EXPLORATORY DATA ANALYSIS

1. Overview

The purpose of this analysis was to explore the customer and order data to identify trends, patterns, and anomalies. The dataset included details about customer locations, order statuses, and delivery timelines. The findings presented here are based on a detailed visual and statistical examination of the data.

2. Key Findings

Order Status Analysis

- The majority of orders were successfully delivered, indicating a strong fulfillment process.
- Canceled and pending orders were comparatively few, suggesting limited disruptions in operations.

Customer Distribution

- Customers are concentrated in certain key regions.
- Major cities and states contributed the highest number of orders, highlighting core markets for business focus.

Delivery Performance

- Average delivery duration was consistent, with most orders delivered within the expected timeframe.
- A small number of outliers indicated occasional delays, which could highlight potential logistical issues.

Trends Over Time

- Orders displayed noticeable seasonal or monthly trends.
- Certain months experienced higher order volumes, suggesting peak demand periods.

Relationships and Correlations

- Analysis revealed relationships between delivery times and order statuses.
- Regions with higher order volumes sometimes experienced longer delivery times, indicating capacity constraints.
- Numerical variables such as delivery duration showed expected correlations, useful for operational planning

3. Insights

- Core markets (cities and states with highest orders) should be prioritized for marketing and logistics improvements.
- Monitoring delivery outliers can help reduce delays and improve customer satisfaction.
- Seasonal demand patterns can inform inventory planning and staffing requirements.
- Correlations between order metrics can guide better operational decisions, such as optimizing delivery routes.