

BUSINESS DATA MANAGEMENT CAPSTONE PROJECT

Data-Driven Analysis and Optimization for Enhanced Sales

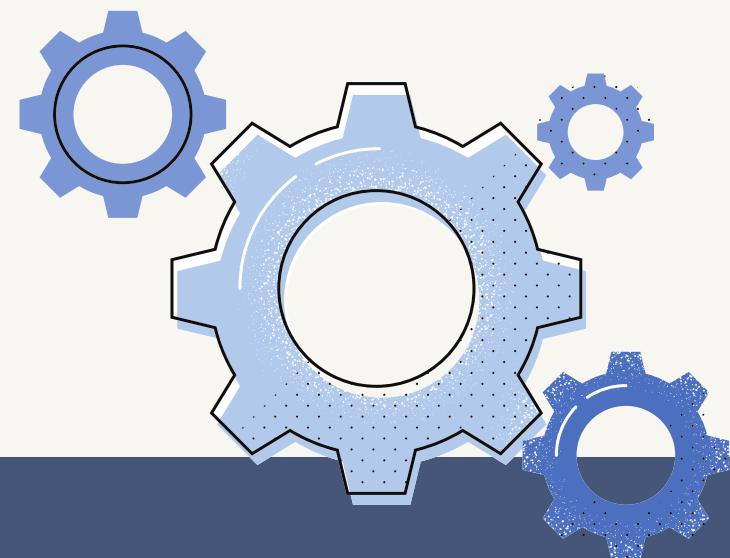
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THE BUSINESS

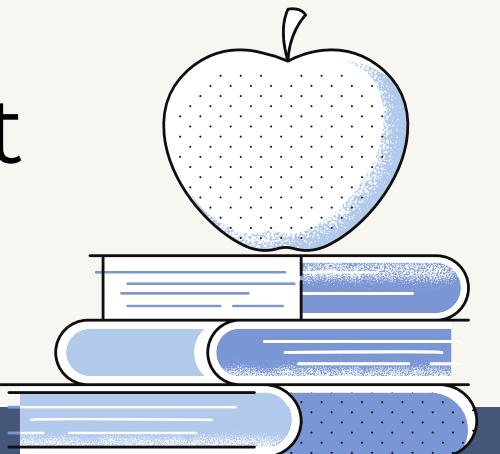


- The company started 150 years ago, selling sweets and namkeens
- This new outlet is located near my house, on a bypass road, Bareilly, and has a limited number of households in the vicinity
- It sells sweets, namkeen, bakery, and confectionery



Data Collection and Analysis Process

- Identified business problems through shop visits and discussions with Mr. Siddhant Khandelwal.
- Collected relevant data, including product data for 75 sweets and sales data for the financial year 2022-2023.
- Consolidated and cleaned the data in Google Sheets for further analysis.
- Analyzed the data using Tableau and Python libraries (NumPy, Pandas, Matplotlib, Seaborn) to gain insights and address the identified problems.
- Utilized various data analysis and visualization techniques to present findings and develop actionable recommendations.

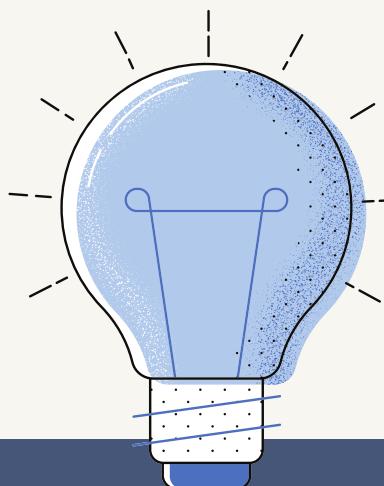


OBJECTIVES

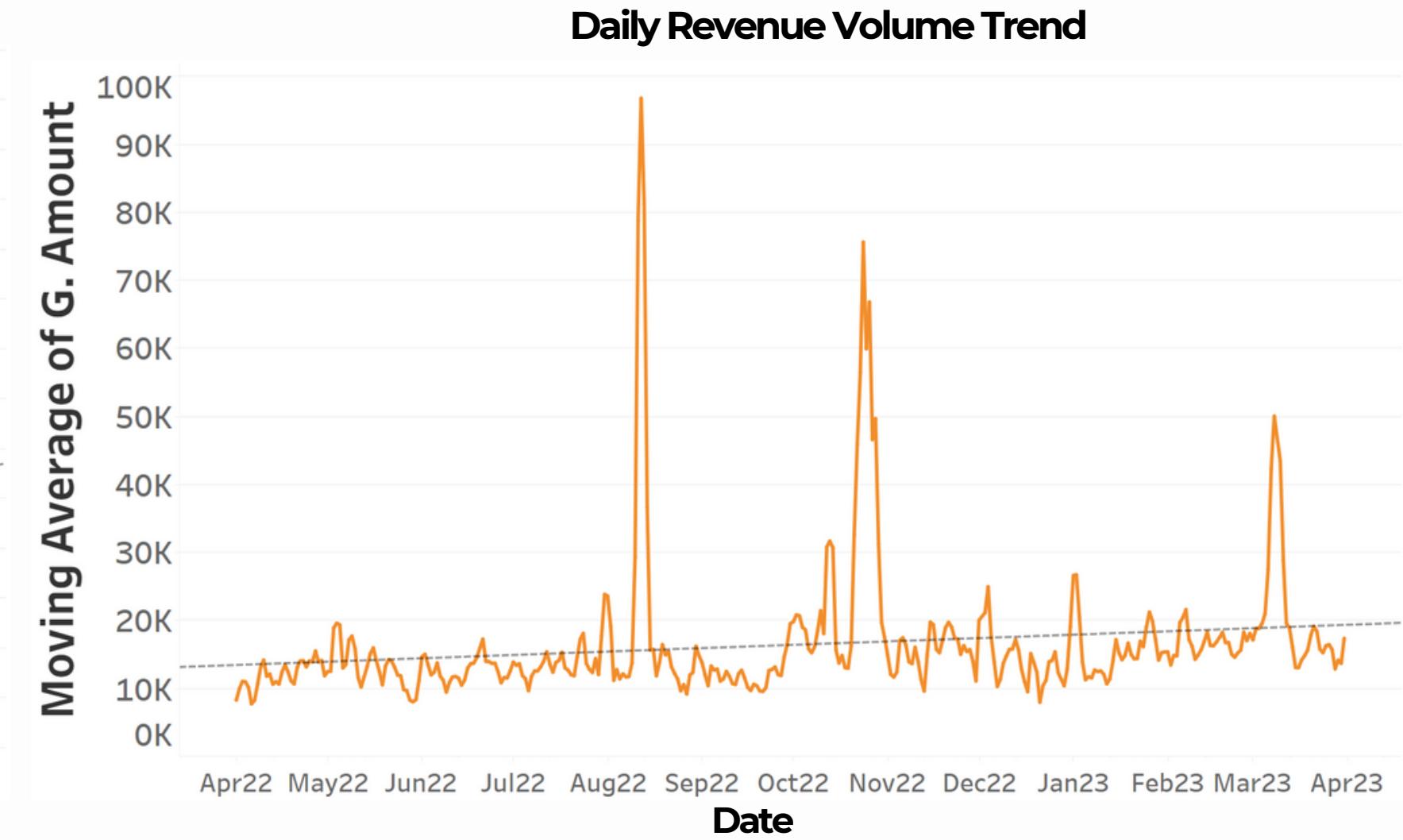
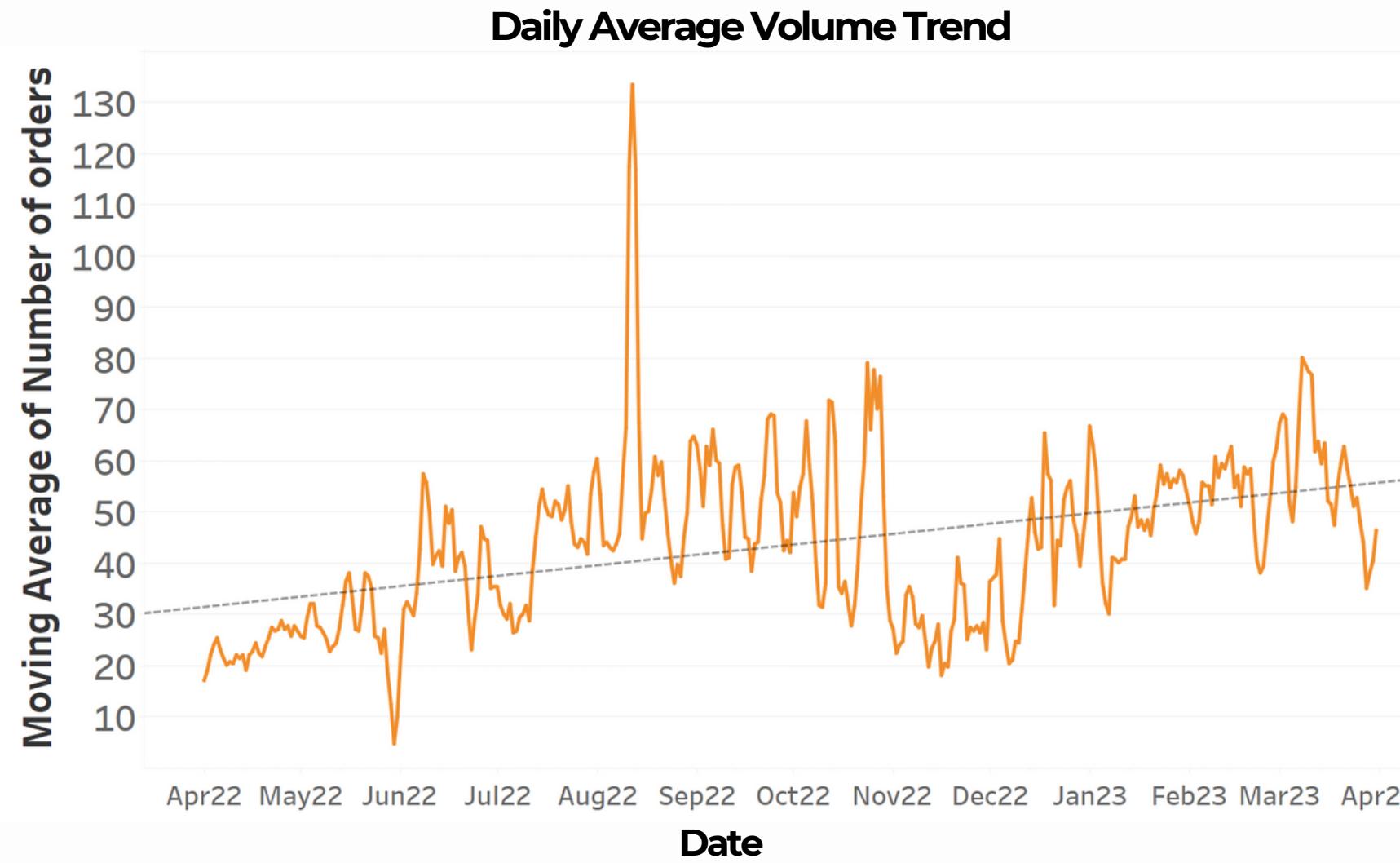
Objective I: Analyzing the Viability of the Sweet Shop

Objective II: Optimizing Sales Channels: Online Delivery vs. Offline Takeaway

Objective III: Product Portfolio Optimization for Revenue Generation



Volume & Revenue Trend over Time



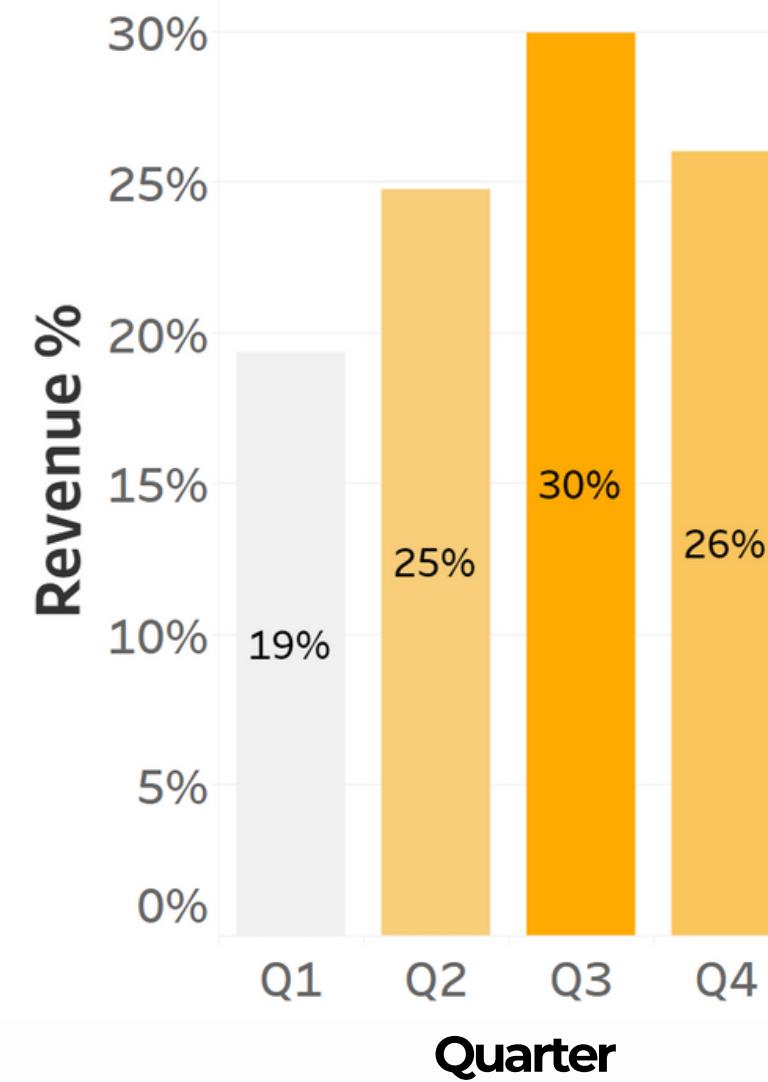
Observations

The results indicate positive business performance, with growth in average daily revenue and volume. There are significant peaks during festive occasions.

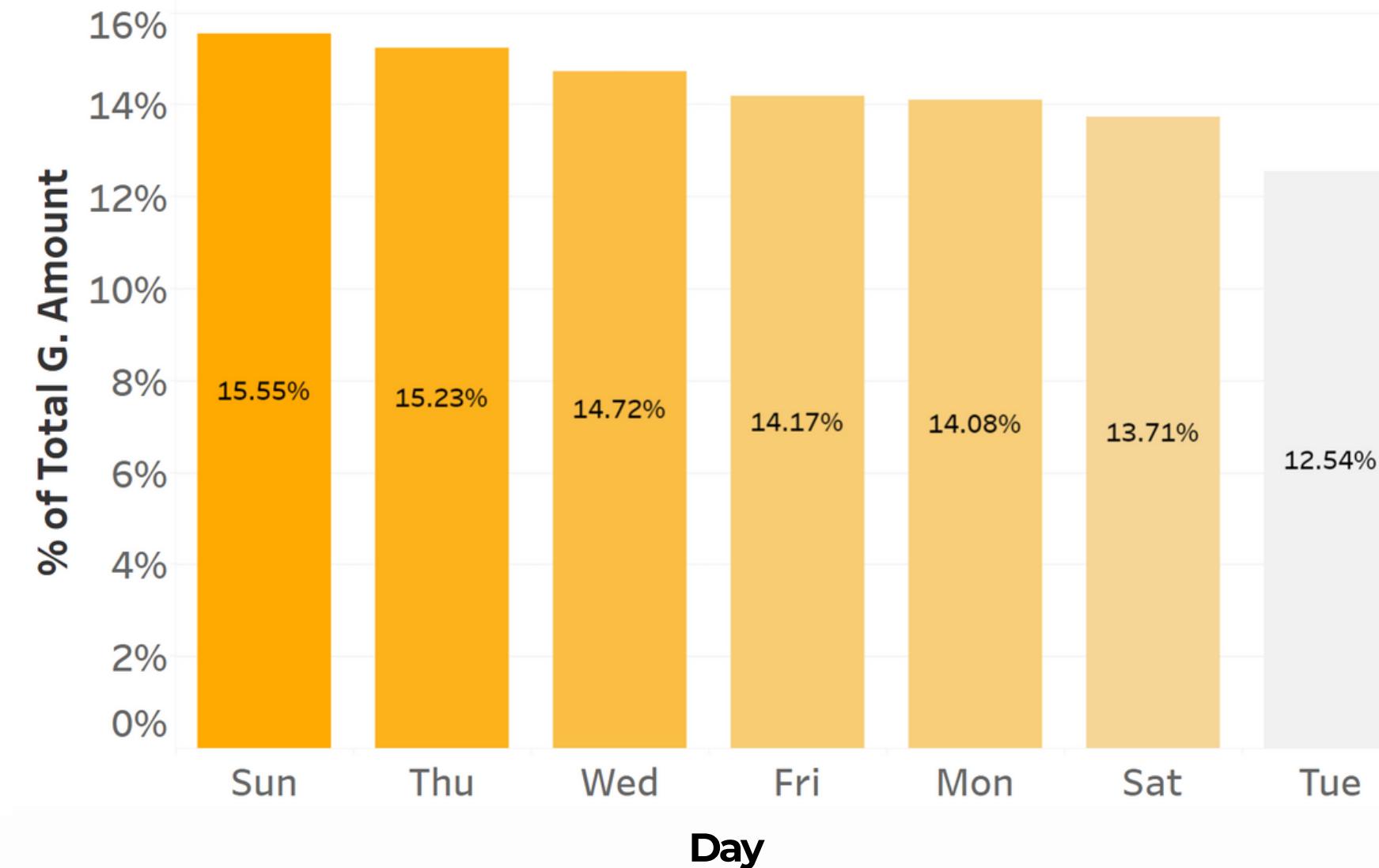
Line chart shows the trend in data over time

Volume & Revenue Trend over Time

Quarterly Revenue Growth Rate



Weekly Revenue % distribution

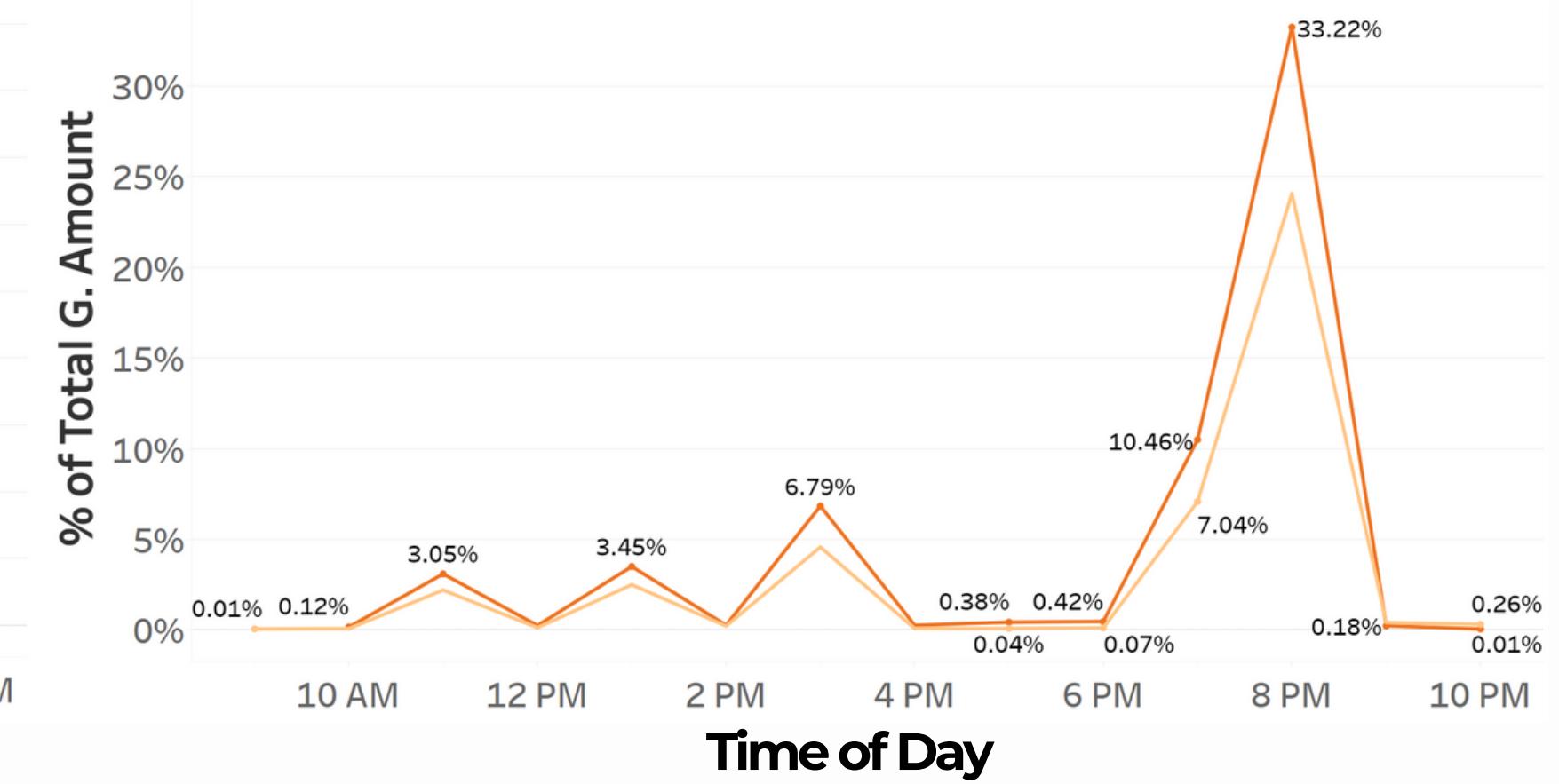
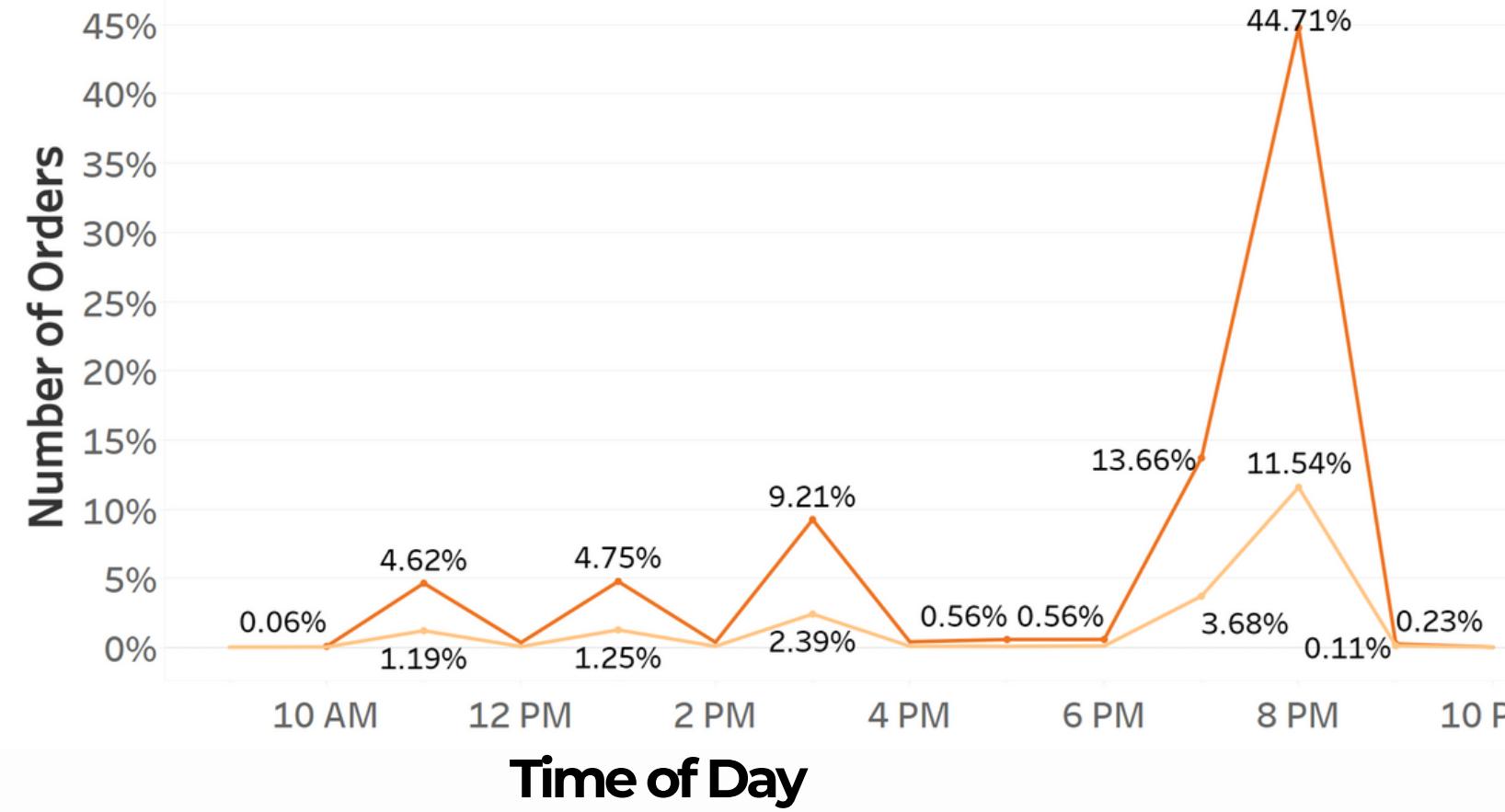


Observations

The revenue generated over quarters has increased.
Still Revenue % on Fri and Sat are less as expected.

Bar Chart is used to compare data across categories or tracking changes over time

Order Frequency & Revenue by Time of Day



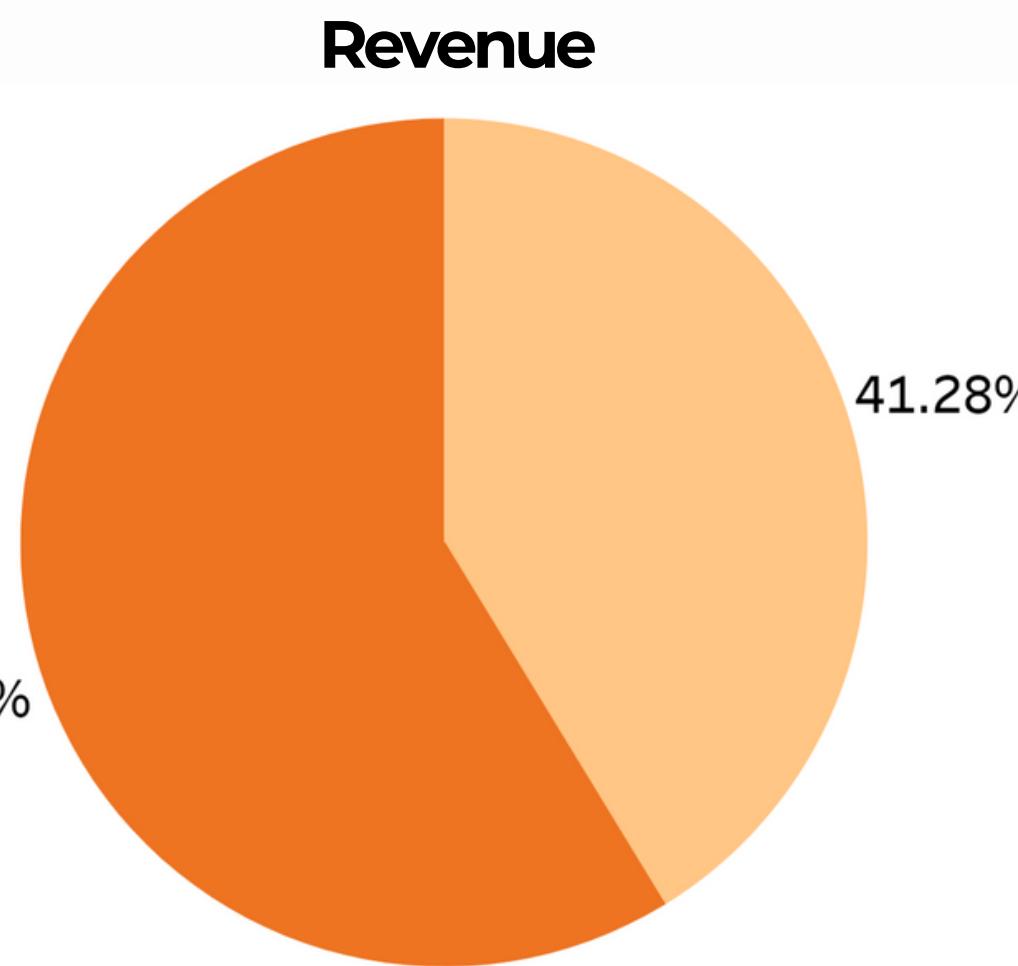
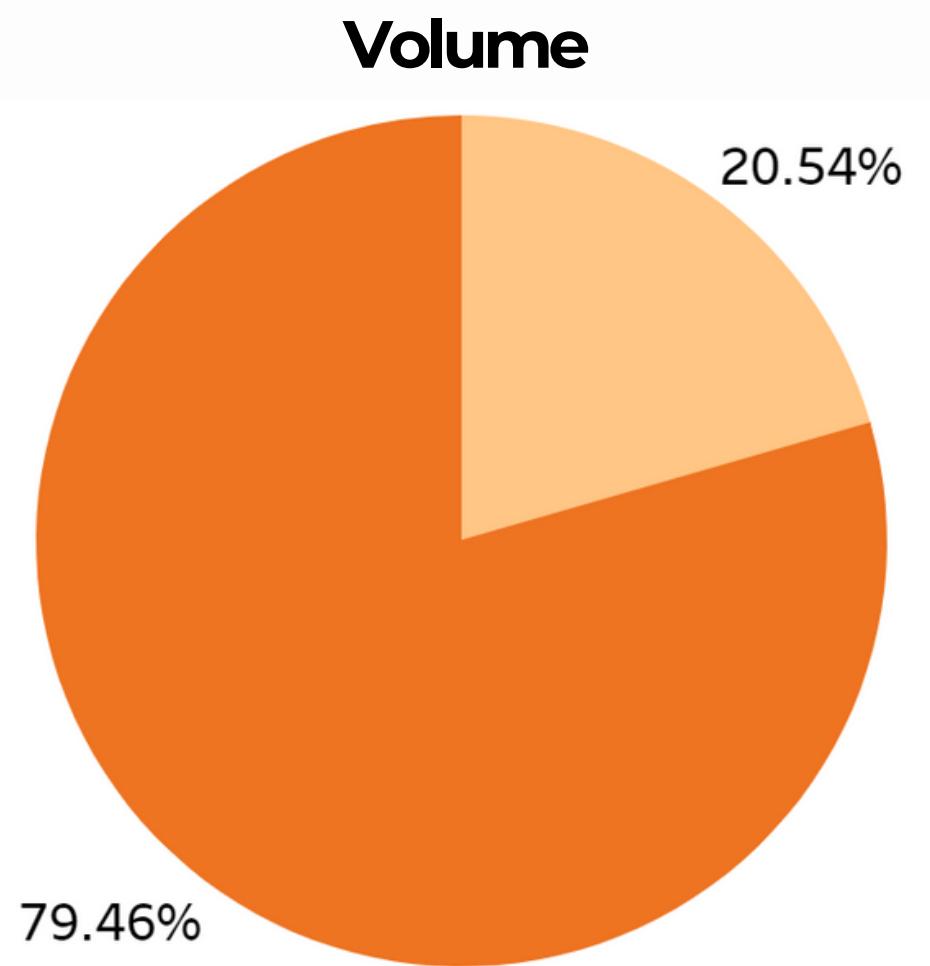
Observations

The highest number of orders are placed between 7-9 PM. This suggests the need for developing targeted strategies and promotions during this time interval to maximize sales and customer engagement.

Line chart shows the trend in data over time



Order Type Distribution



Observations

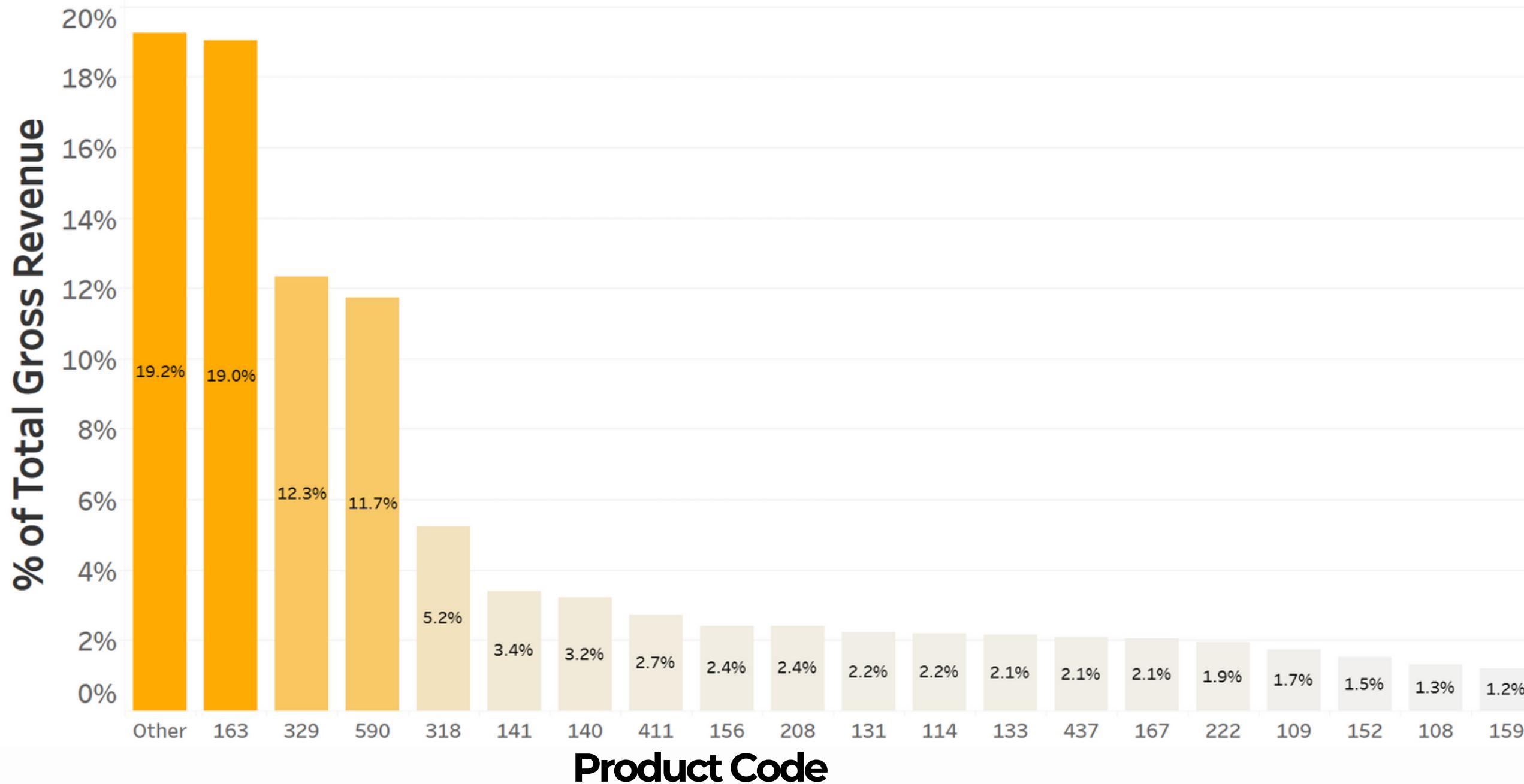
The chart shows that online delivery orders account for approximately 20% of the total number of orders but contribute to around 40% of the revenue. This indicates that online orders have a higher average order value and result in a more significant revenue impact.

- Order Type**
- Online Delivery
 - Take Away

- Average Revenue per Order**
- Online Delivery: Rs. 753.6
Take Away: Rs. 277.1

Pie Chart display the proportion or percentage of different parts to the whole

PARETO ANALYSIS OF REVENUE BY



Observations

The top 20% of products contribute to approximately 80% of the total revenue. In contrast, the "Other" 80% of products only generate around 20% of the revenue.

Pareto Chart or 80/20 rule Shows major contributors and identified areas of focus



Discount % Vs Quantity Sold

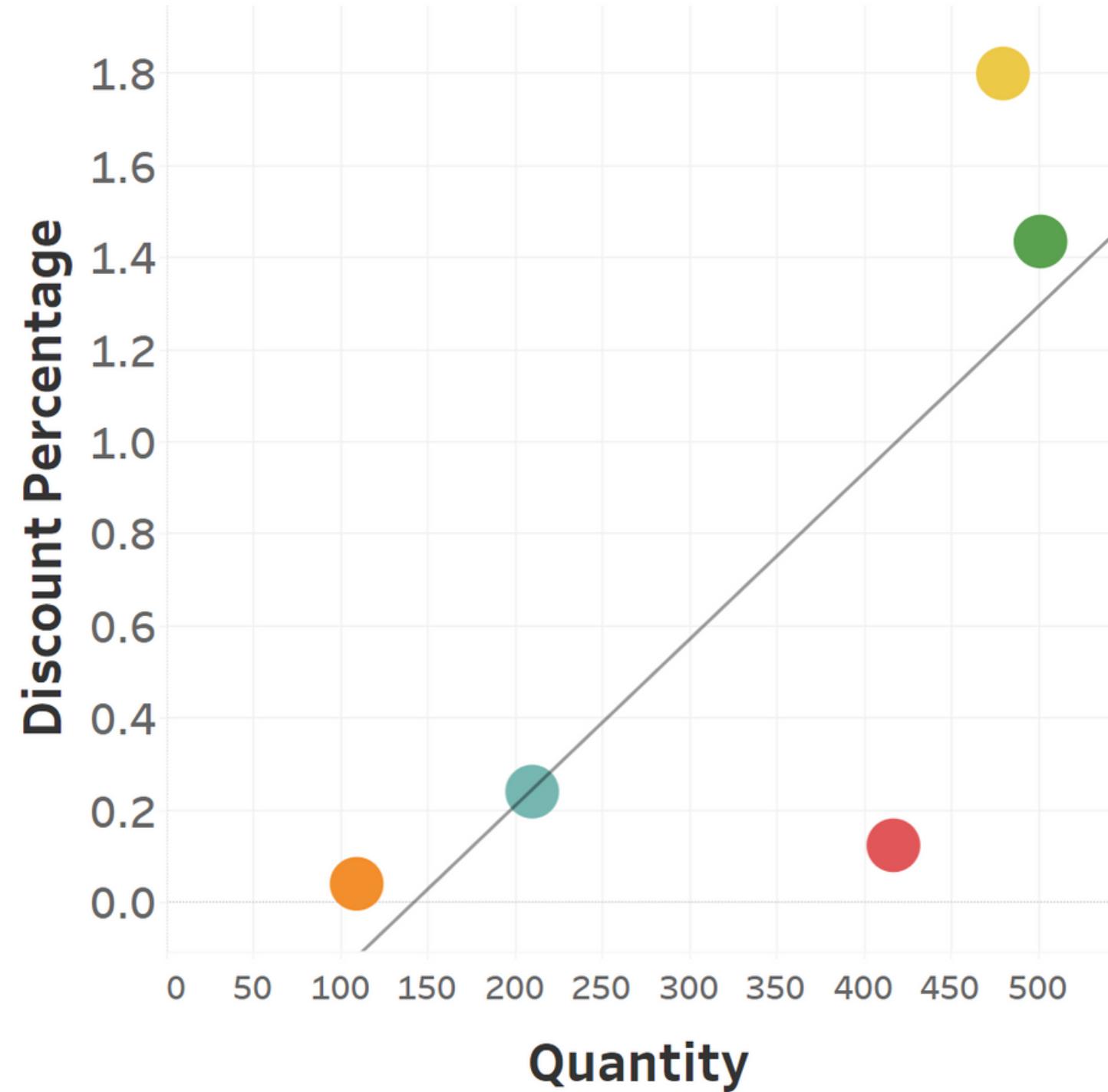
Observations

The analysis reveals a positive correlation between discount percentage and quantity sold for the top 5 revenue-generating items. Therefore putting discounts on these products may yield high revenue.



Top and other

- GHEVAR
- KAJU BARFI
- KHOYA BARFI
- LADDU MOTICHUR
- SOAN PAPDI



Scatter Chart shows the relationship between two numeric variables using dots

RECOMMENDATIONS

Objective I: Analyzing the Viability of the Sweet Shop

- Capitalize on Festive Seasons
- Enhance Weekend Sales
- Target Peak Hours

Objective II: Optimizing Sales Channels: Online Delivery vs. Offline Takeaway

- Enhance the Online Delivery Experience
- Customer Database and Loyalty Programs for Takeaway

Objective III: Product Portfolio Optimization for Revenue Generation

- Product Assortment Optimization: Focus of top 20% Products
- Discount and Promotional Strategies
- Continuous Quality Control
- Customer Feedback and Analysis

THANK YOU

