Amazon Sales Report Analysis

Project ID: 78G0OL

Problem Statement

Analyze and provide actionable insights on Amazon Sales Report data to support business decision-making.

Problem Description

The 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 goal is to perform a comprehensive analysis to extract actionable insights.

Datasets

- Datasets:

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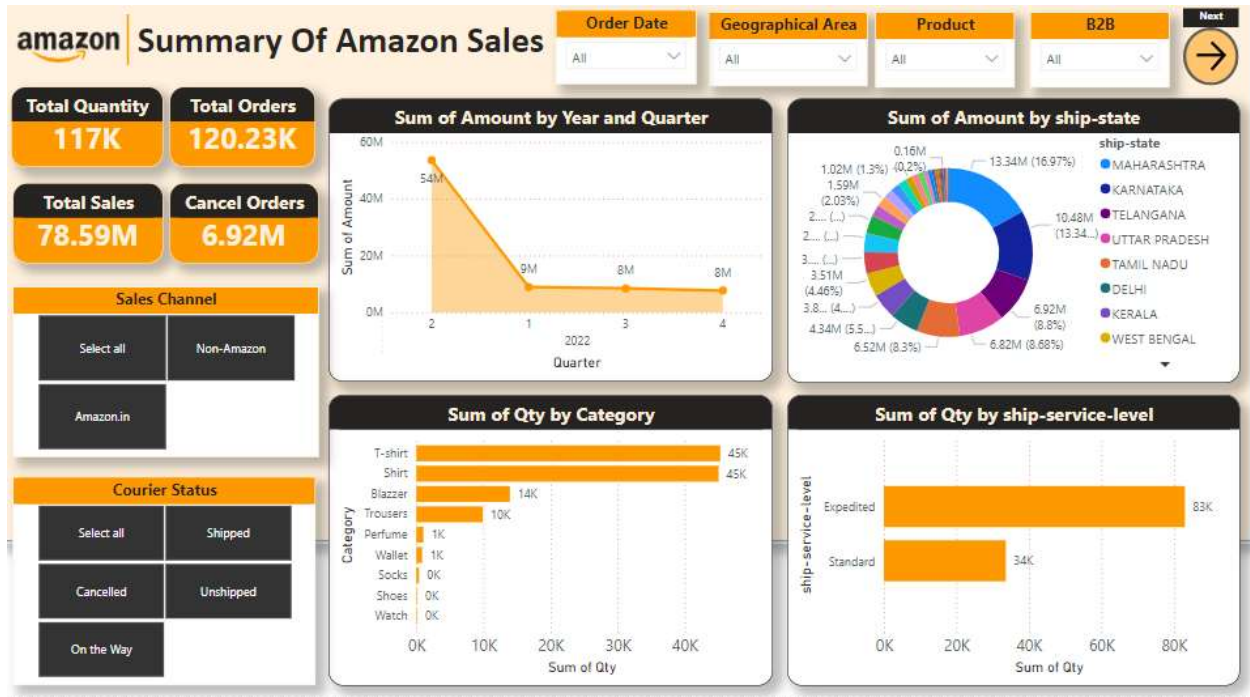

Fig. 1 – Home Page

Power BI dashboard summarizing Amazon sales data. The dashboard includes various metrics and visualizations, such as:

- **Total Quantity**, **Total Orders**, **Total Sales**, and **Cancel Orders** in the top-left section.
- **Sales Channel** and **Courier Status** filters to refine the data.
- **Sum of Amount by Year and Quarter** showing sales over time.
- **Sum of Amount by Ship-State** in a pie chart highlighting the distribution of sales across different states.
- **Sum of Quantity by Category** breaking down sales quantities by product categories.
- **Sum of Quantity by Ship-Service-Level** showing the distribution between expedited and standard shipping.

1. Sales Overview

Objective

Understand the overall sales performance, trends, and patterns over time.

Analysis

- **Total Orders**: 120.23K
- **Total Quantity**: 117K
- **Total Sales**: $78.59M
- **Cancel Orders**: $6.92M
- **Pending**: 430.27K
- **Rejected**: 7.30K
- **Returned**: 1.38M
- **Lost In Transit**: 2.00K

Key Insights

- A clear sales peak in February 2022, followed by a decline, which might be due to seasonal trends.
- The cancellation and return rates indicate areas where customer satisfaction might be improved.
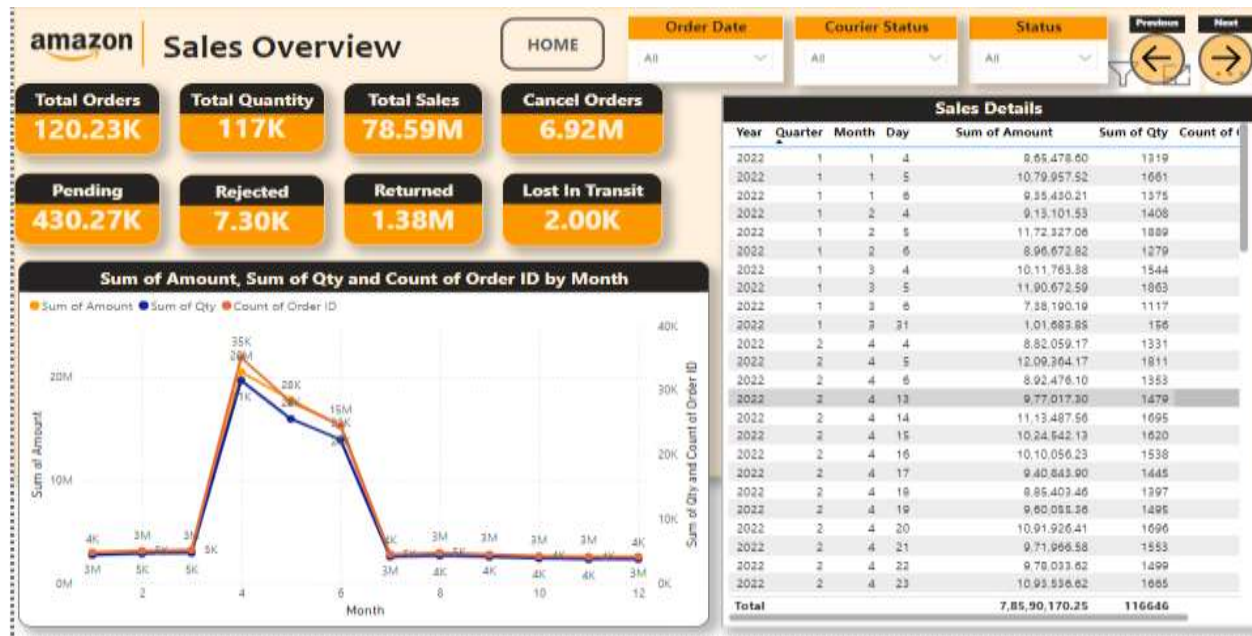
Visualizations

Fig. 2 – Sales Overview

This is another Power BI dashboard showing a detailed "Sales Overview" for Amazon. Here's what this dashboard includes:

- **Top Metrics**:
  - **Total Orders**, **Total Quantity**, **Total Sales**, and **Cancel Orders** are consistent with the previous dashboard.
  - Additional metrics like **Pending**, **Rejected**, **Returned**, and **Lost in Transit** are shown, giving insights into various order statuses.

- **Trend Chart**:
  - A line chart displaying the **Sum of Amount**, **Sum of Quantity**, and **Count of Order ID by Month**. This visualizes trends over time, highlighting significant peaks and troughs in sales data.

- **Sales Details Table**:
  - A detailed table on the right side lists sales data by **Year**, **Quarter**, **Month**, and **Day**, along with corresponding **Sum of Amount**, **Sum of Quantity**, and **Count of Order ID**.

- **Filters**:
  - Filters for **Order Date**, **Courier Status**, and **Status** to further refine the data.

2. Product Analysis

Objective

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

Analysis

- **Top 3 Products**: Blazers, Shirts, T-shirts
- **Bottom 3 Products**: Shoes, Socks, Watches
- **Total Categories**: 9
- **Sum of Amount by Category**:
  - T-shirts account for 49.89% of total sales, making it the most significant category.
  - Shoes and Watches are underperforming categories.

Key Insights

- Focus marketing and inventory on T-shirts and Blazers.
- Investigate reasons for low sales in Shoes and Watches to improve performance.
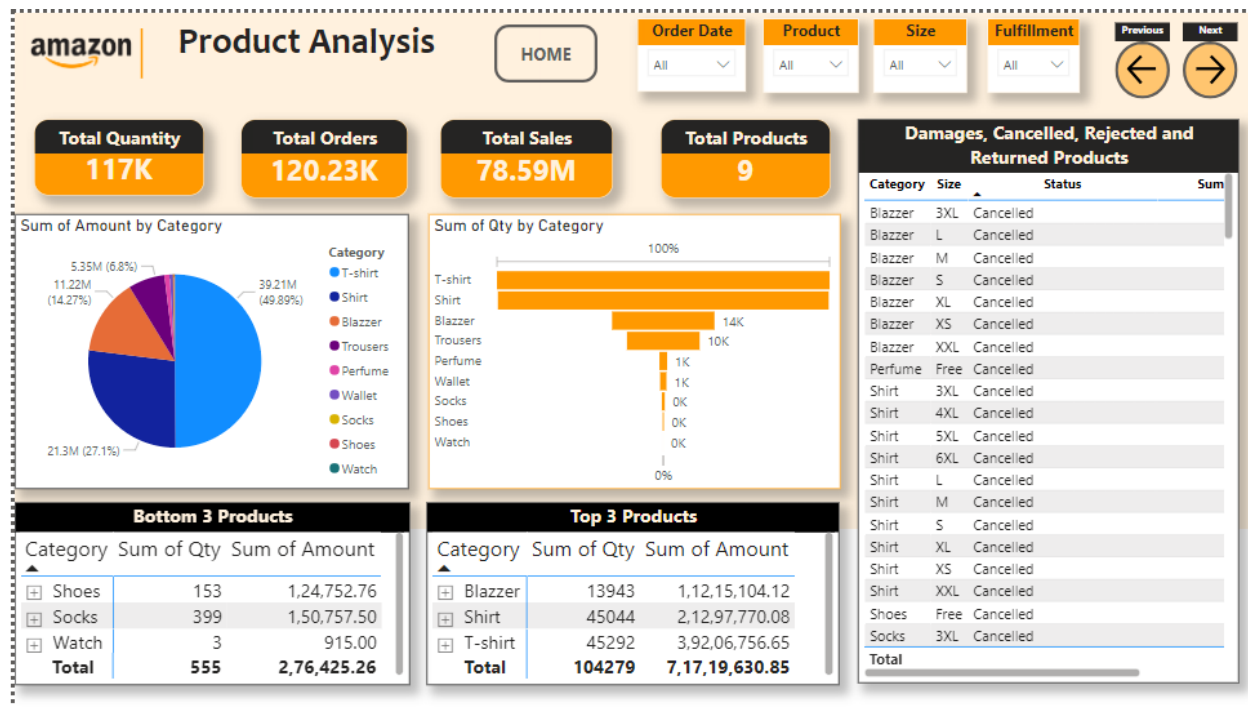
Visualizations

Fig. 3 – Product Analysis

This Power BI dashboard titled **"Product Analysis"** provides insights into product performance and issues related to damages, cancellations, rejections, and returns. Here's a breakdown of the key components:

Overview Metrics:

- **Total Quantity**, **Total Orders**, **Total Sales**, and **Total Products**: Display overall sales performance, similar to the previous dashboards, with a focus on product-related statistics.

Visualizations:

- **Sum of Amount by Category (Pie Chart)**:
  - A pie chart showing the distribution of sales amounts across different product categories.
  - **T-shirts** account for nearly 50% of sales, followed by **Trousers** and **Blazers**.
- **Sum of Quantity by Category (Bar Chart)**:
  - A bar chart that shows the quantity of products sold in each category. **T-shirts** and **Shirts** lead the sales quantity.

Detailed Tables:

- **Bottom 3 Products**:

- Lists the three products with the lowest sales in terms of quantity and amount: **Shoes**, **Socks**, and **Watches**.

- **Top 3 Products**:
  - Shows the three best-performing products: **Blazers**, **Shirts**, and **T-shirts**.

- **Damages, Cancelled, Rejected, and Returned Products**:
  - A table that details issues with products, including size, status, and the sum associated with each problem category. It appears that **Blazers** and **Shirts** have a high rate of cancellations across various sizes.

Filters:

- **Order Date**, **Product**, **Size**, and **Fulfillment** filters are available to further refine the data for analysis.

3. Fulfillment Analysis

Objective

Investigate the fulfillment methods used and their effectiveness in delivering orders.

Analysis

- **Fulfillment by Service Level**:
  - Expedited: 83K (preferred by the majority of customers).
  - Standard: 34K.

Key Insights

- Expedited shipping is preferred by a large margin, indicating a need to ensure its availability and efficiency.

Visualizations

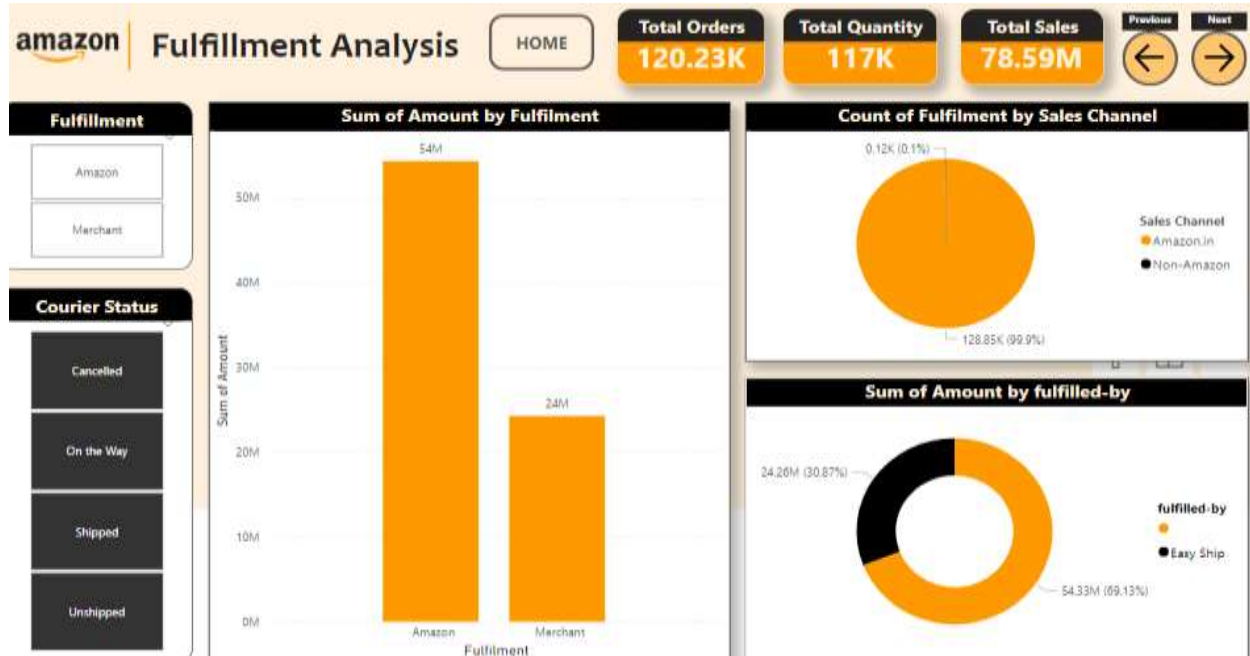
Fig. 4 – Fulfillment Analysis

The dashboard displays various metrics and visualizations, including:

- **Total Orders**: 120.23K
- **Total Quantity**: 117K
- **Total Sales**: 78.59M

Key Visualizations:

1. **Sum of Amount by Fulfillment**:
   - Amazon: 54M
   - Merchant: 24M

2. **Count of Fulfillment by Sales Channel**:
   - Amazon.in: 128.85K (99.9%)
   - Non-Amazon: 0.12K (0.12%)

3. **Sum of Amount by Fulfilled-by**:
   - Fulfilled-by: 24.26M (30.87%)
   - Easy Ship: 54.33M (69.13%)

Sidebar Options:

- **Fulfillment**: Option to choose between Amazon and Merchant.

- **Courier Status**: Options include Cancelled, On the Way, Shipped, Unshipped

4. Customer Segmentation

Objective

Segment customers based on their buying behavior, location, and other relevant factors.

Analysis

- **Top States by Sales**:

  o Maharashtra: 16.97%

  o Karnataka: 13.88%

  o Telangana: 12.31%

- Segmentation shows that certain regions contribute significantly more to sales.

Key Insights

- Tailored marketing campaigns can be more effective in high-sales regions like
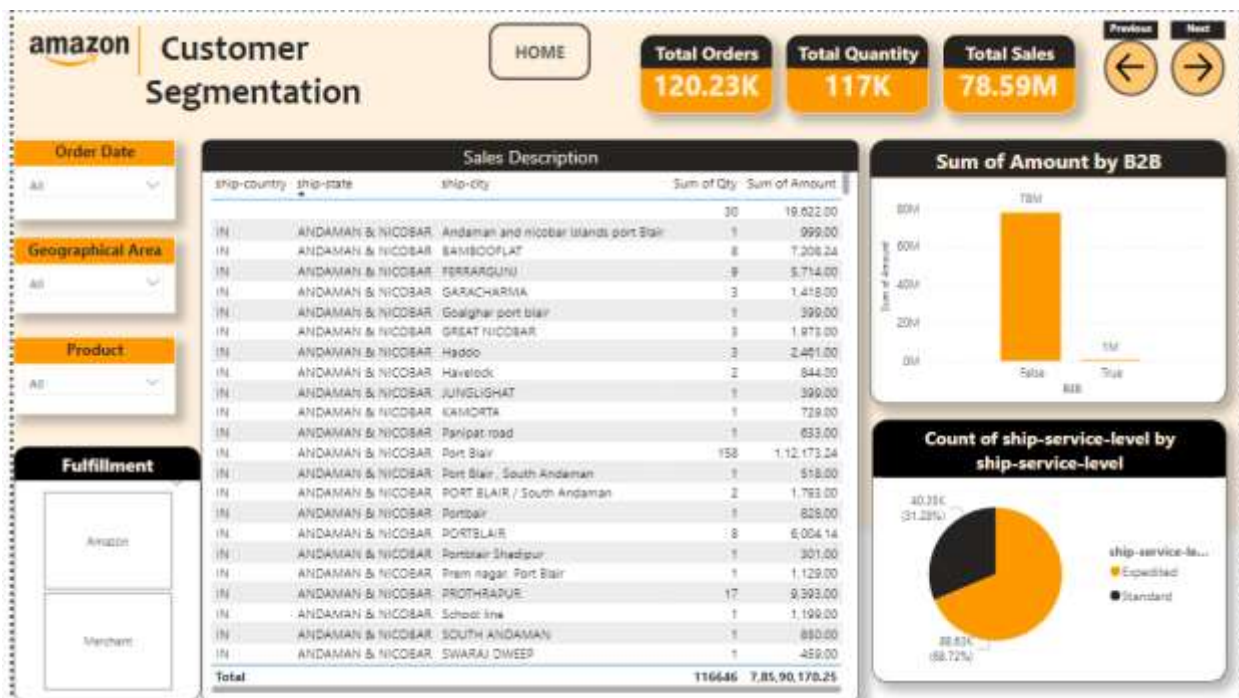 Maharashtra and Karnataka.

Visualizations

Fig. 5 – Customer Segmentation

Dashboard focused on **Customer Segmentation** for Amazon. Here's an overview of the information displayed:

Key Metrics:

- **Total Orders**: 120.23K
- **Total Quantity**: 117K
- **Total Sales**: 78.59M

Key Visualizations and Data:

4. **Sales Description Table**:
   - Lists different regions in Andaman & Nicobar, with columns for ship-country, ship-state, ship-city, Sum of Qty, and Sum of Amount.
   - For example, Andaman and Nicobar Islands Port Blair has a quantity of 30 and a sales amount of 19,622.

5. **Sum of Amount by B2B**:
   - B2B (False): 78M
   - B2B (True): 1M

6. **Count of Ship-Service-Level by Ship-Service-Level**:
   - Standard: 68.72% (88.63K)
   - Expedited: 31.28% (40.35K)

Sidebar Filters:

- **Order Date**: Filter options for different dates.
- **Geographical Area**: Filter options for different regions.
- **Product**: Filter options for different products.
- **Fulfillment**: Options to choose between Amazon and Merchant.

5. Geographical Analysis

Objective

Explore the geographical distribution of sales, focusing on states and cities.

Analysis

- **Sum of Amount by Ship-State**: Major sales come from Maharashtra, Karnataka, and Telangana.

Key Insights

- Inventory and marketing strategies should focus more on high-performing states to maximize revenue.
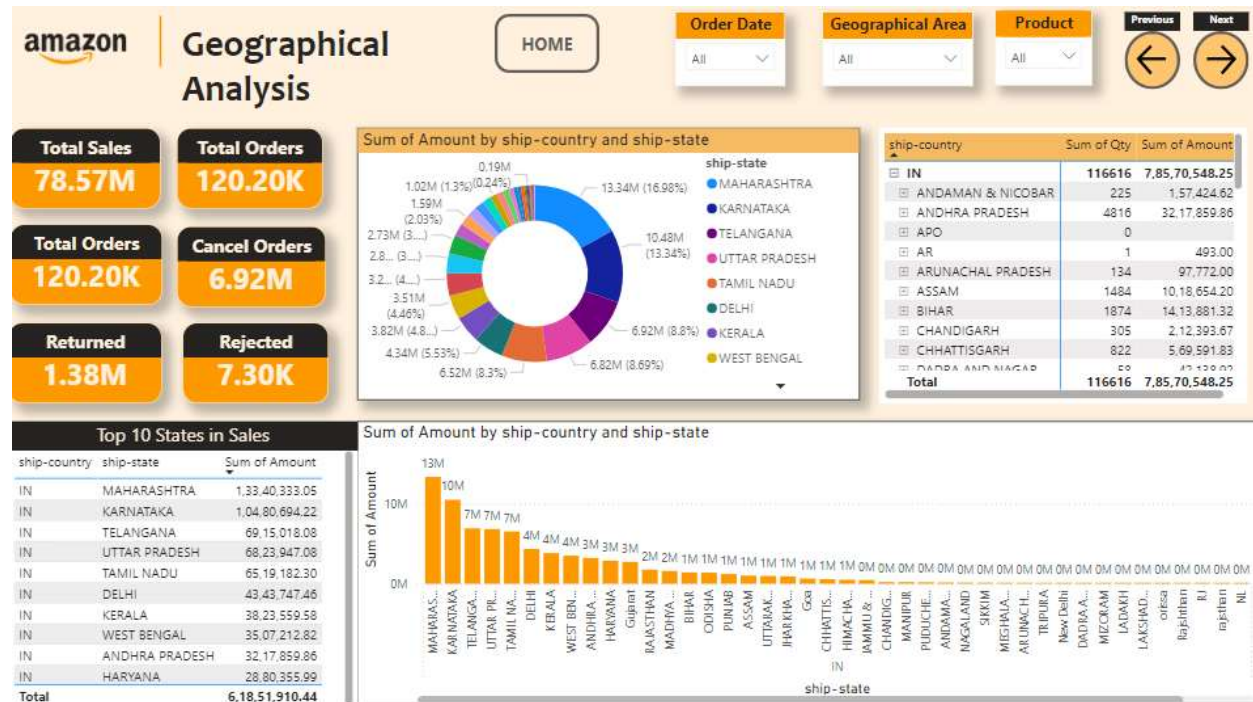
Visualizations

Fig. 6 – Geographical Analysis

Geographical Analysis dashboard for Amazon, providing insights into sales performance across various regions. Here's a detailed breakdown of the information presented:

Key Metrics:

- **Total Sales**: 78.57M
- **Total Orders**: 120.20K
- **Cancel Orders**: 6.92M
- **Returned**: 1.38M
- **Rejected**: 7.30K

Visualizations and Data:

7. **Sum of Amount by Ship-Country and Ship-State (Pie Chart)**:
    - Maharashtra: 13.34M (16.98%)
    - Karnataka: 10.34M (13.34%)
    - Telangana: 6.92M (8.66%)

- o   Other states follow with lesser amounts.

8. **Top 10 States in Sales**:
    - o   Maharashtra: 133,40,833.05
    - o   Karnataka: 104,80,694.22
    - o   Telangana: 69,15,045.84
    - o   Uttar Pradesh: 68,29,187.08
    - o   Tamil Nadu: 65,94,048.07
    - o   Other states are listed with their respective sales amounts.

9. **Sum of Amount by Ship-Country and Ship-State (Bar Chart)**:
    - o   A bar chart visualizing the sum of sales amount by different states, with Maharashtra leading, followed by Karnataka and Telangana.

10. **Ship-Country and Ship-State Data Table**:
    - o   Includes detailed information for various regions like Andaman & Nicobar, Andhra Pradesh, and others with the sum of quantity and sum of amount.

Sidebar Filters:

- • **Order Date**: Filter to select specific dates.
- • **Geographical Area**: Filter to select specific regions.
- • **Product**: Filter to select specific products.

Key Metrics:

- • **Total Orders**: 120.23K
- • **Total Quantity**: 117K
- • **Total Sales**: 78.59M

Key Visualizations and Data:

11. **Sales Description Table**:
    - o   Lists different regions in Andaman & Nicobar, with columns for ship-country, ship-state, ship-city, Sum of Qty, and Sum of Amount.
    - o   For example, Andaman and Nicobar Islands Port Blair has a quantity of 30 and a sales amount of 19,622.

12. **Sum of Amount by B2B**:
    - o   B2B (False): 78M

- o   B2B (True): 1M

13. **Count of Ship-Service-Level by Ship-Service-Level**:

    - o   Standard: 68.72% (88.63K)

    - o   Expedited: 31.28% (40.35K)

Sidebar Filters:

- **Order Date**: Filter options for different dates.

- **Geographical Area**: Filter options for different regions.

- **Product**: Filter options for different products.

- **Fulfillment**: Options to choose between Amazon and Merchant.

6. Business Insights

Objective

Provide actionable insights and recommendations based on the analysis to optimize sales strategies, improve customer satisfaction, and enhance overall business performance.
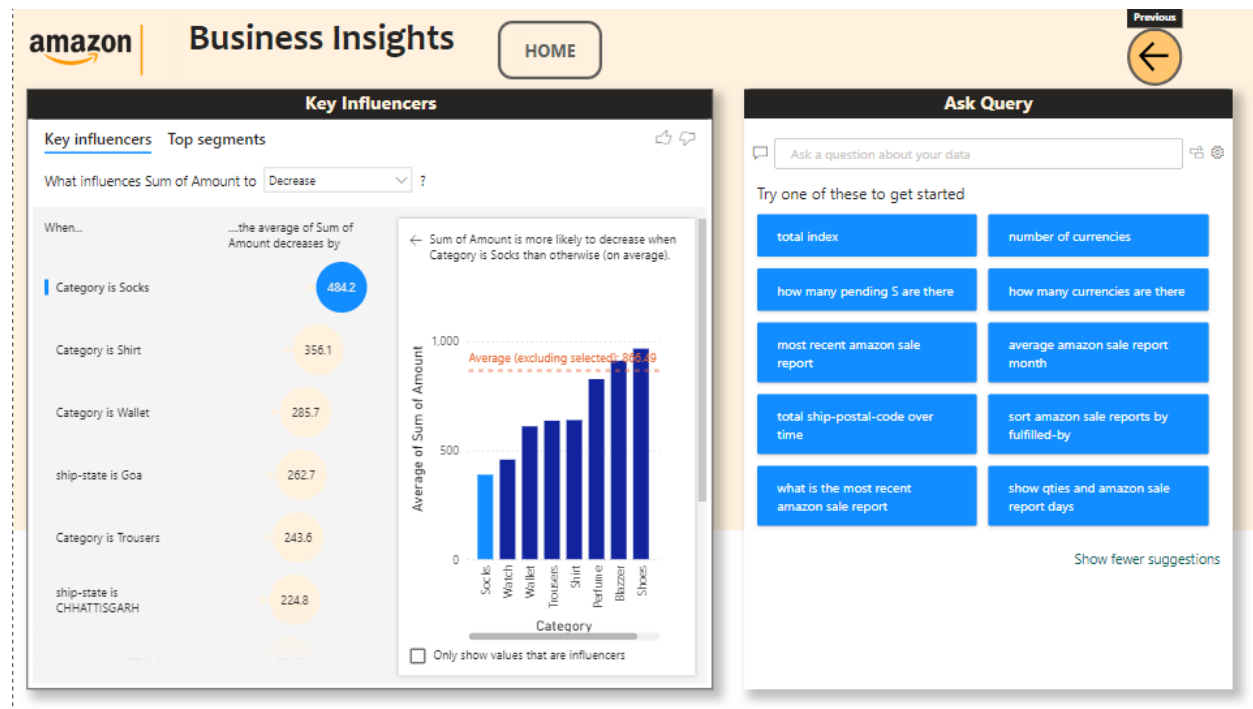
Key Insights & Recommendations

Fig. 7 – Business Insights

- **Inventory Management**: Ensure sufficient stock of popular items like T-shirts and Blazers.

- **Marketing Strategy**: Increase promotions for underperforming categories.

- **Customer Service**: Focus on reducing cancellations and returns, particularly in high-sales regions.
- **Fulfillment Optimization**: Expand and optimize expedited shipping services to meet customer demand.

Deliverables

1. **Comprehensive Analysis Report**: Summarizing key findings and insights.
2. **Visualizations**: Including charts and graphs to illustrate the analysis.
3. **Product and Customer Insights**: Detailed information on product preferences, customer behavior, and geographical sales distribution.
4. **Recommendations**: Tailored to improve sales strategies, inventory management, and customer service.