WALMART SALES ANALYSIS

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Source: Kaggle – Walmart Dataset
https://www.kaggle.com/datasets/yasserh/walmart-dataset

VARIABLE DESCRIPTIONS

ORIGINAL VARIABLES (FROM DATASET)

❖ Store – The store number

❖ Date – The week of sales

❖ Weekly_sales – Sales for the given store

❖ Holiday_flag – Whether the week is a special holiday
   (1 = holiday week, 0 = non-holiday week)

❖ Temperature – Temperature on the day of sale

❖ Fuel_price – Cost of fuel in the region

❖ CPI – Prevailing consumer price index

❖ Unemployment – Prevailing unemployment rate

Derived variables (created using SQL DATE functions)

❖ Year – Extracted year

❖ Month – Extracted month

❖ Quarter – Calculated quarter

BUSINESS GOAL

➢ **Analyze Sales Trends**

Examine overall sales patterns and growth over time.

➢ **Compare Store Performance**

Identify top- and low-performing stores.

➢ **Compare Holiday and Non-Holiday Weeks**

Analyze how holiday periods impact sales performance.

➢ **Explore Weather Impact**

Analyze how temperature variations influence weekly sales.

➢ **Link Sales with Economic Factors**

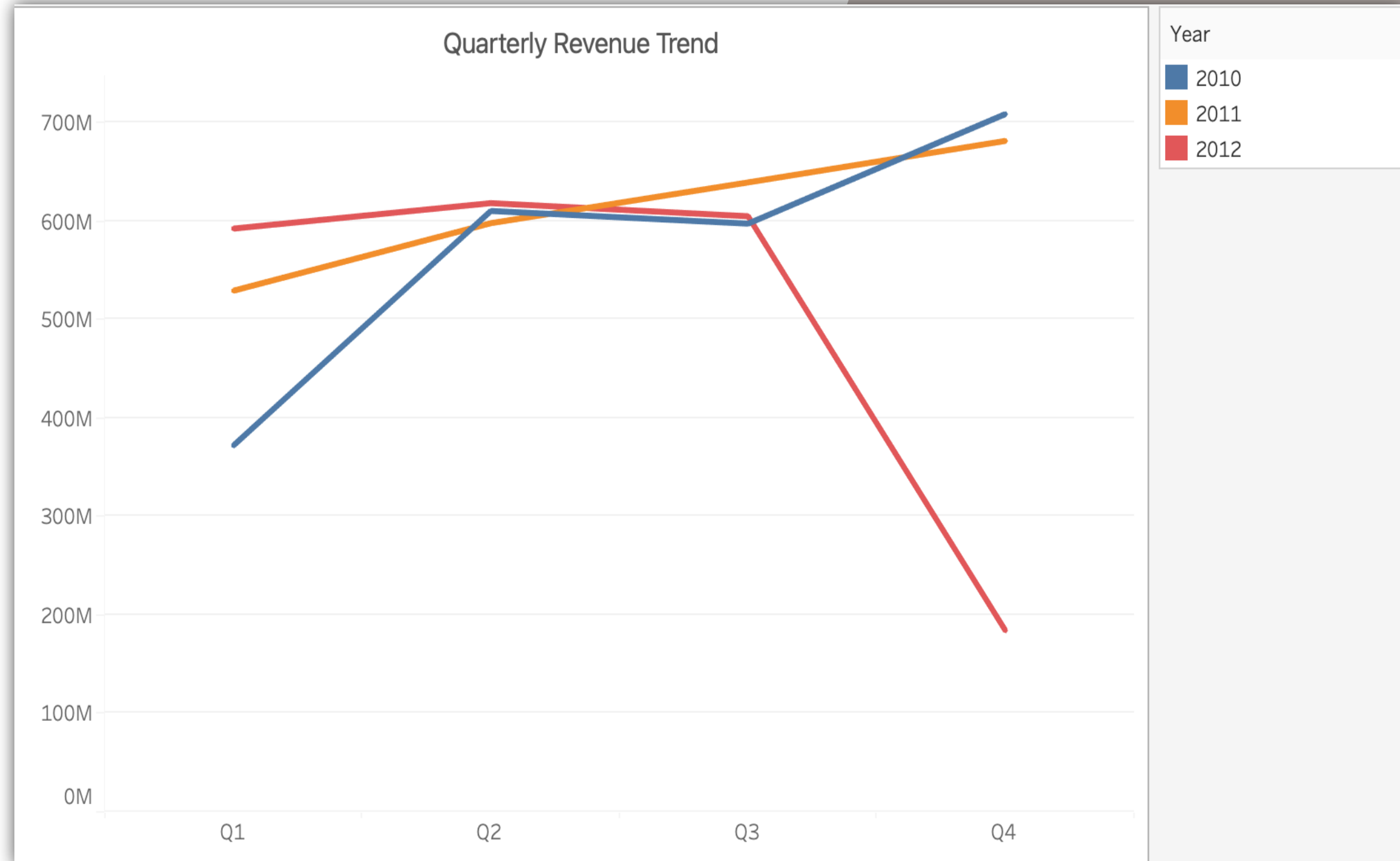Analyze how CPI, fuel price, and unemployment influence weekly

sales.

Revenue Trend –
How do yearly and quarterly sales patterns evolve over time?

Insight

📈 2010–2011 → steady quarterly growth → stable demand and solid sales strategy

📉 2012 Q4 → sharp decline → year-specific disruption, not regular seasonality

🎯 Insight → upward trend broke in 2012 → review possible causes: market shifts, supply issues, or weak promotions

Quarterly Revenue Trend

Store – Which branch performs better?

Insight

📊 Top stores (e.g., 4, 13, 10) → highest revenue but higher volatility

📉 Low-ranked stores → smaller sales scale with more stable performance

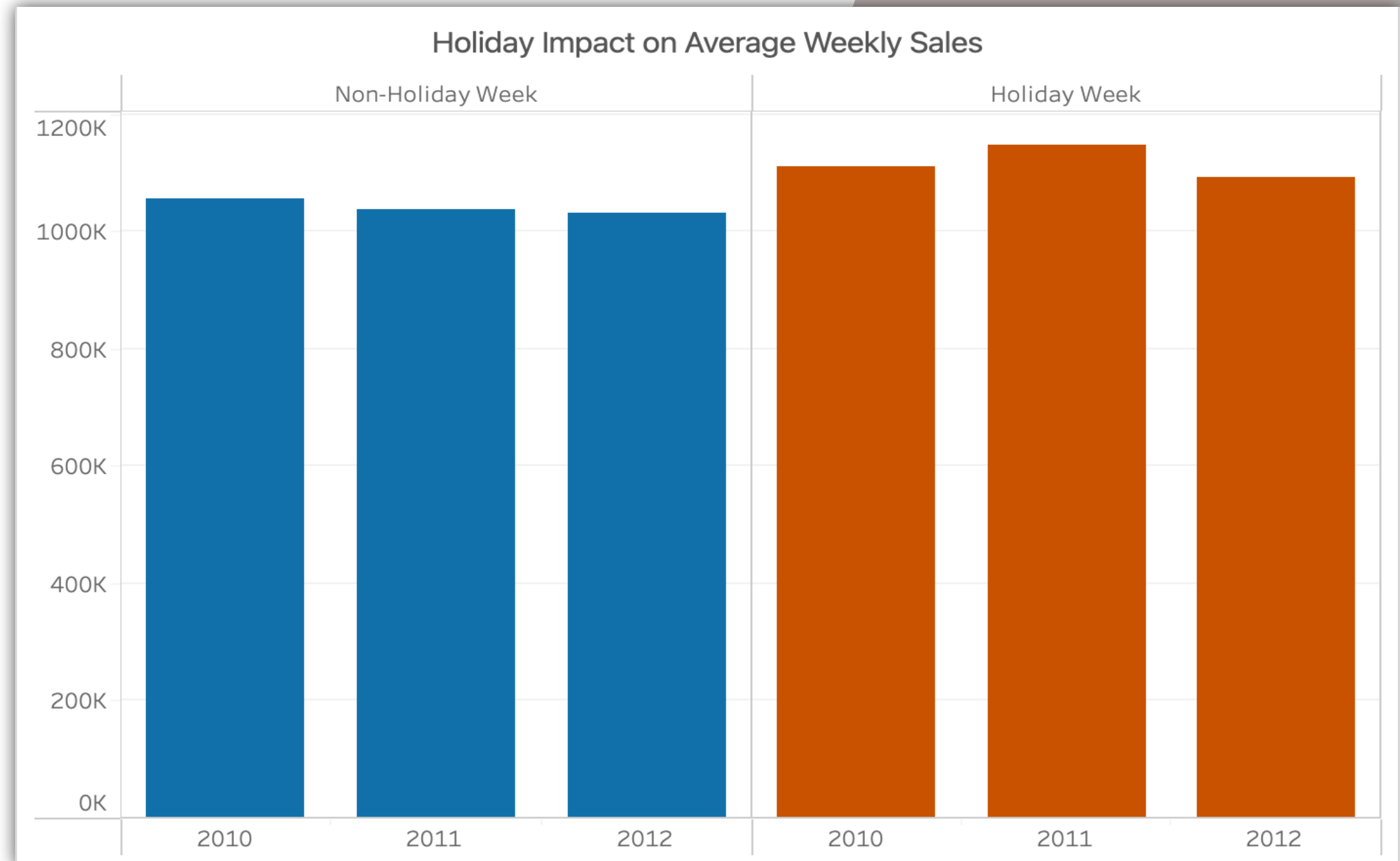🎯 Insight → strong performers face higher fluctuation → need focus on consistency and risk control

Store Revenue Ranking

Store

Sales Volatility
47,403   820,645

Holiday –
Do holiday weeks affect revenue?

Insight

🎁 Holiday weeks → consistently higher average sales across years

📊 2011 → strongest holiday effect

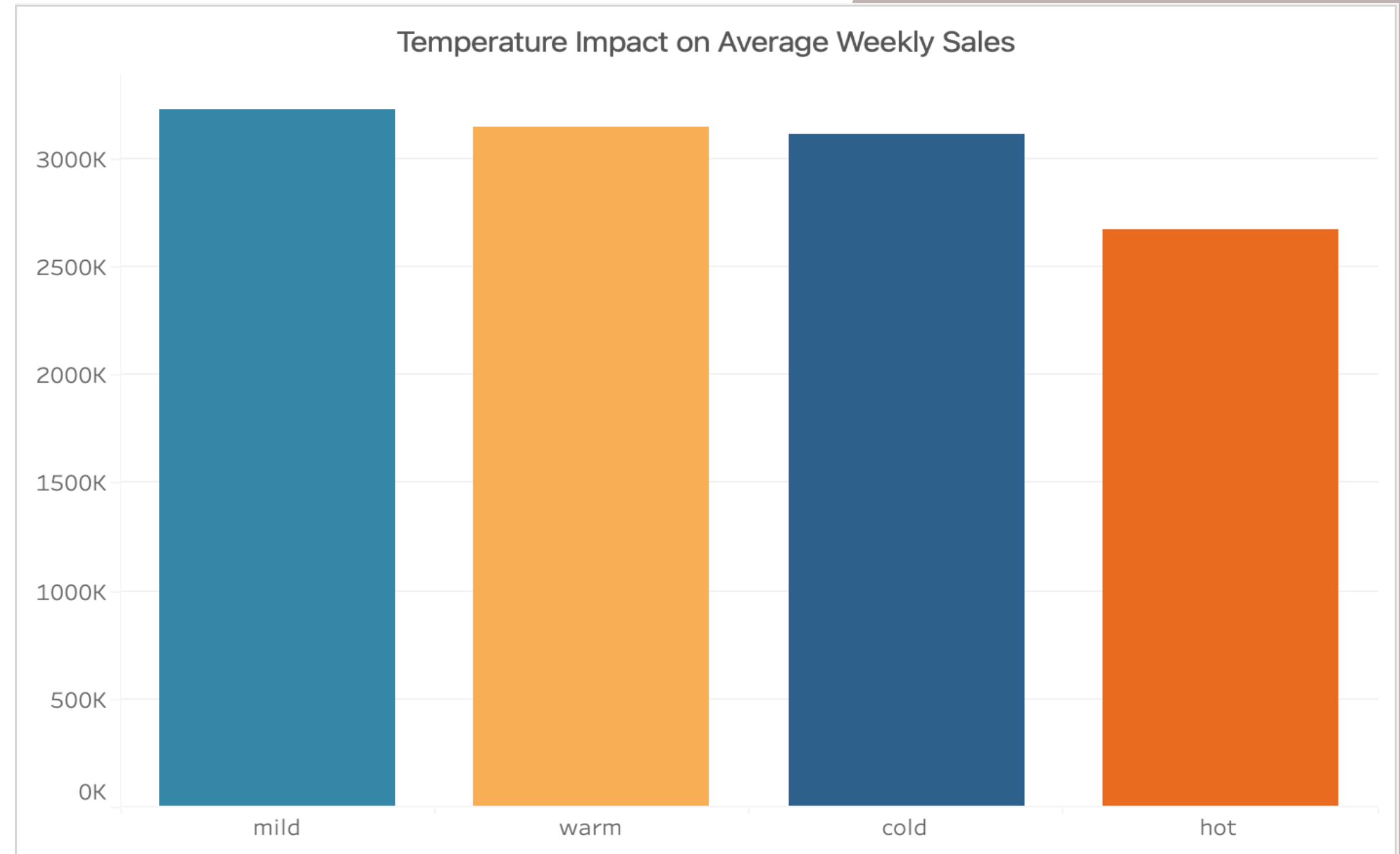🎯 Insight → holidays boost short-term sales → key period for promotions and inventory planning

Holiday Impact on Average Weekly Sales

Weather –
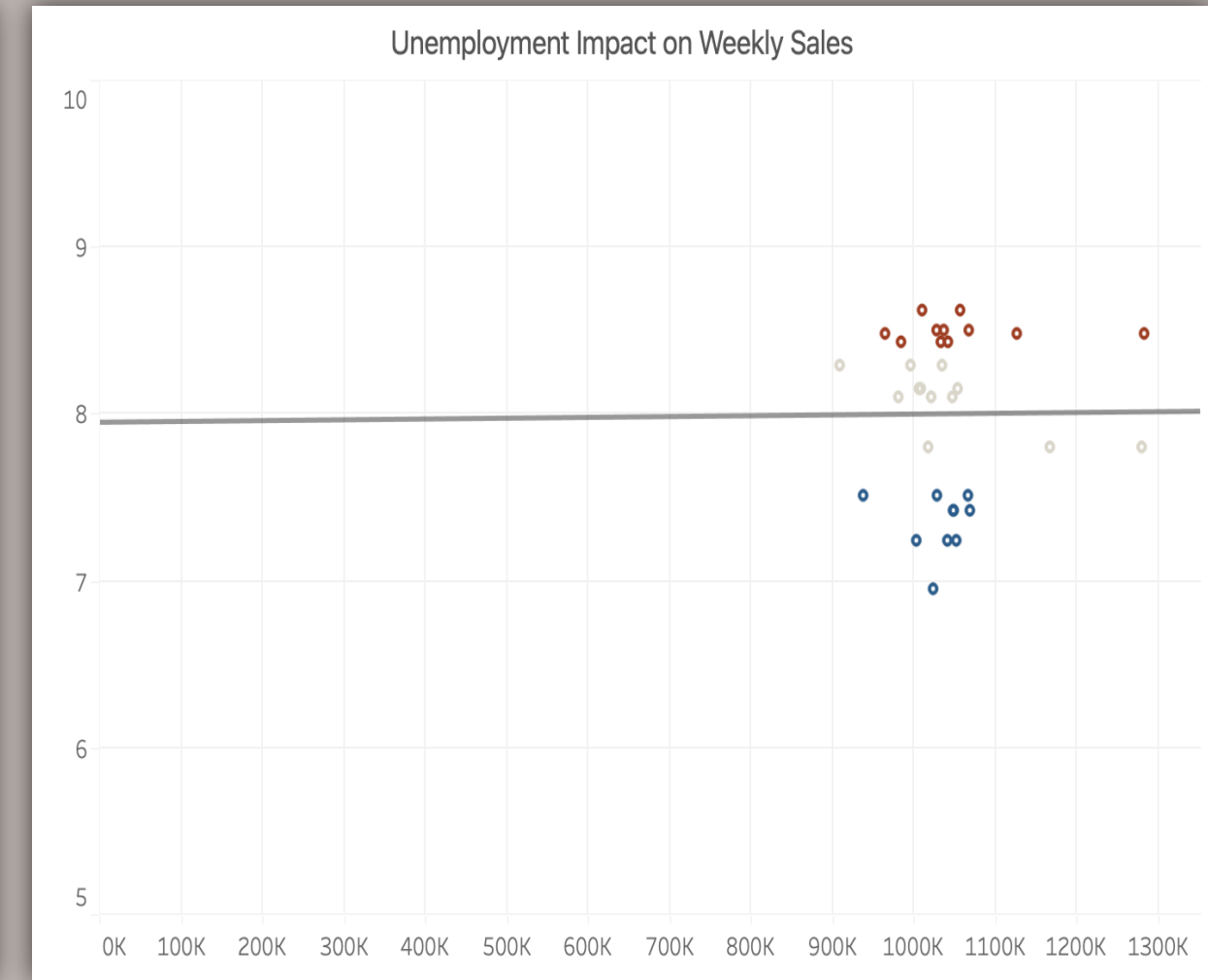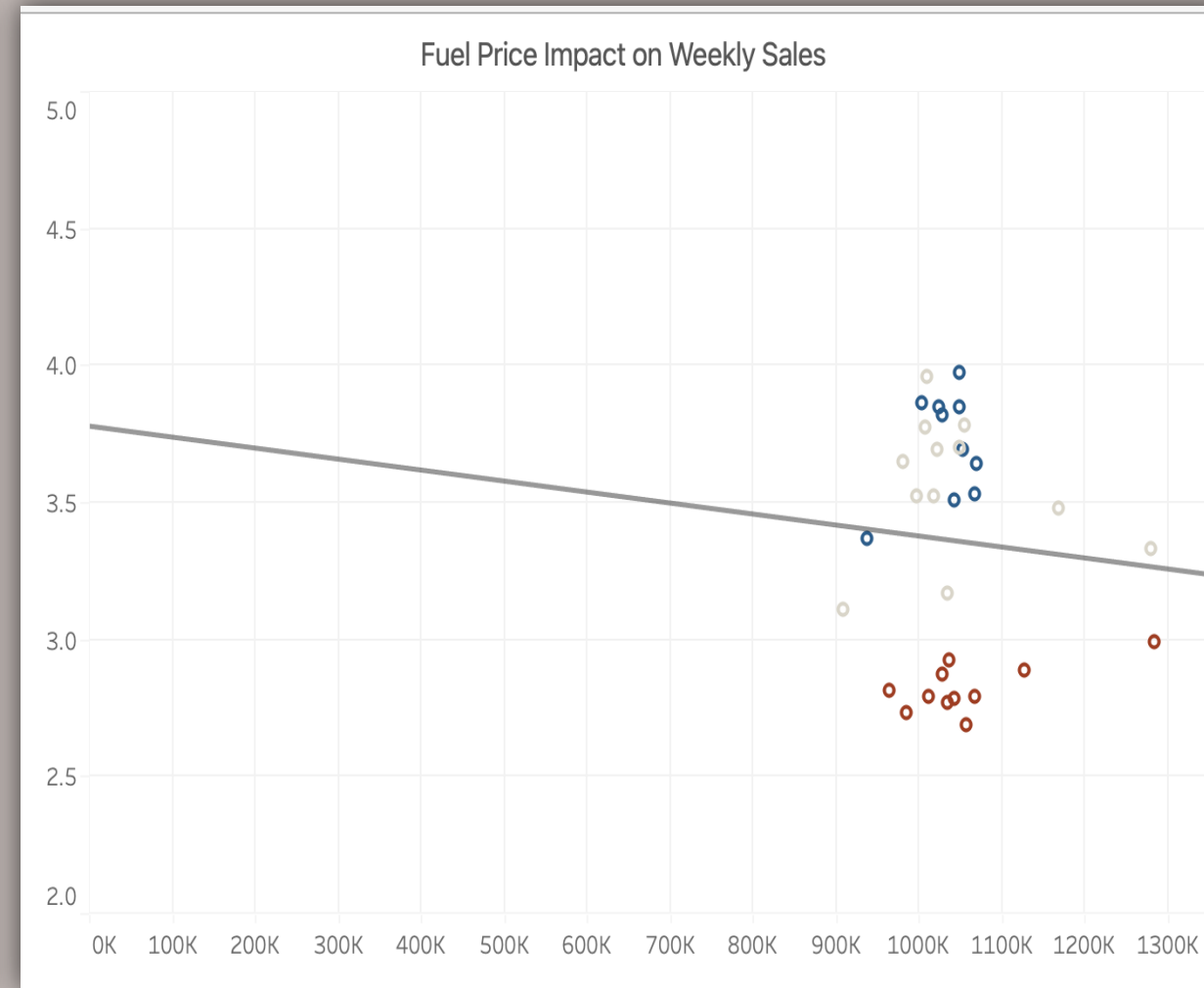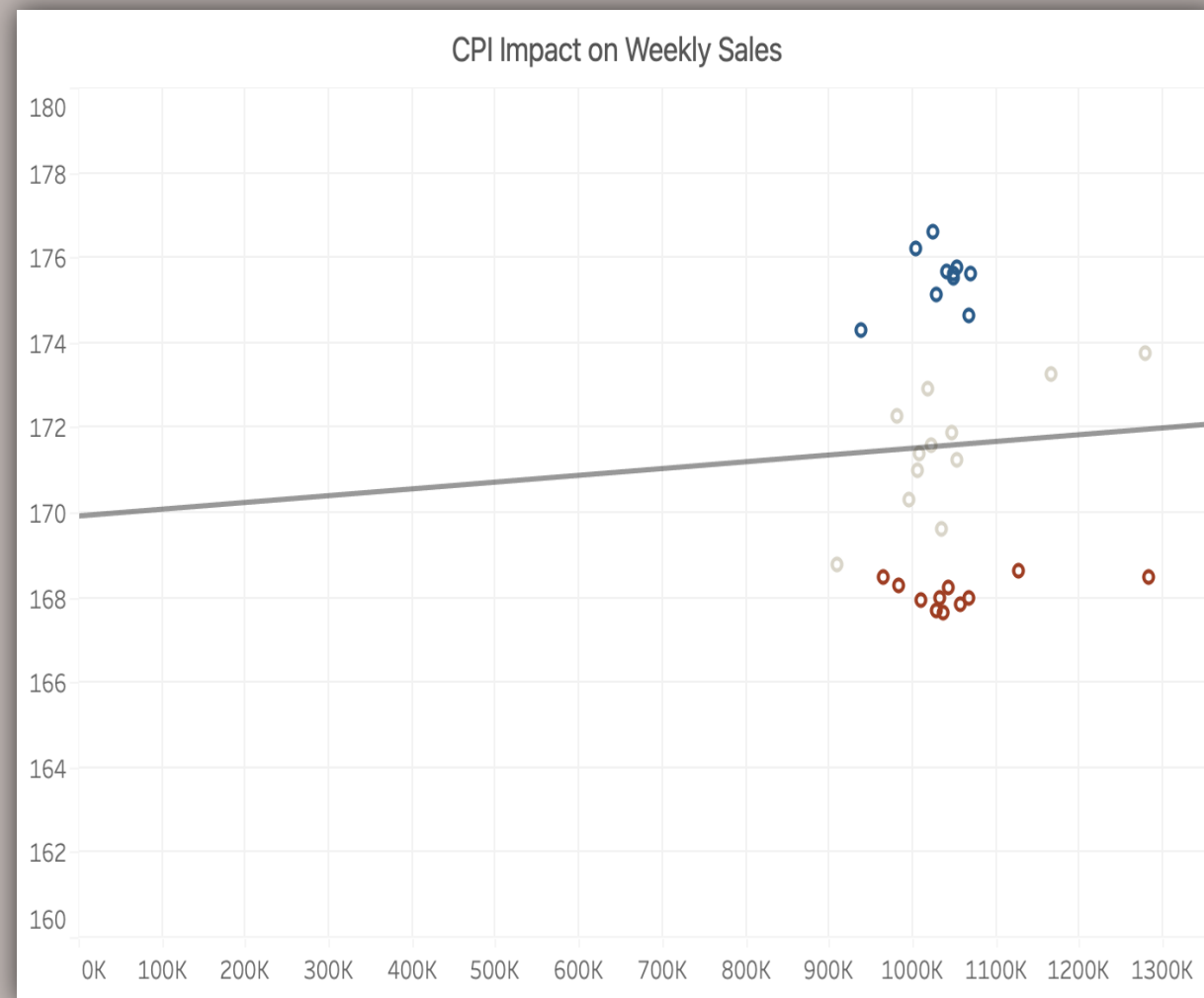# Do temperature levels affect revenue?

Insight

☁️ Mild–Cold → relatively stable sales

🔥 Hot → noticeable drop in average revenue

🎯 Insight → extreme heat may reduce in-store activity and overall sales

Temperature Impact on Average Weekly Sales

Economic Factors –

Do CPI, fuel price, and unemployment affect revenue?

📈 CPI → slight positive correlation with average weekly sales

⛽ Fuel price → mild negative impact

💼 Unemployment → nearly no visible effect

🎯 Insight → economic indicators show weak direct influence on average weekly sales