AMAZON SALES DASHBOARD

- An interactive Tableau dashboard was developed to analyze Amazon India's sales data from March to June 2022, highlighting key insights such as Maharashtra leading in sales, the "Set" category and size M driving the highest quantities sold, and a courier shipment success rate of 94%. This analysis demonstrates effective use of data visualization and KPI tracking to support data-driven business decisions.

Prepared by Arya Bhor

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Amazon Sales Dashboard – India
(Tableau Visualization Project)

1. Objectives

The objective of this project is to design an interactive Tableau dashboard to analyze and visualize Amazon's sales data in India from **March to June 2022**. The goal is to extract key performance insights related to product categories, sizes, quantities sold, and regional sales performance through various KPIs and visualizations, enabling data-driven decision-making and strategic planning.

2. Tools Used

- **Tableau:** Used to build the interactive dashboard and visualize sales trends, KPIs, and category-wise insights.
- **Excel :** Used for initial data preparation, including cleaning, formatting, and organizing the dataset for analysis.

3. Data Description

The dataset contains Amazon India sales records from **March to June 2022**, including product-level details such as quantity sold, sales amount, product size, category, courier status, week-wise sales trends, sales channel, B2B sales indicator, and state-wise distribution. The data has been structured to facilitate KPI calculation and detailed regional and category-level analysis.

4. Research Questions
- Which product categories contribute the most to Amazon India's sales volume during March to June 2022?
- How does product size impact the quantity sold across categories?
- Which states demonstrate the highest sales performance, and what might drive regional differences?
- What is the distribution of sales across different courier statuses, and how does order fulfillment affect overall sales?
- How significant is the contribution of Amazon.in as a sales channel compared to non-Amazon platforms?

5. Data Exploration

After gathering and cleaning the dataset, the next step was to explore the structure of the data and identify potential patterns. This step involved:

- Reviewing the distribution of quantities, sales amount, and product categories
- Checking for missing or inconsistent values (e.g., zero cancellations, null quantities)
- Exploring key dimensions such as size, state, category, courier status, and sales channel

Tableau visualizations used during exploration included:

- **Heat map** for state-wise quantity distribution
- **Bar charts** for quantity by size and category
- **Bar chart** for weekly quantity by category (temporal trends)
- **Bar chart** for Top 10 states by quantity and category (regional comparison)
- **Pie chart** for courier status distribution across categories
- **Bar chart** for quantity by courier status and category (delivery performance analysis)
- **Line chart** for weekly sales amount by category
- **Tables** for analyzing sales channel share and B2B vs. non-B2B sales

This exploratory process helped understand the spread and granularity of the data and guided the development of interactive visuals that highlight meaningful trends.

6. Key Performance Indicators (KPIs)

The dashboard highlights the following key metrics:

- **Total Quantity Sold:** 116,649 units
- **Total Sales Amount:** ₹78,592,678
- **Total Product Sizes:** 11
- **Total Categories:** 9
- **Total Unique Products:** 7,190

7. Dashboard Features & Visualizations

- Quantity Heat Map by State:

A geographical heat map was created to show state-wise quantity distribution. *Maharashtra* emerged as the highest-performing state in terms of sales quantity, indicating strong market engagement in the region.
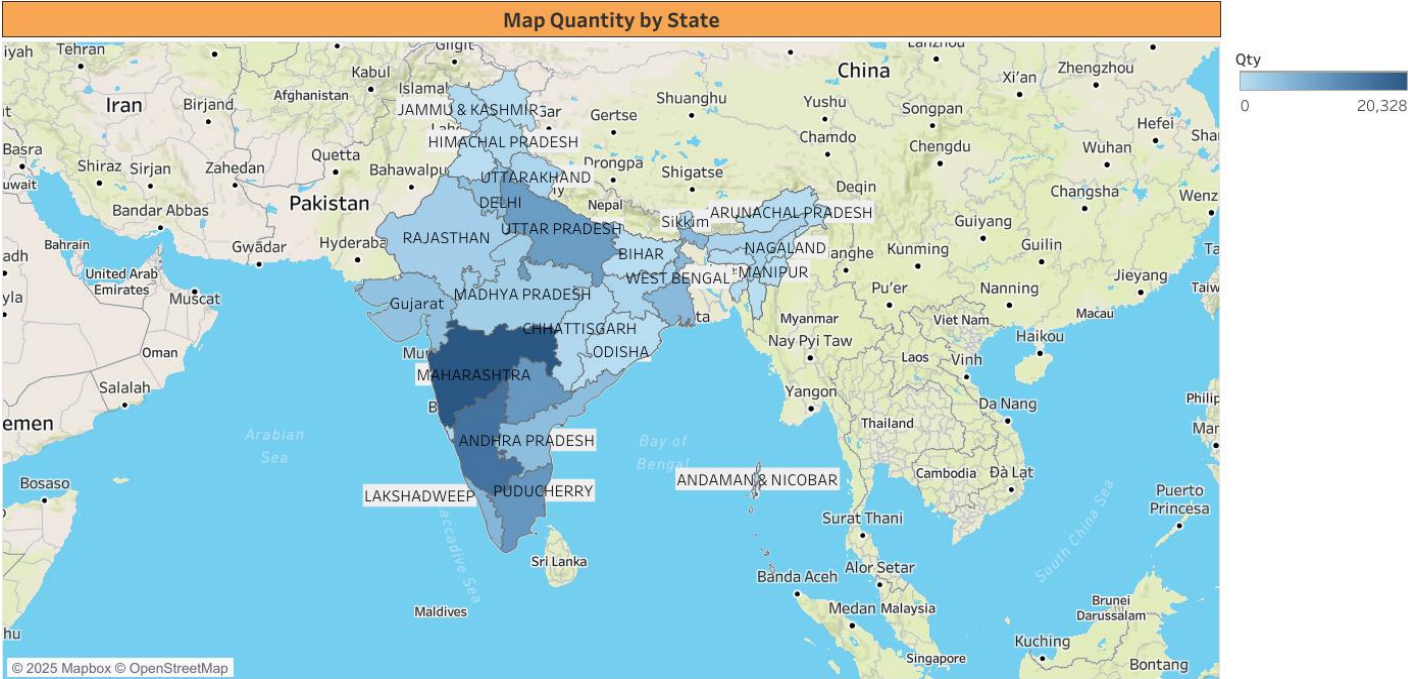
- Quantity by Size and Category:

A combined bar chart visualizing quantity sold across different sizes and categories revealed that the **'M' size** was the most frequently purchased, suggesting a common preference among customers or a wider availability.

- Courier Status & Quantity (Pie Chart):
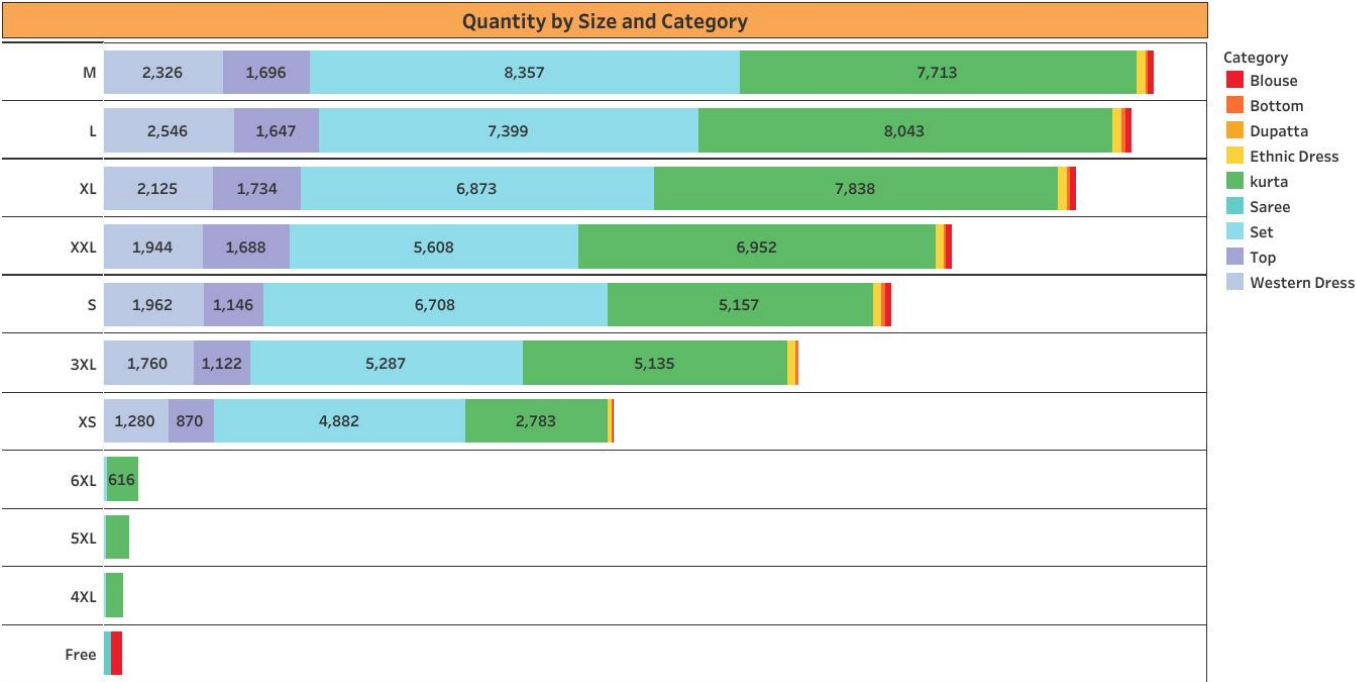
A pie chart breaks down quantity sold by courier status:

- **Shipped:** 109,896 (94.21%)
- **Unshipped:** 6,753 (5.79%)
- **Cancelled:** 0 (0%)
  This indicates a high fulfillment rate and minimal delivery issues.

- Amount by Week and Category (Line Chart):

A line chart tracks weekly sales trends across categories. The **'Set'** category consistently shows the highest sales volume over time, highlighting its popularity or high transaction frequency.

- Quantity by Sales Channel and Category (Table):

A tabular visualization reveals that the majority of sales (99.86%) occurred via **Amazon.in**, with a very small share (0.14%) from **non-Amazon channels**. This reinforces Amazon's dominance as a primary sales platform.

| Quantity by Sales Channnel and Category		Qty
Amazon.in	Non-Amazon	
99.86%	0.14%	167 116,482

- B2B Sales Quantity (Table):

The table shows that **99.28%** of sales were **non-B2B (retail)** transactions, and only **0.72%** were B2B orders. This indicates that the platform is primarily used by individual consumers rather than businesses.

| B2B Sales Quantity		Qty
False	True	
99.28%	0.72%	840 115,809

- Quantity by Week and Category:

A vertical bar chart displays weekly sales quantities segmented by product categories. This visualization highlights trends over time, showing how sales fluctuate week-to-week and which categories consistently perform well or experience growth.
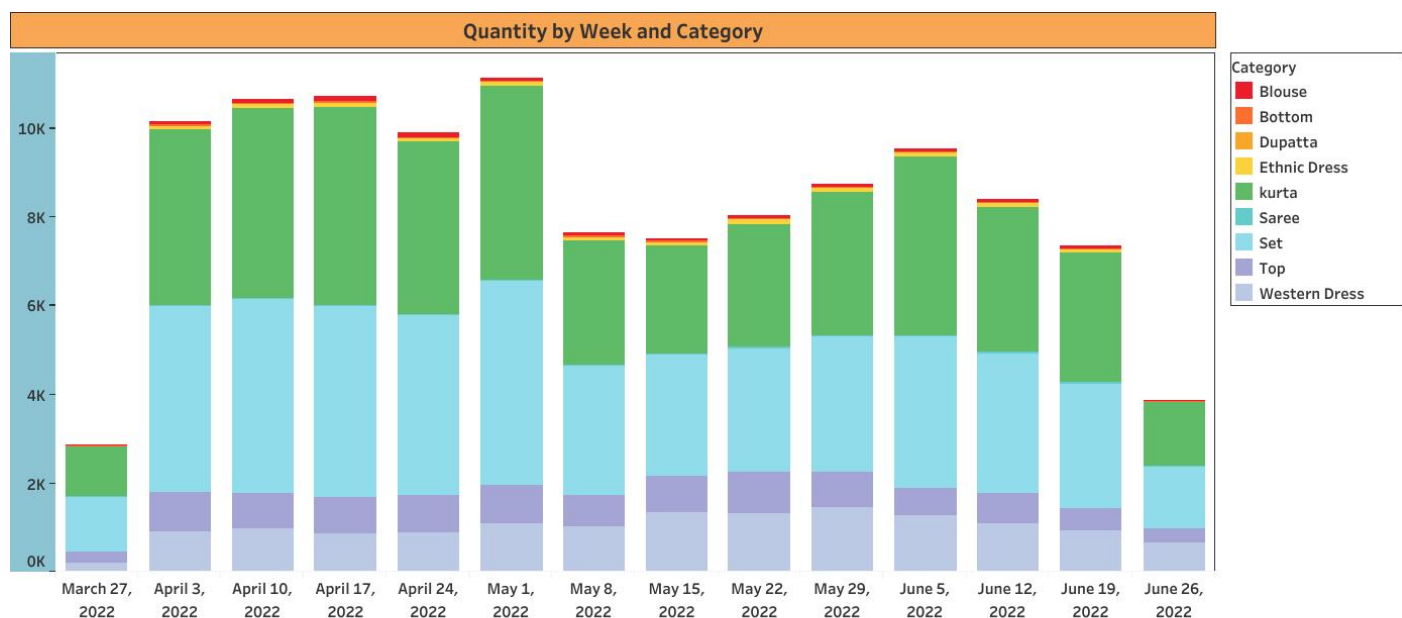
- Top 10 States by Quantity and Category:

This chart ranks the top 10 Indian states based on sales quantity across different product categories. It provides insight into regional demand patterns and helps identify key markets contributing the most to Amazon India's sales
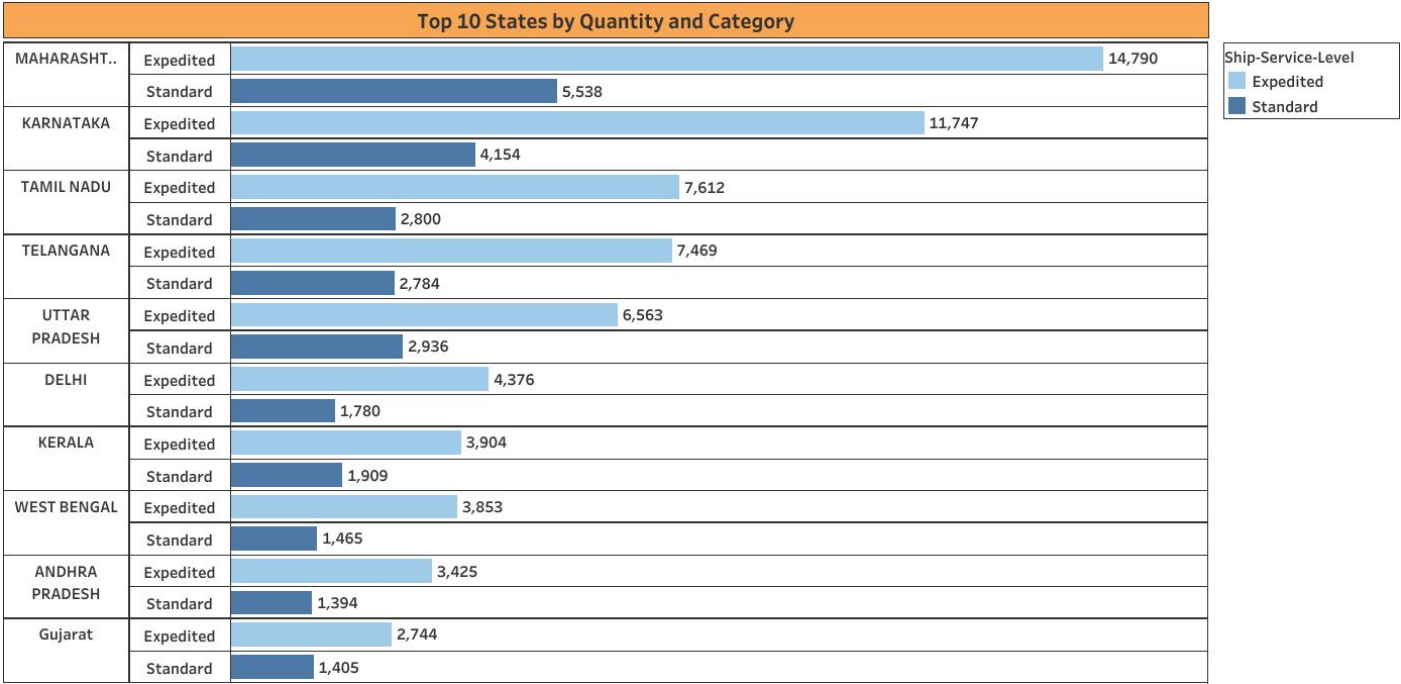
- Quantity Status and Category:

A bar chart displaying quantity by courier status and category is included to analyze delivery performance and understand how shipping status varies across different product categories.
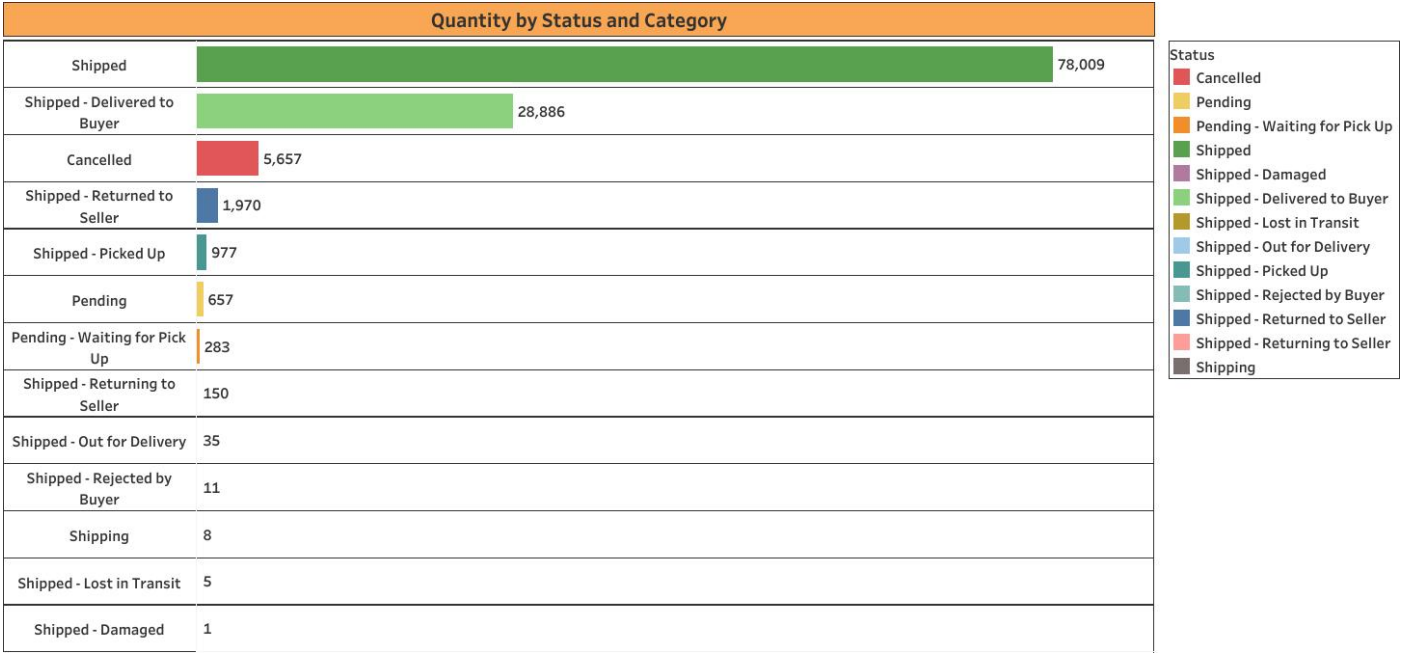
8. Insights and Observations

- The **'Set' category** consistently recorded the highest sales volume, indicating strong consumer preference for bundled or combo products during the period from March to June 2022.

- The **'M' size** was the most popular across categories, suggesting inventory and marketing strategies should focus on this size to meet demand efficiently.

- Maharashtra emerged as the leading state in terms of sales quantity, likely due to its urban population density and robust e-commerce infrastructure.

- The order fulfillment process was largely effective, with over **94%** of orders shipped successfully, reflecting strong logistics management by Amazon.

- Sales were overwhelmingly concentrated on the **Amazon.in platform (99.86%)**, with minimal contribution from non-Amazon sales channels, reinforcing the platform's dominance in the Indian market.

- The minimal B2B sales share indicates Amazon India primarily serves retail consumers in this timeframe.
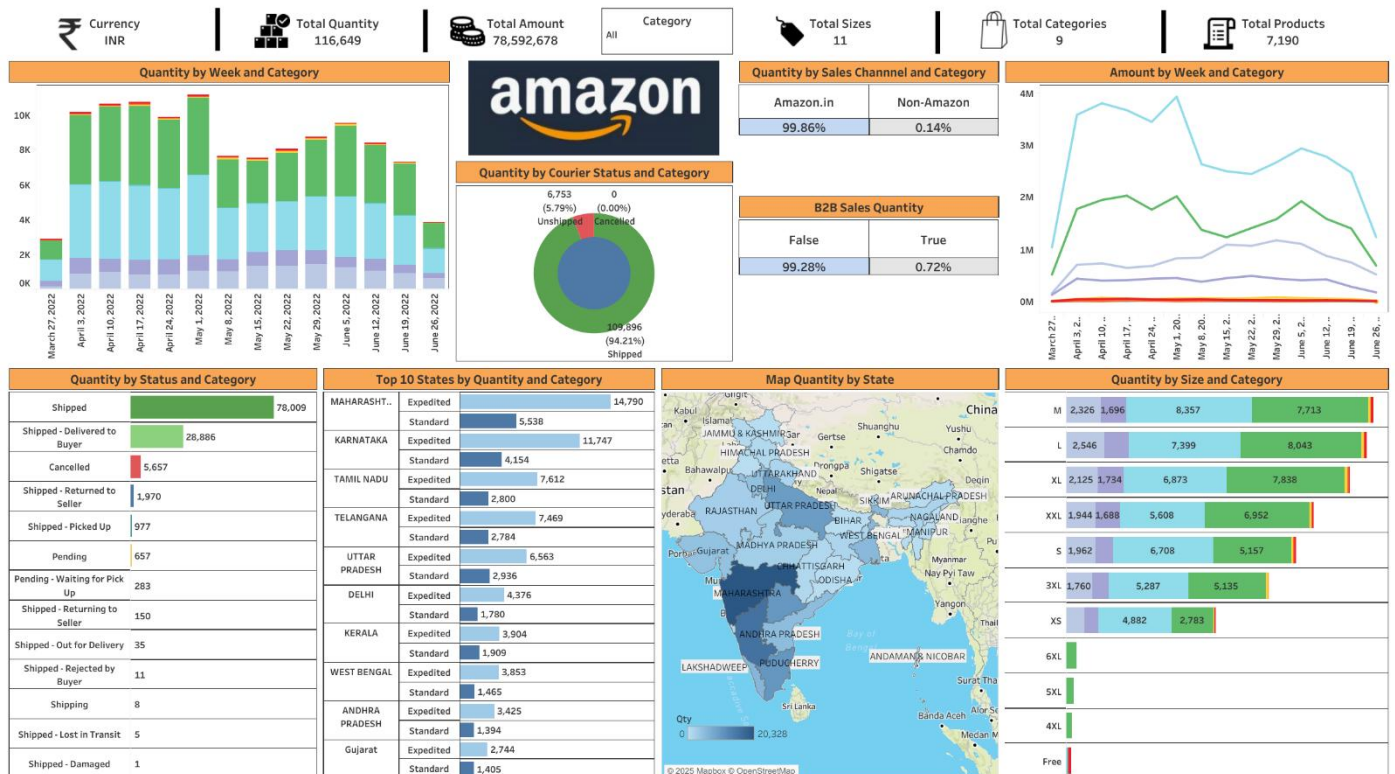
9. Supported Analysis

These research questions were explored and validated using various visualizations and metrics on the dashboard:

- **Category Contribution:** The line chart of sales amount by week and category showed the 'Set' category consistently leading in sales volume, confirming its high contribution.

- **Product Size Impact:** The bar chart of quantity by size and category revealed the 'M' size as the most sold, highlighting consumer size preference.

- **Regional Performance:** The heat map clearly indicated Maharashtra as the top-performing state, likely due to its large urban population and developed logistics infrastructure.

- **Order Fulfillment:** The pie chart of courier status confirmed over 94% of orders were shipped successfully, supporting the efficiency of Amazon's delivery system.

- **Sales Channel Dominance:** Tabular data demonstrated that 99.86% of sales originated from Amazon.in, proving its dominance as the primary platform.

10. Assumptions

- **Data Coverage & Completeness:**
  The dataset is assumed to represent complete Amazon India sales transactions from **March 2022 to June 2022**, across 9 major clothing categories, including **blouse, bottom, dupatta, ethnic dress, kurta, saree, set, top, and western dress**.

- **Category Performance:**
  Among all categories, the **'Set' category recorded the highest sales volume**, which is assumed to be due to combo/bundle promotions or seasonal demand (e.g., summer or festive fashion trends). This suggests customer preference for value-based purchases during this period.

- **Sales Seasonality:**
  The time frame covers the **end-of-financial year sales (March)** and **summer sales (April to June)**. These months typically see higher demand for **lightweight, comfortable ethnic wear** such as **kurtas, sarees, and western dresses**, which could influence both product choice and quantity sold.

- **Platform Dominance:**
  Sales were primarily made through **Amazon.in (99.86%)**, confirming its role as the main distribution channel, with negligible influence from non-Amazon sources.

- **Order Fulfillment:** With **94.21% of products shipped**, **5.79% unshipped**, and **0% cancellations**, it is assumed that **order processing and logistics were stable and efficient** during the given period.

- **Consumer Type:** The data shows **99.28% of transactions were non-B2B**, indicating the platform was largely used by **retail consumers**, not business clients.

- **Regional Demand:**
  Maharashtra had the highest number of orders, which aligns with its **high population density, urban infrastructure**, and **strong adoption of e-commerce**, particularly in cities like Mumbai and Pune.

- **Size Popularity:** The **'M' size** being the most sold suggests that it fits the average consumer profile in India, making it a preferred and safe stock option for sellers.

11. Recommendations

Based on the insights derived from the Amazon India sales data analysis, the following recommendations are proposed to enhance sales performance and operational efficiency:

1. **Focus on High-Demand Categories and Sizes:**
   Since the 'Set' category and 'M' size products show the highest sales, Amazon sellers should prioritize inventory and promotions around these segments to maximize revenue.
2. **Expand Regional Marketing Efforts:**
   Maharashtra leads in sales volume, but there is potential to grow in other states by tailoring marketing strategies and improving last-mile delivery infrastructure in less dominant regions.
3. **Improve Order Fulfillment for Unshipped Orders:**
   Although the shipped rate is high, addressing the 5.79% of unshipped orders through better supply chain coordination could further improve customer satisfaction and repeat purchases.
4. **Leverage Sales Channel Data for Diversification:**
   While Amazon.in is dominant, exploring opportunities in non-Amazon platforms or third-party sellers may diversify revenue streams and reach untapped markets.
5. **Analyze Seasonal and Promotional Impact:**
   Further analysis of sales trends during festival or promotional periods could help optimize discount strategies and stock planning, particularly in categories with fluctuating demand.

12. Conclusion

- This analysis of Amazon India sales data from March to June 2022 provides valuable insights into product category performance, consumer preferences, regional sales distribution, and operational efficiency. The dominance of the 'Set' category and 'M' size products highlights clear market trends that sellers and marketers can leverage to optimize inventory and promotional efforts.

- Maharashtra's strong sales performance underscores the importance of focusing on key urban markets while exploring growth opportunities in other states. Additionally, the high order shipment rate affirms the effectiveness of Amazon's logistics network, though attention to unshipped orders could further enhance customer satisfaction.

- The overwhelming use of the Amazon.in platform demonstrates the company's strong foothold in India's e-commerce sector. These insights form the foundation for actionable strategies to boost sales and operational efficiency, as reflected in the subsequent suggestions.

13. Communicate the Results

- The **'Set' category** recorded the highest sales among all product categories.
- **'M' size** products were the most sold, indicating strong consumer preference.
- **Maharashtra** had the highest sales volume across all states.
- **Amazon.in** contributed to **99.86%** of the total sales, confirming its dominance as the primary sales channel.
- **94.21%** of the orders were successfully shipped, reflecting an efficient order fulfillment process.
- Weekly sales trends showed consistent performance with category-wise variations over time.
- The **Top 10 states** were identified by quantity sold, offering insights into regional demand patterns.
- All findings were presented using an interactive Tableau dashboard for clarity and decision-making support.