

AMAZON SALES REPORT

➤ INTRODUCTION

Gaining a competitive advantage in the fiercely competitive e-commerce market of today requires having a solid understanding of sales performance, consumer behavior, and operational efficiency. This report presents a comprehensive analysis of the Amazon Sales Report dataset, with the objective of extracting actionable insights that can inform strategic decision-making and optimize business operations.

Comprehensive data on sales transactions, including order details, fulfillment strategies, sales channels, product categories, quantities sold, revenue, and shipping details, are included in the dataset that is made available. Our goal in examining this data is to find trends, patterns, and possibilities that can assist boost customer satisfaction, advance revenue growth, and strengthen sales strategy.

The analysis is divided into six key areas:

1. **Sales Overview:** This section provides an understanding of the overall sales performance, identifying trends and patterns over time. It examines how revenue has evolved, highlighting peak periods and identifying potential seasonal trends.
2. **Product Analysis:** This section delves into the distribution of product categories, sizes, and quantities sold. It identifies the most popular products based on both quantity sold and revenue, offering insights into customer preferences.
3. **Fulfillment Analysis:** Here, we investigate the effectiveness of different fulfillment methods used to deliver orders. This analysis seeks to understand

the impact of fulfillment on delivery times, customer satisfaction, and overall sales performance.

4. **Customer Segmentation:** This section segments customers based on their buying behavior, location, and other relevant factors. By understanding different customer segments, we can tailor marketing strategies and improve customer retention.
5. **Geographical Analysis:** This section explores the geographical distribution of sales, with a focus on identifying key markets in various states and cities. Understanding regional performance helps in optimizing distribution strategies and local marketing efforts.
6. **Business Insights:** Finally, this section synthesizes the findings from the previous analyses and provides actionable recommendations. These insights are aimed at optimizing sales strategies, improving inventory management, and enhancing customer service, ultimately driving business growth.

This report not only aims to provide a snapshot of the current state of sales but also to highlight opportunities for future growth and efficiency improvements. The findings and recommendations presented here are designed to support informed decision-making and strategic planning.

➤ OVERVIEW AND PREPARATION OF DATA

The dataset that is made available includes comprehensive data regarding Amazon sales transactions. As a Initial step import the dataset into power BI.This data includes order details, fulfillment methods, product categories, shipping details, and customer segmentation, among other things. The following columns are part of the dataset:

- **Order ID:** A unique number assigned to every order.
- **Date:** The date when the order was placed.
- **Status:** The order's present state, such as completed or pending.
- **Fulfillment Method:** Specifies the method used to fulfill the order (e.g., Merchant Fulfilled, Fulfilled by Amazon).
- **Sales Channel:** The website or avenue (like Amazon Marketplace or Direct) that was used to make the sale.
- **Ship Service Level:** The shipping service option that was chosen for the order.
- **Category:** The sold item's product category.
- **Size:** The product's size characteristic.
- **Courier Status:** The state in which the courier has delivered the order.
- **Qty:** The total number of sold products in the order.
- **Currency:** The currency in which the transaction was made.
- **Amount:** The order's monetary worth expressed in the relevant currency.
- **Ship-Country, Ship-Postal-Code, Ship-City, and Ship-State:** The customer's shipping address information.
- **B2B:** Whether the order was a business-to-business (B2B) transaction.
- **Fulfilled By:** Indicates the party (such as Amazon or a third-party merchant) who completed the order.
- **New:** Indicate whether a sales transaction or order is newly created or still in the initial stages of processing.

- **PendingS:** It likely represents transactions or orders that are in a pending state.
- **Revenue:** A new column, Qty * Amount, was established to show the total revenue from each order.

The dataset, which includes transactions over a given period of time, will be examined to find trends, patterns, and information on customer behavior, sales performance, and operational effectiveness.

Data Cleaning:

An essential step in getting the dataset ready for analysis was data cleansing. To guarantee that the data was correct, comprehensive, and prepared for analysis, the following steps were taken:

1. **Removing irrelevant column:** The column which are not required for our analysis were removed (such as New, PendingS, index).
2. **Handling missing values:** Replace the missing value in each column with unknown (such as Ship-city, Ship-state, Ship-country, Fulfilled By) and null (such as Amount, Revenue)
3. **Data type conversion:** Converting the data type of column in the dataset.
4. **Date Accuracy:** The dates provided in the dataset were assumed to be accurate.

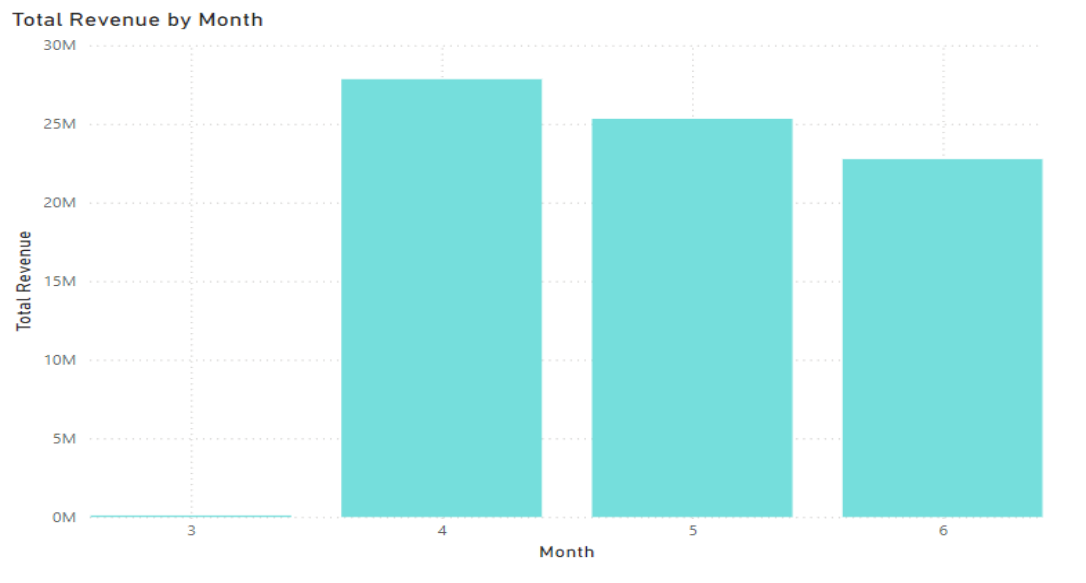
➤ ANALYSIS AND INSIGHTS

1. SALES TREND ANALYSIS:

Objective: Is to gain a comprehensive understanding of the overall sales performance, identify key trends and patterns in the sales data.

Methodology:

- **Data Aggregation:** The Revenue column, which was produced by multiplying the Qty (quantity sold) by the Amount (unit price) for each transaction, was aggregated to determine the overall revenue.
- **Time Period Segmentation:** By generating time-based segments from the Date column, the analysis was carried out on a monthly and date basis. This made it possible to break down revenue into several time periods in great detail.
- **Visualization:** To make it simpler to identify trends and swings, Power BI's waterfall and bar charts were utilized to display the total revenue over time.
- **Seasonal Trends:** The data was examined to identify seasonal peaks and troughs by comparing revenue across different months.



Insights:

Sales Peak: April -Because of the influence of financial year end, which causes firms and individuals to settle their accounts and make fresh purchases for the following year, resulting in increased expenditure and consumer purchases.

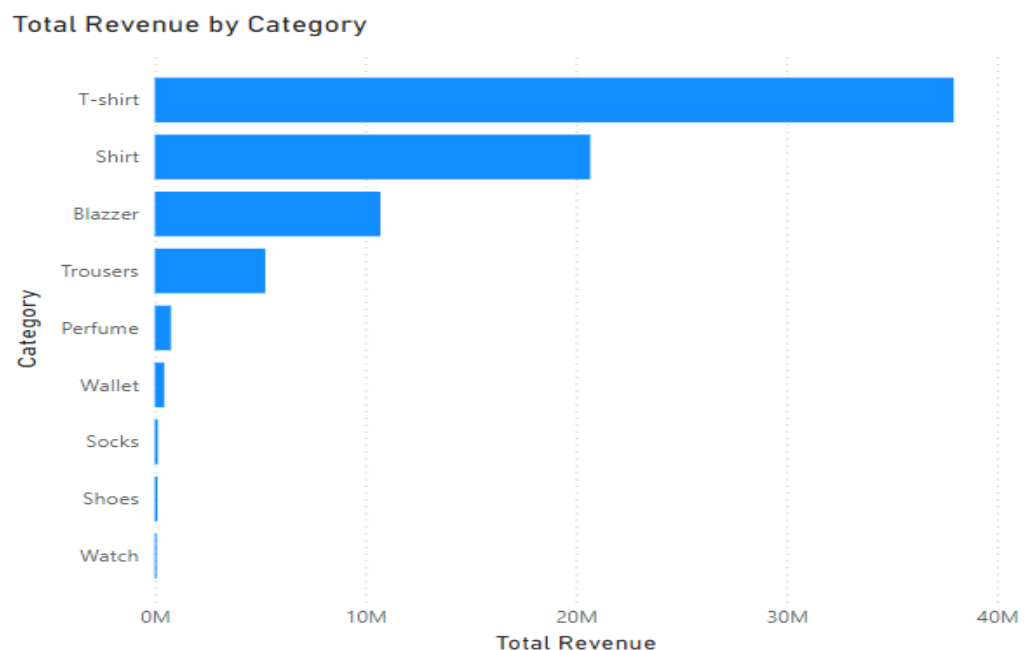
Sales Decline: June -The start of India's monsoon season, when reduced travel and an emphasis on non-shopping activities usually lead to a decline in consumer spending.

2. PRODUCT TREND ANALYSIS:

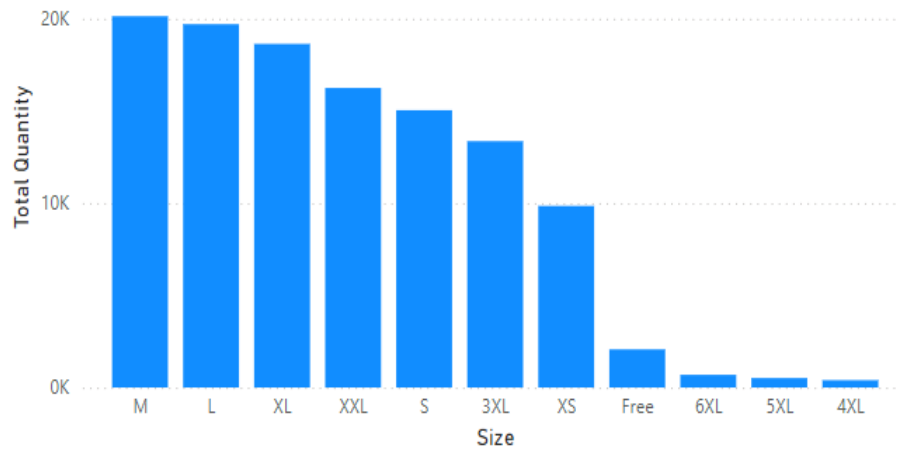
Objective: To determine which goods and sizes are the most popular by analyzing the sales distribution across product categories, sizes, and numbers.

Methodology:

- **Data Segmentation:**
 - Segment the sales data by product categories to analyze how each category contributes to overall sales.
 - Segment the quantity data by size to analyse the quantity of particular size product was sold.
- **Visualization :** Create clustered bar charts to visualize the distribution of sales across different product categories and bar chart to visualize the distribution of quantity across different size product sold.



Total Quantity by Size



Insights:

Top category: T-shirt is the top sold category which dominate sales, contributing to the most significant portion of the overall revenue.

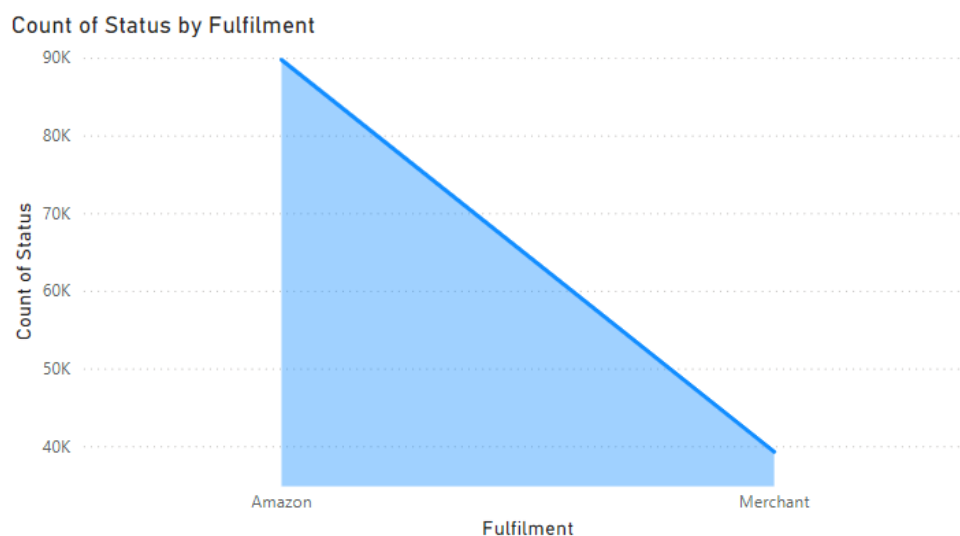
Popular Size: M,L are the most sold size which indicates the preferences of customer.

3. FULFILLMENT ANALYSIS:

Objective: To evaluating the effectiveness of each fulfillment strategy in terms of order accuracy, customer satisfaction, and delivery efficiency.

Methodology:

- **Data Aggregation:**
 - Group by Fulfillment Method: Group the dataset by the "Fulfillment Method" column to aggregate the order data based on each method.
- **Visualization :** Create area charts to visualize the order data based on fulfilment method.



Insights:

Amazon Fulfillment: Faster and more precise order processing is made possible by Amazon's sophisticated logistics and automated technologies.

Merchant Fulfillment: Fulfillment timelines and efficiency are frequently longer due to a lack of resources and a reliance on manual procedures.

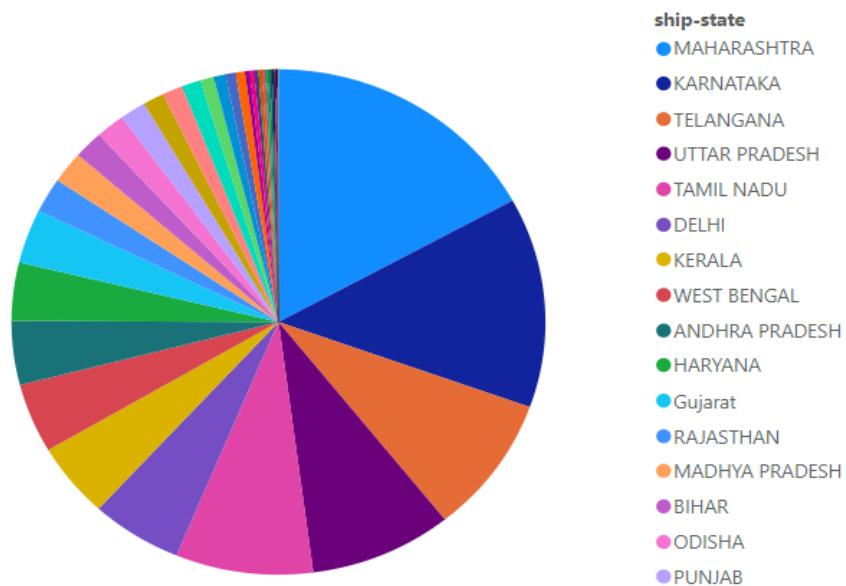
4. CUSTOMER SEGMENTATION AND GEOGRAPHICAL ANALYSIS:

Objective: Recognize the purchasing habits of your customers and the regional sales dispersion throughout various states and cities.

Methodology:

- **Data Segmentation:** To assess customer segmentation and regional sales distribution, use a single graph that breaks down sales by state.
- **Visualization:** A pie chart segmented by states, with each slice representing sales in a specific state, color-coded by customer segments or regions.

Total Revenue by ship-state



Insights:

High Sales: Maharashtra is an important market for e-commerce because of its big and diverse population, robust economy.

Least Sales: Pb is less urban residents which has a negative impact on internet purchasing and sales on websites like Amazon.

5.RECOMMENDATIONS:

- **Seasonal Promotions:** Run focused marketing initiatives and promotions in the run-up to periods of high sales. Think about launching weather-related products or providing delivery service discounts during months with fewer sales if you live in a monsoon-affected area.
- **Focus on High-Demand Products:** Boost marketing initiatives and inventory levels for top-selling product categories.
- **Boost Regular Shipping Quality:** Through promotions, you can persuade clients to choose expedited shipping, which will guarantee quicker delivery and more customer happiness.
- **Personalized Marketing:** Create targeted, segmented consumer-focused marketing strategies. For instance, loyalty benefits may be extended to frequent purchasers.
- **Optimize Inventory Levels:** To ensure optimal inventory levels for all sizes and product variants, use sales data to estimate demand more precisely. When it's feasible, use just-in-time inventory techniques to cut holding expenses.

CONCLUSION

The comprehensive analysis of the Amazon Sales Report has provided valuable insights into the overall sales performance, product preferences, fulfillment efficiency, customer segmentation, and geographical distribution. Key findings include Maharashtra is a noteworthy market with the largest sales, fueled by its robust economy and sizable consumer base, according to key statistics. Deliveries are made faster and customers are happier because Amazon's fulfillment strategy works better than merchant fulfillment. The product analysis directs marketing and stocking strategy by highlighting popular sizes and categories. The evaluations of consumer segmentation and geography pinpoint important areas and customer behavior, providing chances to improve customer service and sales tactics. These insights are critical for boosting consumer satisfaction, expanding the company's reach, and optimizing operational tactics to ensure long-term success in the cutthroat world of e-commerce.