

# Amazon Sales Analysis 2025

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A Data Analysis project focused on Amazon Sales Data 2025 to uncover business-critical insights. Using SQL, we answer a set of business questions aimed at improving sales, understanding customer behaviour, identifying revenue drops, and enhancing profitability.

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## Dataset Columns

The dataset used (amazon\_sales) contains the following fields:

- Order\_ID, Date, Product, Category, Price, Quantity, Total\_Amount, Customer\_Name, City, Payment\_Method, Order\_Status
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## Tools Used

- **PostgreSQL** – For SQL-based data querying
  - **Excel** – For Data Formatting
  - **Git & GitHub** – For version control and collaboration
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## Business Questions & Answers

1. Which payment methods are most commonly used by customers?

```
SELECT payment_method, count(*) as Usage_count
FROM amazon_sales
GROUP BY payment_method
ORDER BY Usage_count DESC;
```

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2. What are the top 5 best-selling products by total quantity sold?

```
SELECT Product, SUM (Quantity) AS Total_qnty
FROM amazon_sales
GROUP BY Product
ORDER BY Total_qnty DESC
LIMIT 5;
```

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3. Which product categories generated the highest total revenue?

```
SELECT category, SUM(total_amount) AS total_revenue
FROM amazon_sales
GROUP BY category
ORDER BY total_revenue DESC;
```

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**4. What is the total number of orders by each order status (Completed, Cancelled, Pending)?**

```
SELECT order_status, COUNT(*) AS total_orders
FROM amazon_sales
WHERE order_status IN ('Completed', 'Cancelled', 'Pending')
GROUP BY order_status;
```

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**5. What are the top 5 cities by revenue contribution?**

```
SELECT city, SUM(total_amount) as Total_Revenue
FROM amazon_sales
GROUP BY city
ORDER BY Total_Revenue DESC
Limit 5;
```

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**6. Who are the top 5 customers based on total spending?**

```
SELECT customer_name, SUM(total_amount) AS Total_spent
FROM amazon_sales
GROUP BY customer_name
ORDER BY Total_spent DESC
LIMIT 5;
```

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**7. What is the monthly revenue trend?**

```
SELECT TO_CHAR(dates, 'Mon-YYYY') AS Month, SUM(total_amount) AS monthly_Revenue
FROM amazon_sales
GROUP BY TO_CHAR(dates, 'Mon-YYYY')
ORDER BY monthly_revenue DESC;
```

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**8. How many orders were placed for each product category per month?**

```
SELECT category, TO_CHAR(dates, 'Mon') AS Month, count(order_id) AS Total_order
FROM amazon_sales
GROUP BY category, Month
ORDER BY Total_order DESC;
```

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**9. Which product has the highest cancellation rate?**

```
WITH product_orders AS (
    SELECT product, COUNT(*) AS total_orders,
    SUM(CASE WHEN order_status = 'Cancelled' THEN 1 ELSE 0 END) AS
cancelled_orders
```

```

FROM amazon_sales
GROUP BY Product
)
SELECT product,
cancelled_orders,
total_orders,
ROUND(cancelled_orders * 100.0 / total_orders, 2) AS
Cancellation_rate_Percentage
FROM product_orders
ORDER BY Cancellation_rate_Percentage DESC
LIMIT 1;

```

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#### 10. What is the average order value (AOV)?

```

SELECT ROUND (SUM(total_amount) * 1.0 / COUNT(DISTINCT order_id), 2) AS
Average_Order_Value
FROM amazon_sales;

```

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### Key Findings

- **Most Common Payment Methods:** PayPal and Credit Card are the Most common Payments Methods are Found.
  - **Best Selling Products:** We found Customer Prefer Smart Watch and Smart Phones more than other Products like Laptop, Headphones, etc.
  - **Top Revenue-Generating Product Categories:** Electronics and Home Appliances the top Revenue generated categories in Amazon.
  - **Order Status Distribution:** Total number of orders – Completed Orders 264, Cancelled Order – 231, Pending orders – 255.
  - **Product with Highest Cancellation Rate:** Analyse the Data and Found 50% of Customer Cancelling the Product “Washing Machine”, Reason behind it, is a Payment/Logistic Problem.
  - **Monthly Revenue Trend:** February and March Identifies peak sales seasons.
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### Business Insights & Recommendations

- **Payment Methods:** Amazon Users Favourite Payments Methods are **PayPal** and **Credit Card** although also it can be Gift Card also, but around **42.86%** of the Gift Card Payments are cancelled and **42.86%** are Still Pending and only **14.29%** Successfully Completed. Promote and streamline the most used methods. Consider offering discounts on lesser-used but cost-effective payment options to diversify use. and Try to Resolve Gift Card Payments Issue and Give some Offers/ Token to remain the Trust of Users.
- **Products:** Top 5 Products are **Smartwatch, Smartphone, Headphones, Laptop, Running Shoes**. These products should be prioritized for inventory restocking and targeted promotions. Analyze profit margins of these products and upsell related accessories or services.

- **Logistic:** Improve packaging or communication if products are being **returned/cancelled**, Increase local warehousing. Add more last-mile delivery options (especially in **rural areas**). Add tracking metrics on delivery times vs. expected times. Flag suppliers with repeated delays. **Top 5** Affected cities are **Boston, Dallas, Houston, Denver, San Francisco**.
- **Sales Trends:** Major Cities Miami, Denver, Houston, Dallas, Seattle these are the Top 5 Cities make Most revenue on Month of **February** and **March**. Focus ads spend and logistics improvements in these cities. Target the Top Customers and Categories with Great Deals and offers. Boost **AOV** Implement free shipping thresholds and product bundles to lift average order size.

## Final Conclusion

The analysis of Amazon Sales 2025 provides valuable insight into customer behavior, product performance, payment preferences, and operational bottlenecks. Key findings reveal that **PayPal and Credit Card dominate as the preferred payment methods**, while **products like Smartwatches and Smartphones** are top choices among consumers, contributing significantly to overall sales volume.

**Electronics and Home Appliances** stand out as the most revenue-generating categories, confirming strong demand in the tech and utility segments. However, operational inefficiencies—particularly in the **delivery and cancellation of large items like Washing Machines**—highlight pressing logistics and payment issues. A **notably high cancellation rate of 50%** for such products points to challenges in fulfillment and user experience, especially when using **Gift Cards**, which show **over 85% incomplete transactions**.

Seasonal and geographic analysis shows **February and March as peak months**, with cities like **Miami, Denver, and Houston** driving the majority of revenue during this time. This presents a clear opportunity to refine **regional marketing strategies**, optimize inventory for peak periods, and focus on **top-performing customers and cities**.

### Strategic Focus Areas Moving Forward:

- **Resolve Gift Card and logistics issues** to regain customer trust.
- **Invest in top-selling products and categories** with better promotions and upsell opportunities.
- **Strengthen delivery capabilities in key cities** where cancellations are high.
- **Leverage peak sales months** through tailored campaigns and regional ad targeting.