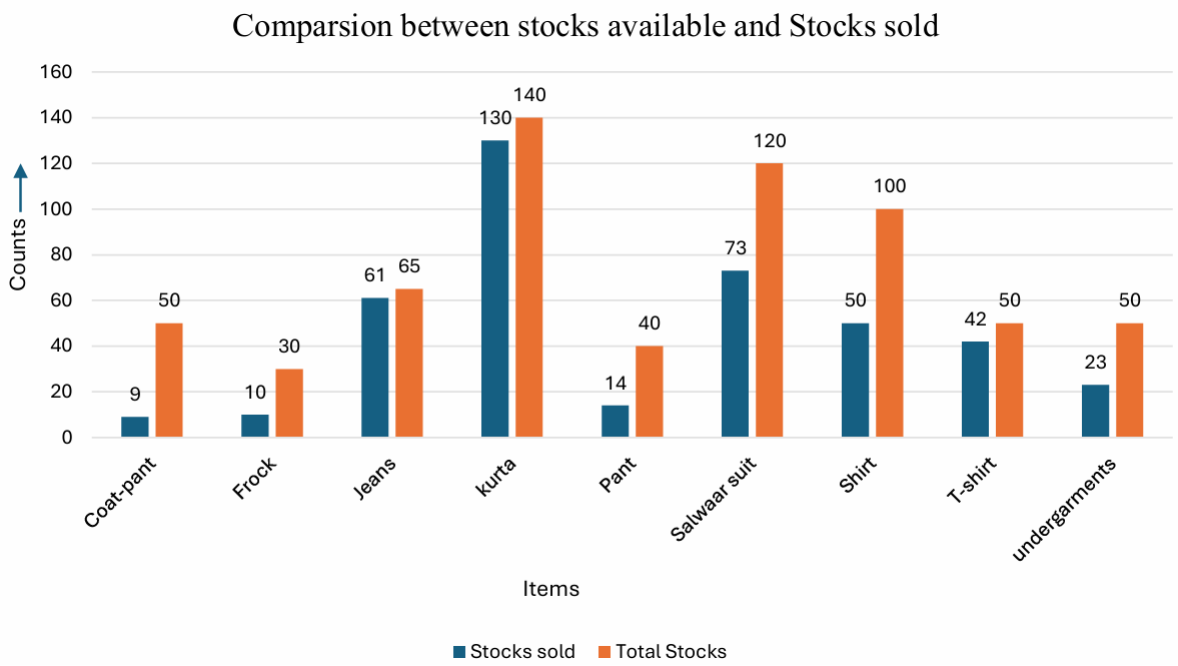
- Consolidated weekly sales, feedback and stock data

Time series analysis:-

- Sales show **high week-to-week fluctuations** with no stable growth trend.
- Revenue peaked in early weeks (W2–W5) but gradually declined towards W10–W13.
- **Missed sales opportunities increased** significantly in later weeks, suggesting demand was present but not fulfilled.
- This inconsistency highlights **gaps in inventory planning and stock availability**, directly impacting revenue generation.

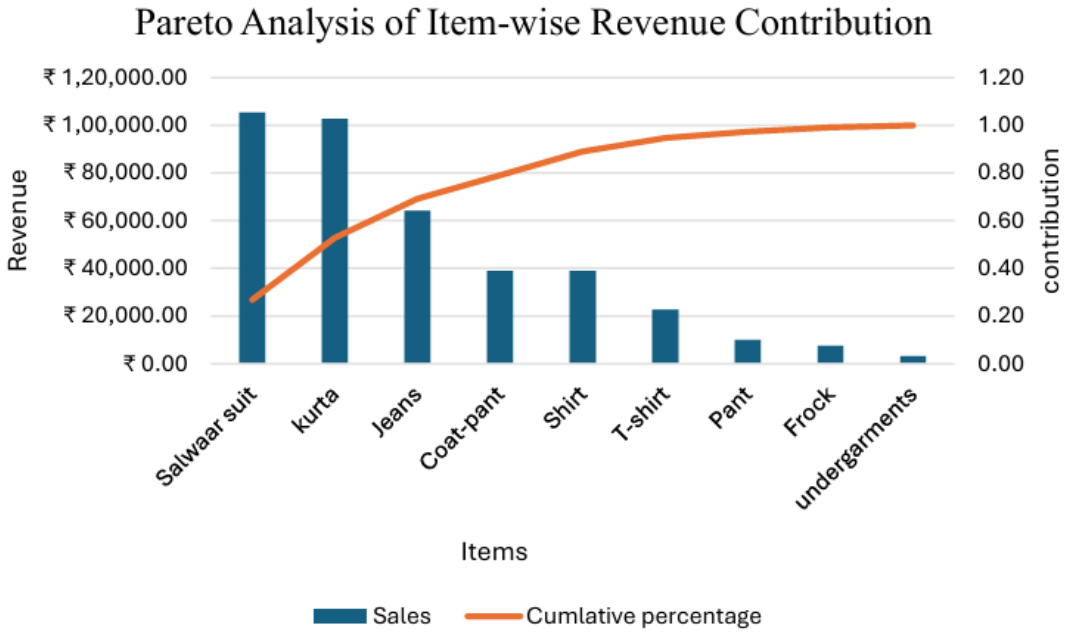
- After comparing this slides with Pervious page, we know that there is increase in number of missed sales.
- This pie charts reveals that most of customers left without buying anything Due to **stocks issues (48%).**





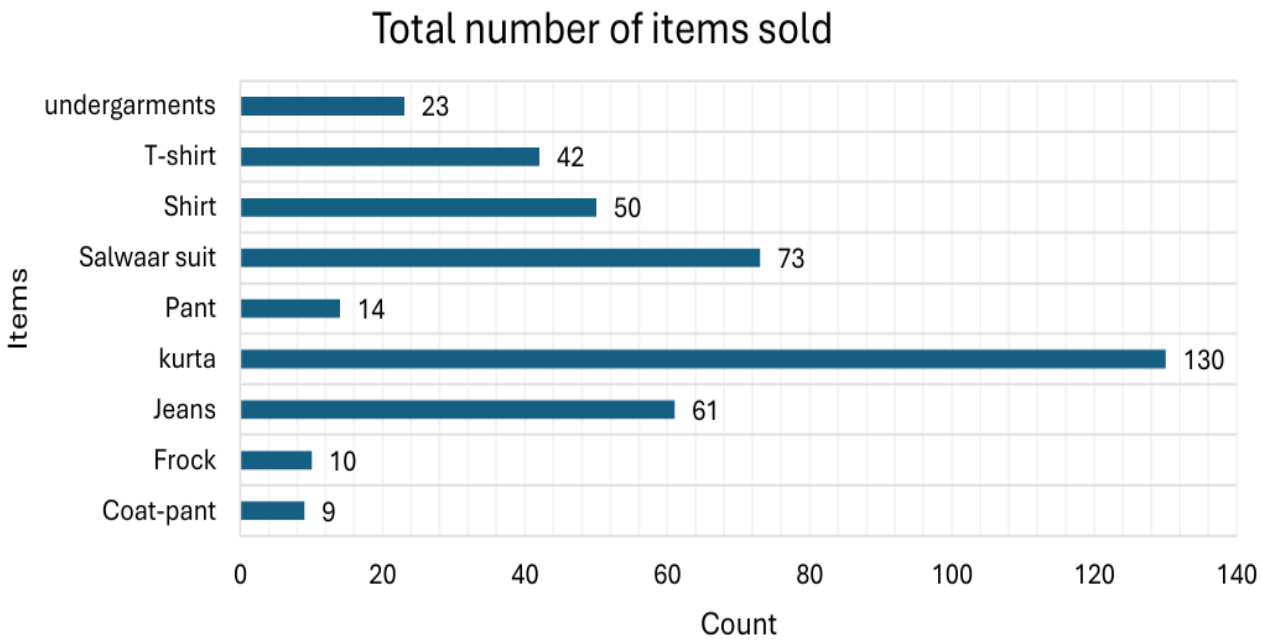
- This grouped bar chart reveals that some of items are understocked and some are overstocked.
- Kurta and jeans are running out of options and sizes
- **Stocks issues are main causes of loss of revenue.**

Pareto Analysis

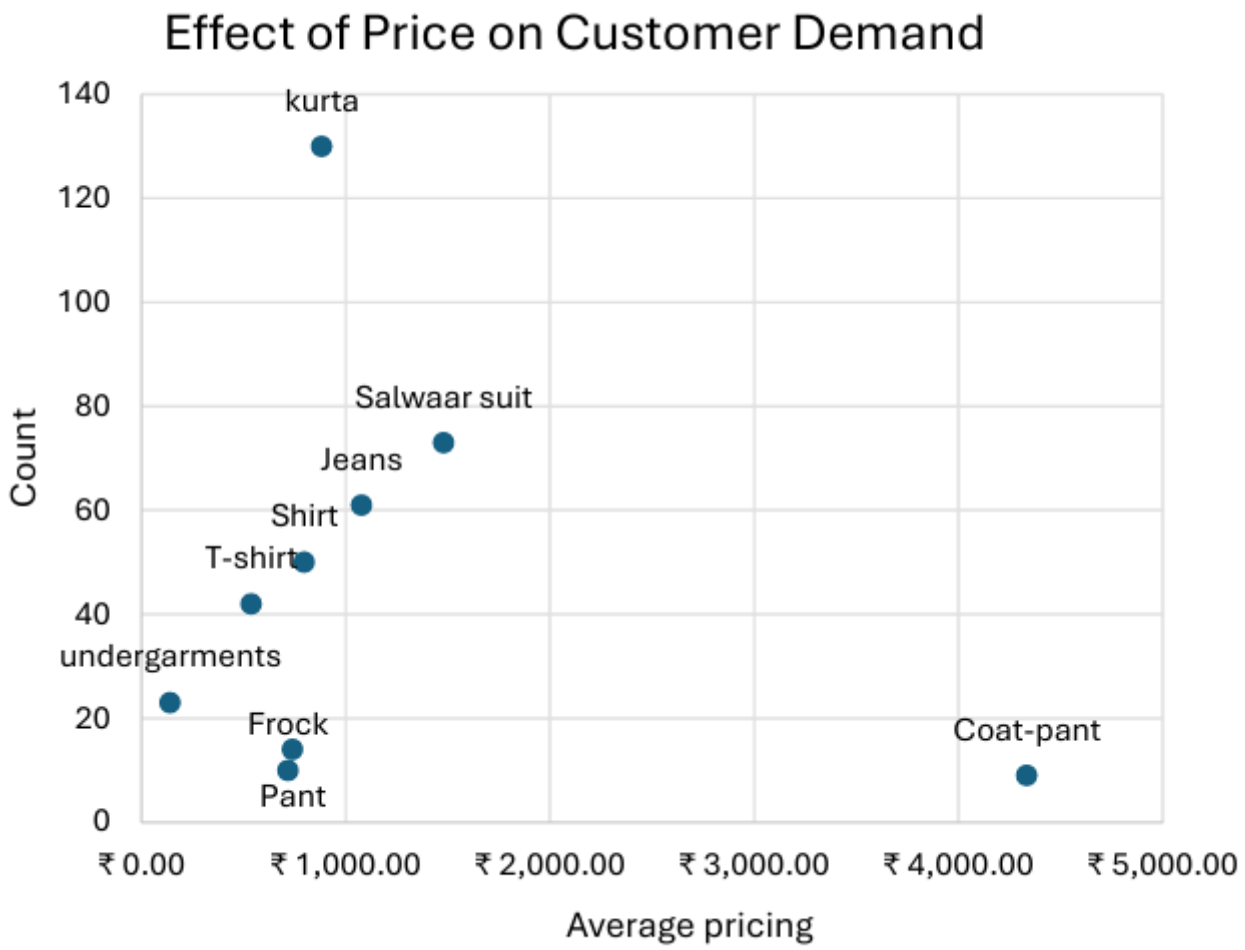


- Salwaar suit, kurta and jeans are most contributor of total revenue generated.
- This shows only three items were in good demand. Rest of were getting overstock.

- Kurta was sold in high quantity and also generated highest number of revenue.
- Salwaar suit was also sold less number but still high revenue.
- This useful to find out stock demands which one should be ordered.



Scatterplot



- This scatterplot shows a negative correlation between Average price and sales made (demand).
- Lower price product were in more demand whereas high product were less in demand
- Some middle cost items performs well and some of low-cost items performs less indicating less demand.
- Owner should focus more on items which have low cost or middle cost

Recommendations

- **Start Collecting Data** – Maintain proper records (sales, stock, and feedback) for consistent tracking. As there is record maintained.
- **Improve Inventory Planning** – Stock high-demand items like Kurtas and Salwaar suits to reduce missed sales and avoid overstock of low-demand items.
- **Address Price Sensitivity** – Offer discounts or bundles on Shirts and Pants to attract bargain-sensitive customers.
- **Enhance Operations** – Allocate staff effectively during peak times to avoid “all workers busy” complaints.
- **Continuous Monitoring** – Regularly review sales and feedback to forecast demand and adjust strategies.
- **Online business :-** I told him about e-commerce websites that allows shop to directly sell their items like amazon business platform.

Conclusion

In the last, I learned a lot from this course. I learned how to collect data, how to organize data, how to clean data, how to use Microsoft office. How to present data. This coursed helped me a lot to use my skills I learned from IIT madras