Amazon Sales Analysis Report (2025)

1. Data Cleaning

The dataset was prepared before analysis to ensure accuracy and consistency.

- Converted the **Date** column to datetime format (DD-MM-YY → proper 2025 dates).
- Verified that **Total Sales = Price × Quantity** for all rows (no mismatches found).
- No duplicate records were detected.
- No missing values found.
- Added new time-based features: **Month** and **Day** for trend analysis.

The dataset was clean and ready for analysis without major issues.

2. Sales Overview

- **Total orders:** 714
- **Completed orders:** 256
- **Actual revenue:** $88,530
- **Average order revenue:** $150

Only a portion of total orders were completed, indicating a noticeable level of cancellations that may impact revenue performance.

3. Time-Based Performance

Monthly Trend

- Sales peaked in **February**.
- Revenue declined during **March and April**.

Daily Trend

- **Day 6** generated the highest revenue across the three months.

This suggests specific peak periods that could be targeted for promotions or inventory planning.

4. Category Performance

Electronics

- Dominates both **quantity and revenue**.
- Contributes **63.14% of total revenue**.
- Mainly driven by laptops and smartphones.

Home Appliances (Refrigerators)

- Appears in the **top 3 categories by quantity**.
- Generates very high revenue due to higher prices.
- However, this category also shows **high cancellation rates**, with cancelled quantity forming **36.36% of total quantity**.

Books

- Lowest performing category in both quantity and revenue.
- Only **20.28% of book orders are completed**, indicating very weak performance.

Overall, Electronics drive growth, while Books and Home Appliances show operational challenges related to cancellations.

5. Payment Method Analysis

- **PayPal** is the most used payment method.
- **Amazon Pay** is the least used.
- **Debit Card** is among the top payment methods but has the **highest cancellation rate**.

Additionally:

- Chicago and Los Angeles show relatively higher usage of Amazon Pay compared to other cities.

This indicates that payment method choice may influence order completion behavior.

6. Geographic Insights

- **Dallas, Denver, and Boston** generate high revenue, especially from Home Appliances.
- **Houston, Denver, and Boston** lead in Electronics sales.

These cities represent key markets and contribute significantly to overall performance.

7. Key Insights Summary

- Electronics are the main revenue driver (63%+ of total revenue).
- Home Appliances generate strong revenue but suffer from high cancellations.
- Books category underperforms significantly.
- February and Day 6 show peak sales performance.
- PayPal dominates payments, while Debit Card is associated with higher cancellations.
- A limited number of cities contribute a large share of revenue.

8. Recommendations

Based on the analysis:

1. Investigate the **high cancellation rate in Home Appliances**, especially high-value products such as refrigerators.
2. Promote and incentivize **Amazon Pay** usage to increase adoption.
3. Review the **Books category performance** and identify reasons for low completion rates before deciding whether to improve or reduce focus.
4. Ensure sufficient inventory for **Electronics**, as it is the primary revenue source.
5. Analyze the causes of **high cancellation rates for Debit Card payments** to improve transaction success.

9. Conclusion

This analysis identified the key revenue drivers, customer behavior patterns, and operational issues affecting order completion. Electronics represent the strongest growth opportunity, while cancellations in Home Appliances and certain payment methods reduce potential revenue. Addressing these issues and focusing on high-performing categories and cities can significantly improve overall sales performance.