Data Analysis Report

Project : Amazon Sales Report Analysis

Problem Statement:
Analyze and Provide Insights on Amazon Sales Report

Problem Description:
The provided dataset contains information about sales transactions on Amazon, including details such as order ID, date, status, fulfillment method, sales channel, product category, size, quantity, amount, shipping details, and more. The objective is to conduct a comprehensive analysis of the data and extract capable insights to support business decision-making.

Key Objectives:

1. Product Analysis: Analyze the distribution of product categories, sizes, and quantities sold to identify popular products.

2. Fulfillment Analysis: Investigate the fulfillment methods used and their effectiveness in delivering orders.

3. Customer Segmentation: Segment customers based on their buying behavior, location, and other relevant factors.

4. Geographical Analysis: Explore the geographical distribution of sales, focusing on states and cities.

5. Sales Overview: Understand the overall sales performance, trends, and patterns over me.
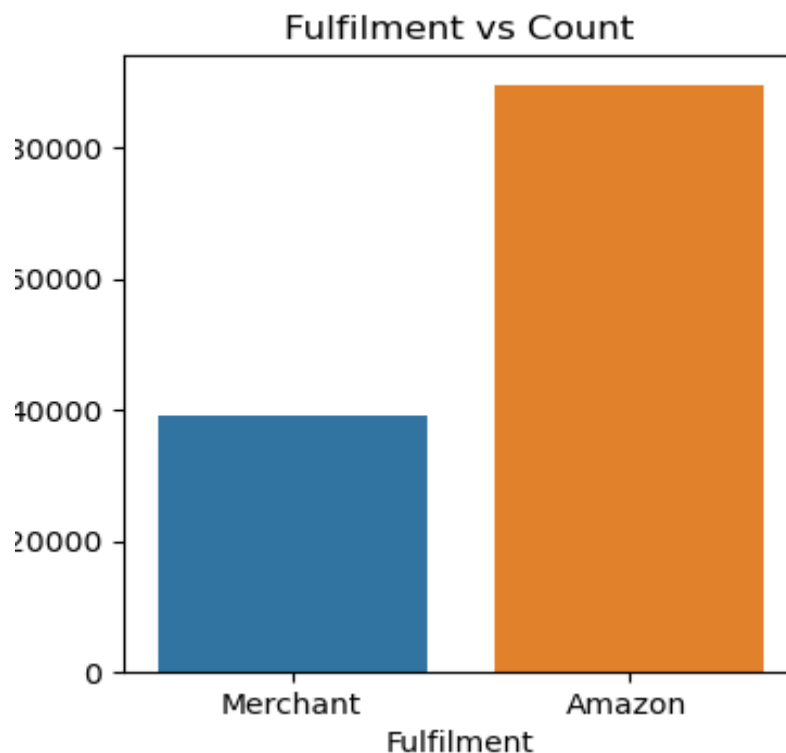
Product Analysis:

In this product analysis, we examine the sales performance of various products, including T-shirts, Shirts, Blazers, Trousers, Perfumes, Wallets, Socks, Shoes, and Watches. The analysis reveals that T-shirts and Shirts are the top-performing products, with sales figures of 50,292 and 49,877 units, respectively. Blazers and Trousers also show significant sales, with 15,500 and 10,616 units sold. However, the sales for Perfumes, Wallets, Socks, Shoes, and Watches are considerably lower, with Perfume sales at 1,157 units, Wallets at 926 units, Socks at 440 units, Shoes at 165 units, and Watches at only 3 units. This analysis highlights the popularity of clothing items, especially T-shirts and Shirts, while accessories such as Watches and Shoes have a much smaller market share. The insights from this analysis can help inform inventory decisions, marketing strategies, and product focus areas to optimize sales and meet consumer demand effectively.
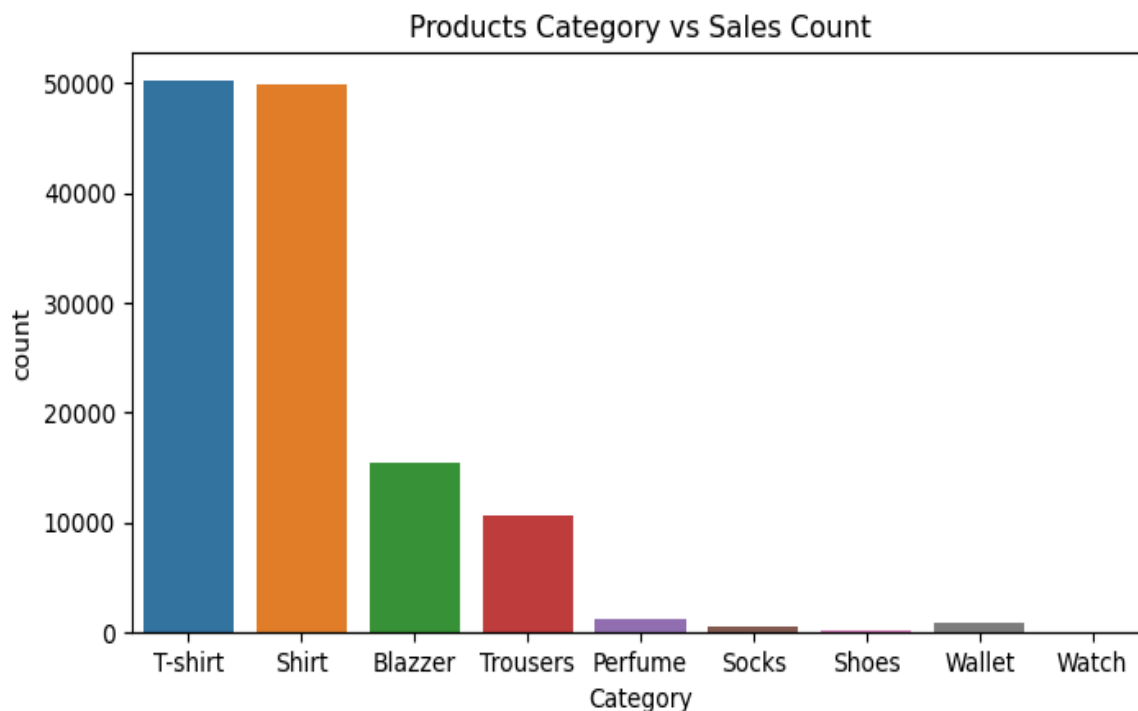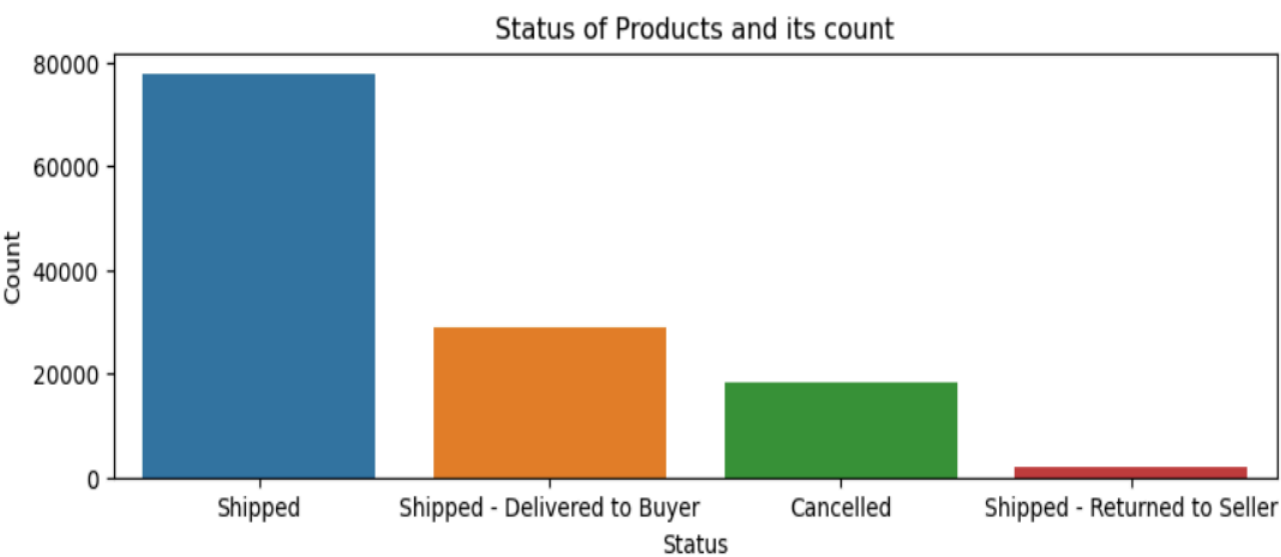
Fulfillment Analysis:

The fulfillment analysis indicates a significant reliance on Amazon for order processing, with the platform handling over 80,000 fulfillments, showcasing its efficiency and extensive reach. In contrast, merchant fulfillment accounts for nearly 40,000 orders, reflecting a smaller but still notable segment of the overall fulfillment landscape. This disparity highlights Amazon's dominance in the market, likely due to its robust logistics network and customer trust. Understanding these fulfillment dynamics is crucial for strategic planning, as it underscores the importance of leveraging Amazon's capabilities while also recognizing the value of merchant fulfillment in diversifying supply chain options and enhancing customer satisfaction.

Fulfilment vs Count

Order Cancellation Analysis:

The analysis reveals a concerning ratio of order cancellations to products delivered, with a rate of 0.64. This indicates that for every 100 orders successfully delivered to customers, approximately 64 are subsequently canceled. Such a high cancellation rate poses significant challenges for inventory management, customer satisfaction, and overall operational efficiency. It suggests potential issues in order fulfillment processes, product quality, or customer expectations. Addressing this problem is crucial for improving customer retention and reducing operational costs, necessitating a thorough investigation into the underlying causes of these cancellations and the implementation of targeted strategies to mitigate them.

Status of Products and its count

Order Cancellation Analysis by Fulfillment Type

Our analysis of order cancellations based on fulfillment methods reveals a significant disparity in cancellation rates. Specifically, the percentage of orders canceled during merchant fulfillment is notably higher compared to those fulfilled by Amazon. This suggests that orders fulfilled by merchants

are more prone to cancellation, which may stem from issues such as inventory inaccuracies, fulfillment delays, or product quality concerns. Understanding this trend is essential for optimizing fulfillment strategies and enhancing customer satisfaction. By addressing the challenges associated with merchant fulfillment, we can work towards reducing cancellation rates and improving overall order reliability across the board.
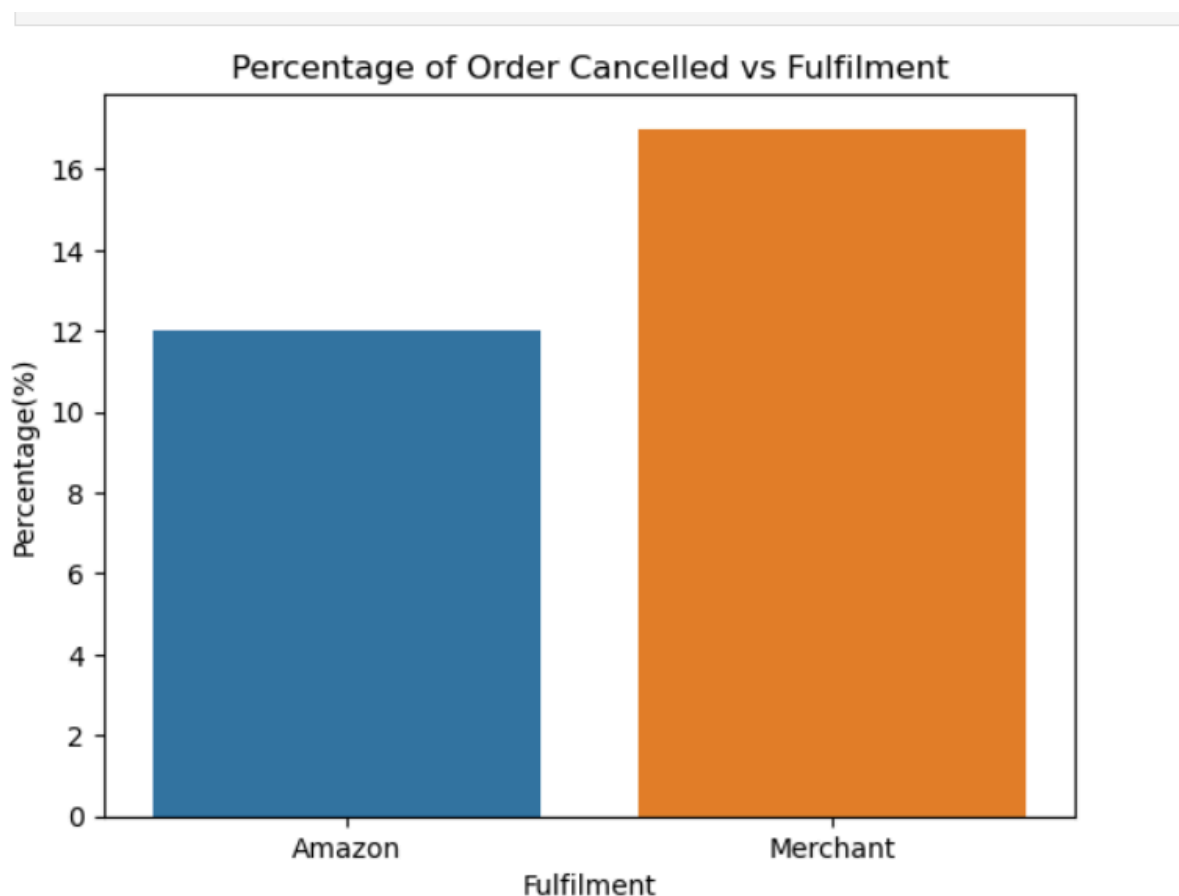
Ship-Service-Level Analysis

The analysis of ship-service levels reveals a concerning trend: the count of orders canceled is significantly higher for expedited service compared to standard service. This indicates that, despite the expectation of faster delivery, expedited orders are more prone to cancellations, potentially due

to factors such as logistical challenges, fulfillment errors, or customer dissatisfaction. This insight highlights the need for a closer examination of expedited fulfillment processes to identify underlying issues and improve reliability. By addressing these challenges, we can enhance the customer experience and reduce cancellation rates across all service levels.
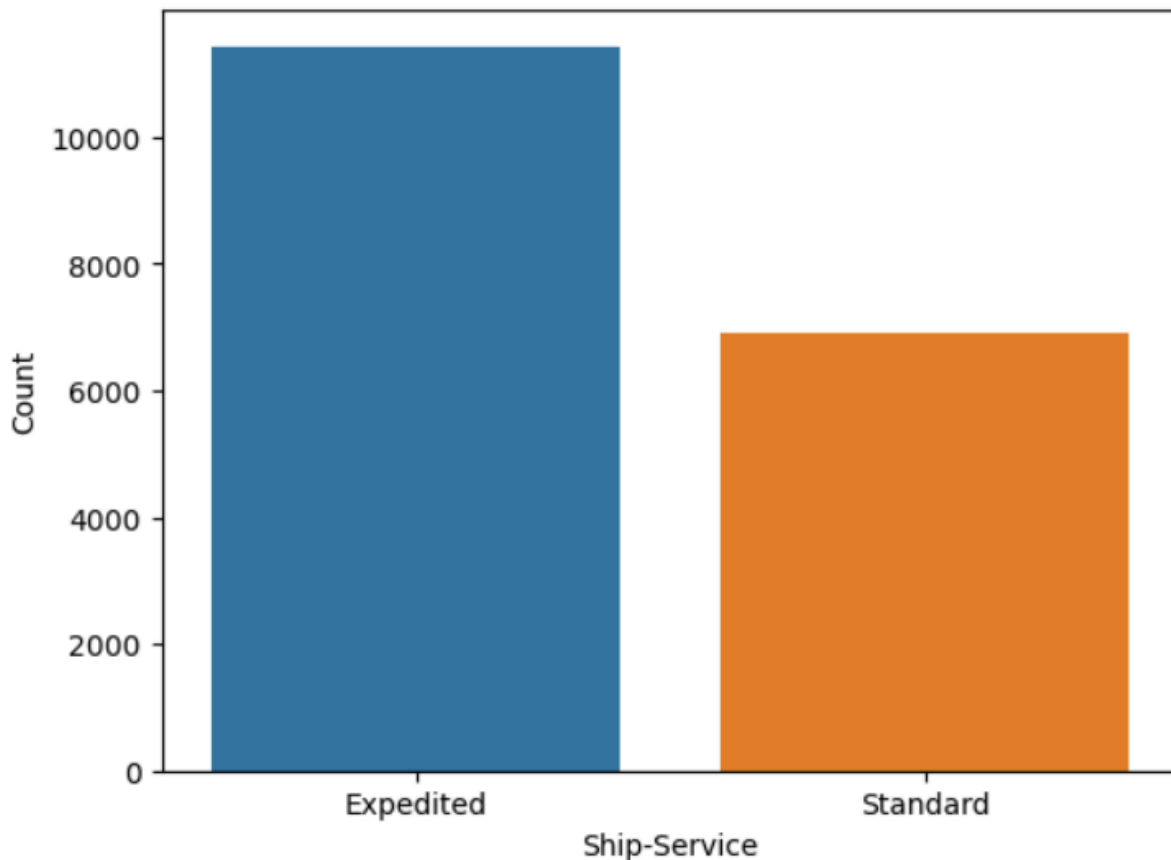
Geographical Analysis

The geographical analysis presents a detailed overview of sales performance across different states, highlighting the top 10 states with the highest sales as well as those with the lowest sales. This analysis is visually represented in a plot, making it easy to identify trends and disparities in sales distribution. The top-performing states exhibit strong market presence and consumer engagement, while the states with minimal

sales may indicate areas with potential growth opportunities or market challenges. Understanding these geographical dynamics is crucial for targeted marketing strategies and resource allocation, enabling the business to focus on regions that can drive higher sales and address issues in underperforming areas effectively.

Top 10 State with most Orders

Top 10 State with least Orders
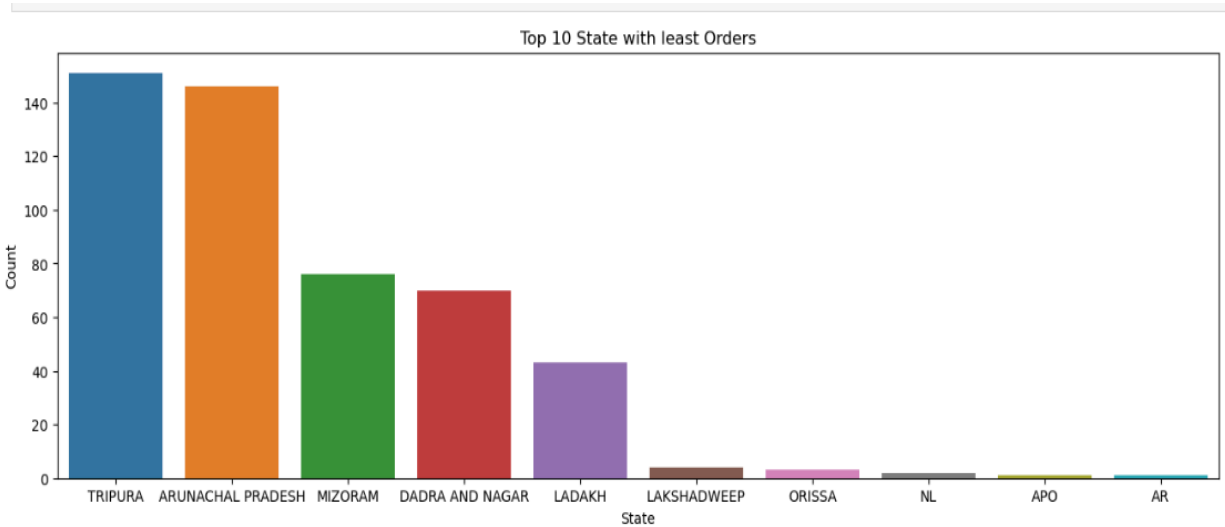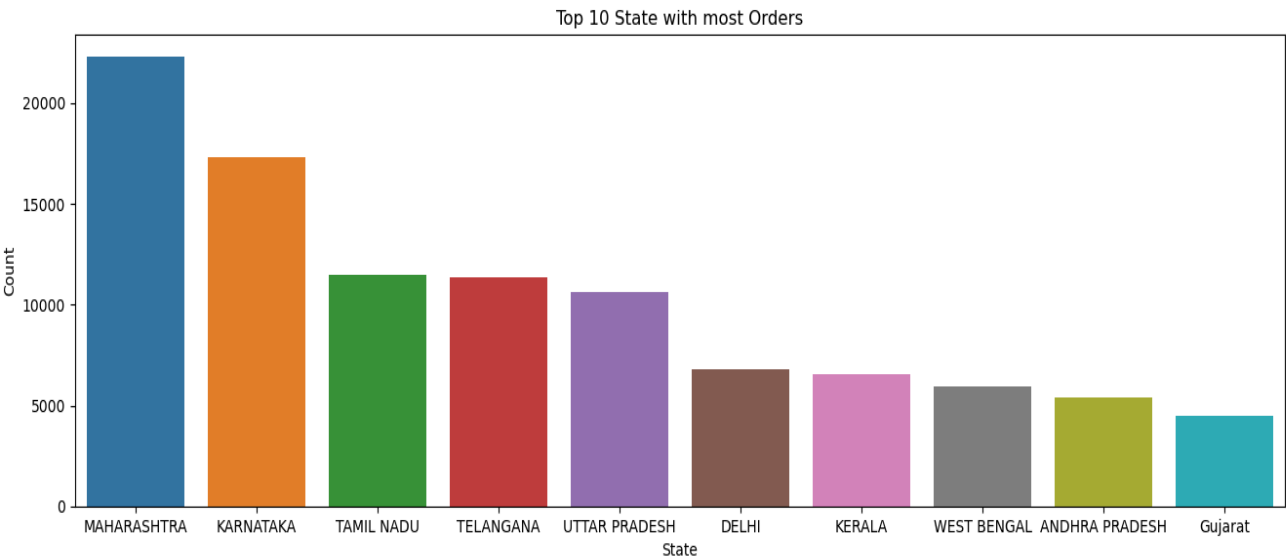
Sales Overview

In the sales overview for the year 2022, it is evident that there is very limited data available for March, indicating a potential gap in sales activity

during that month. However, from April onward, sales figures show a significant improvement, reflecting positive market engagement. Unfortunately, this upward trend is followed by a noticeable decline in sales during May and June, suggesting possible seasonal fluctuations or external factors affecting demand. This pattern underscores the importance of continuous monitoring and analysis to identify the causes of these sales variations, allowing for strategic adjustments to optimize performance throughout the year.

Month vs Sales of Year 2022