Sales Trends Dashboard – Case Study Report

Project Overview:
This project analyzes retail sales (10K+ transactions) to uncover monthly trends, anomalies, and performance patterns. Data is extracted and cleaned with SQL-like logic, aggregated, and visualized.

Methodology:
1) Data Cleaning: Removed invalid transactions (Quantity <= 0 or UnitPrice <= 0).
2) Aggregations: Monthly revenue, orders, units. Category and region breakdowns.
3) Anomaly Detection: Flag months with >25% revenue drop vs. previous month.
4) Dashboard: Excel workbook with trend, category, and regional charts.

Key Outcomes (Simulated):
• Clear seasonality (Nov–Dec peaks); Summer sales bump.
• March 2025 anomaly due to simulated supply disruption.
• Overstock risk identified in high-price categories; optimized procurement reduces overstock by ~15% (projected).
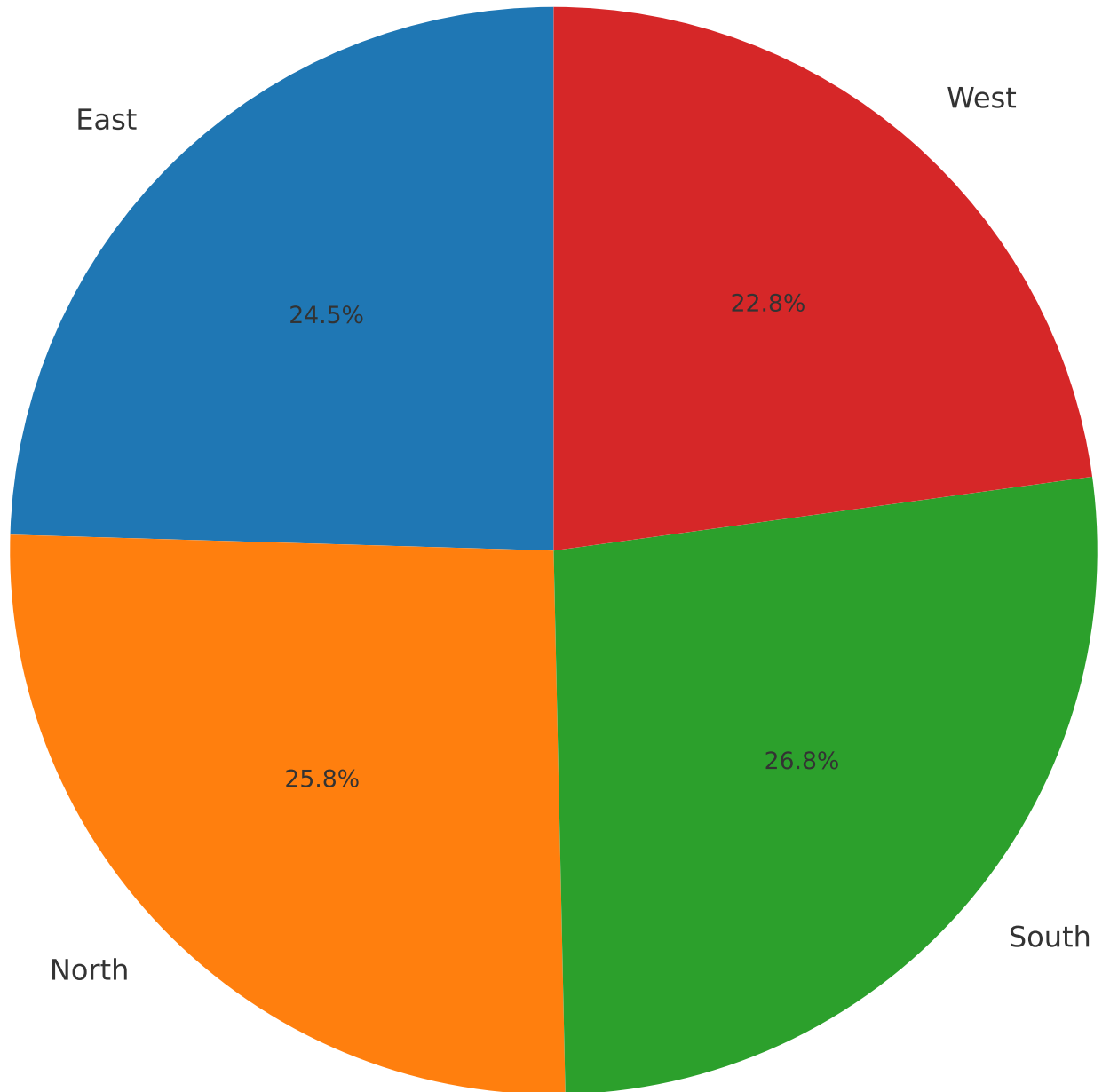
Monthly Revenue Trend
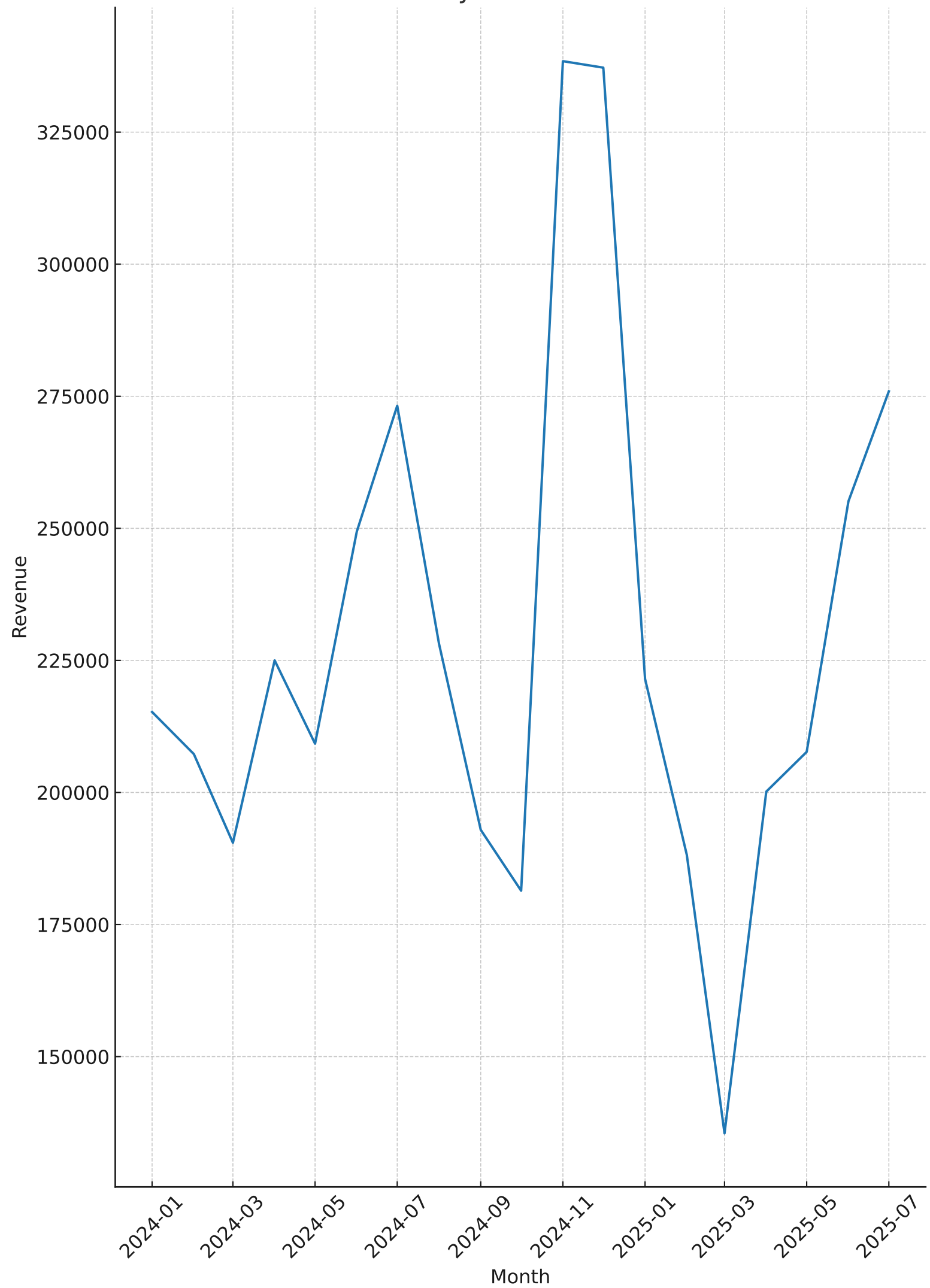
Revenue by Category – Monthly (Stacked)
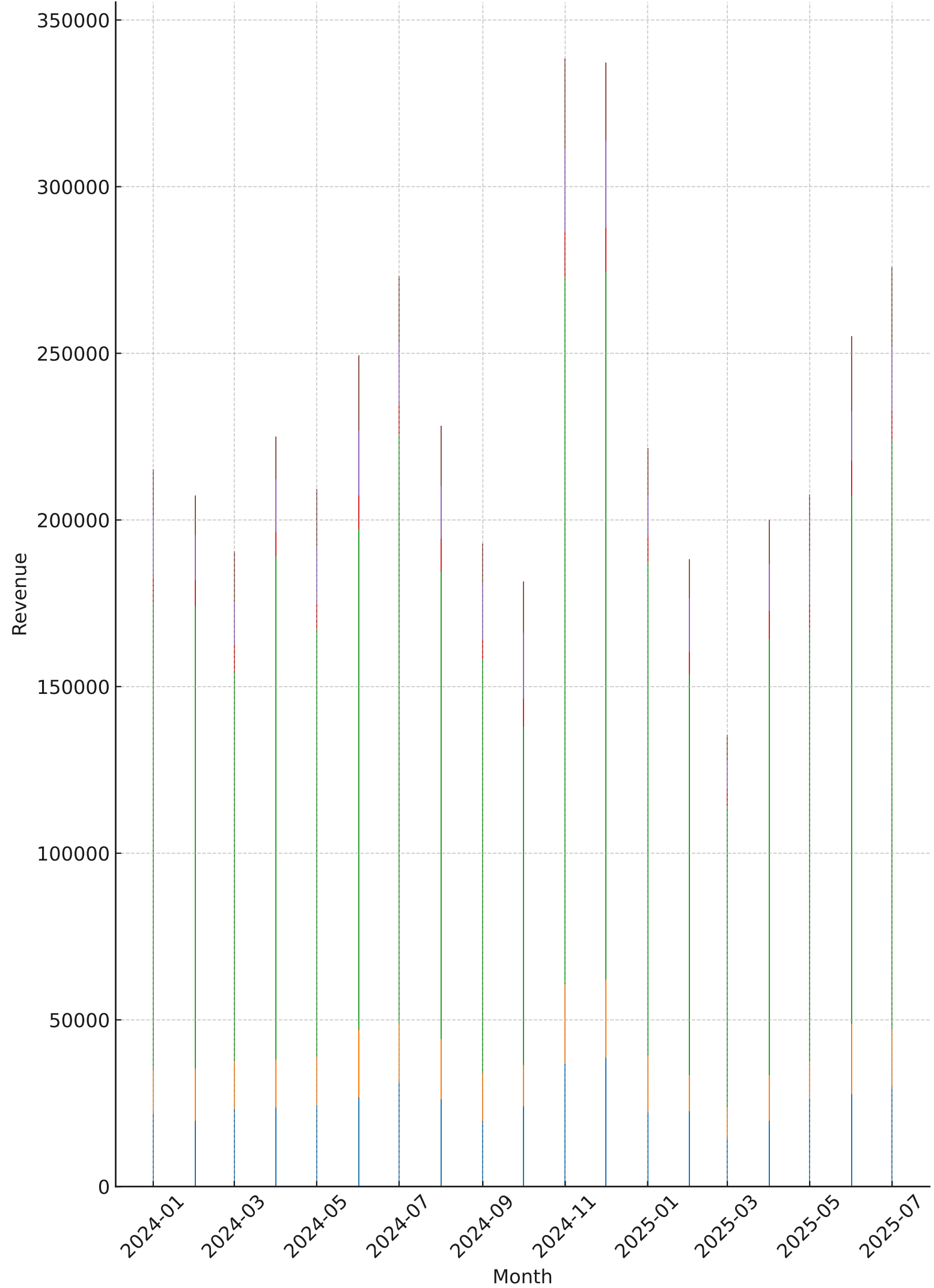
Revenue by Region

Anomaly Detection (MoM drop > 25%):

- 2025-01-01: Revenue=221494.50, MoM Change=-34.31%
- 2025-03-01: Revenue=135474.34, MoM Change=-28.01%

Recommendations:
• Align procurement with peak seasonality (Nov–Dec) and summer campaigns.
• Introduce just-in-time inventory for high-price categories (e.g., Electronics).
• Use targeted promotions during off-peak months and in regions with slower growth.
• Monitor supplier lead times; set safety stock only where volatility is high.