# Sales Analysis Report for Walmart Stores

Introduction

This report provides an analysis of sales trends for Walmart stores based on several factors, including holidays, weather, fuel prices, and economic conditions. The dataset contains information about weekly sales, holidays, temperature, fuel prices, Consumer Price Index (CPI), and unemployment rates from various stores.

Key Insights

Holiday Sales–Holiday vs Non
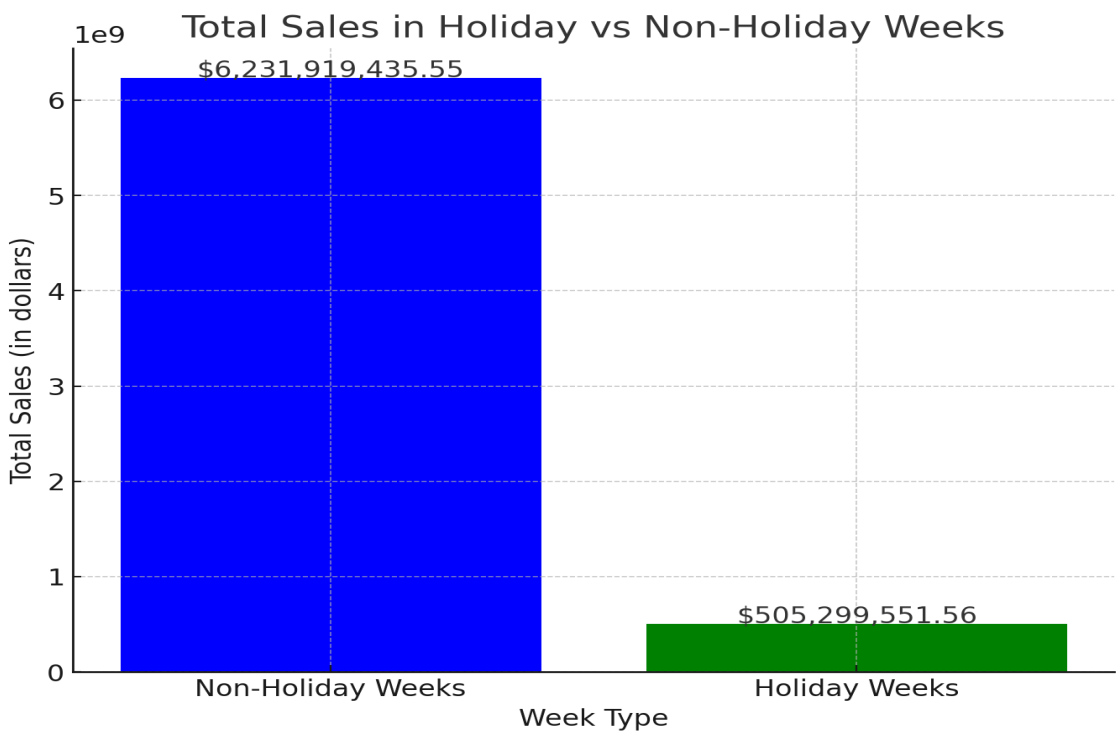
-Observation: A comparison between holiday and non holiday weeks shows that sales during holiday weeks are typically higher than during non-holiday weeks.

Supporting Evidence: A bar chart comparing total sales for holiday weeks vs. non-holiday weeks revealed significantly higher sales during holidays. This suggests that Walmart stores experience a surge in sales during key holidays, likely due to increased consumer spending.
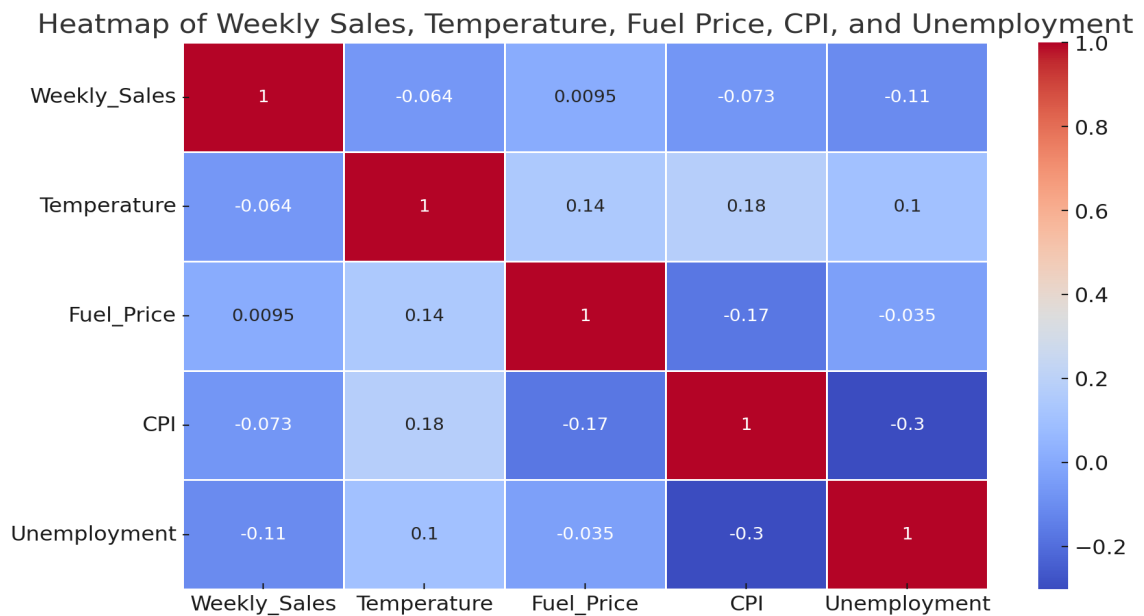
Sales Trends Over Time
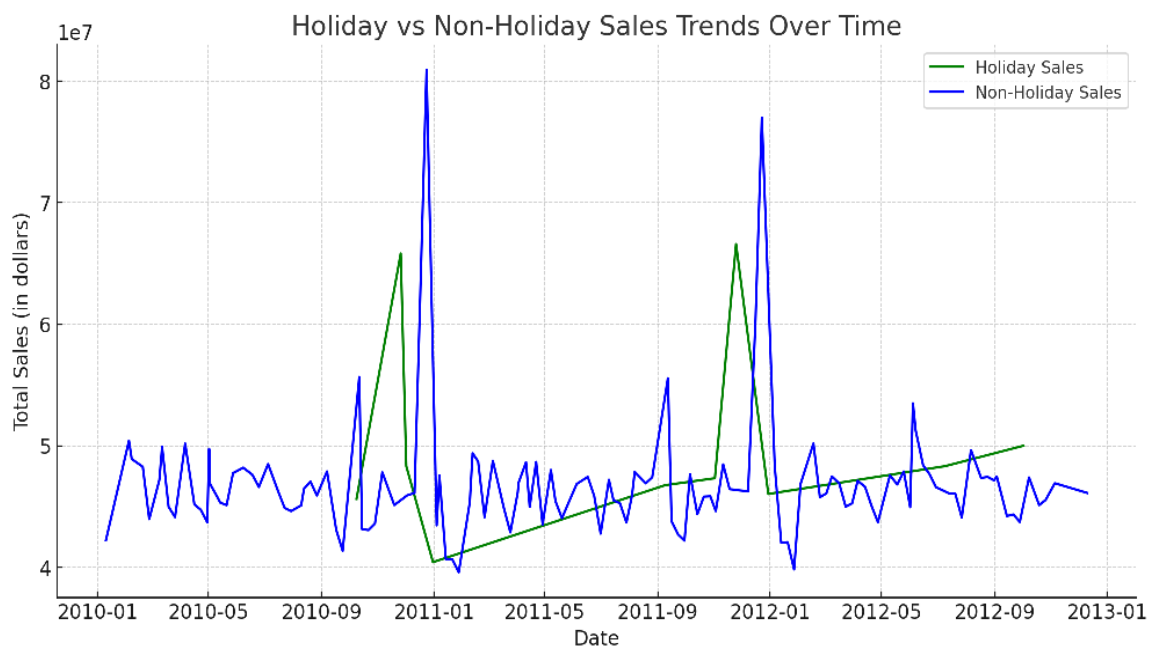
Observation: There are fluctuations in sales over time, with visible peaks during holiday periods.

Supporting Evidence: A line chart comparing holiday and non-holiday sales trends shows that non-holiday weeks maintain steady sales, but holiday weeks consistently display sales spikes. This indicates that holiday promotions and events drive more traffic and revenue.

Impact of Temperature on Sales

Heatmap of Weekly Sales, Temperature, Fuel Price, CPI, and Unemployment

	Weekly_Sales	Temperature	Fuel_Price	CPI	Unemployment
Weekly_Sales	1	-0.064	0.0095	-0.073	-0.11
Temperature	-0.064	1	0.14	0.18	0.1
Fuel_Price	0.0095	0.14	1	-0.17	-0.035
CPI	-0.073	0.18	-0.17	1	-0.3
Unemployment	-0.11	0.1	-0.035	-0.3	1

Observation: Temperature appears to have a mild relationship with sales.

Supporting Evidence: A heatmap analysis of the correlations between sales and other variables, such as temperature, CPI, and unemployment, showed a weak correlation between temperature and weekly sales. This suggests that weather may not have a major impact on sales compared to other factors like holidays.

Fuel Prices and Sales

Observation: There is no strong correlation between fuel prices and weekly sales.

Supporting Evidence: The heatmap analysis also indicated a weak correlation between fuel prices and sales. This suggests that fluctuations in fuel prices do not significantly affect consumer purchasing behavior at Walmart stores.

Sales by Store Performance

Top 10 Stores by Total Sales


Bottom 10 Stores by Total Sales
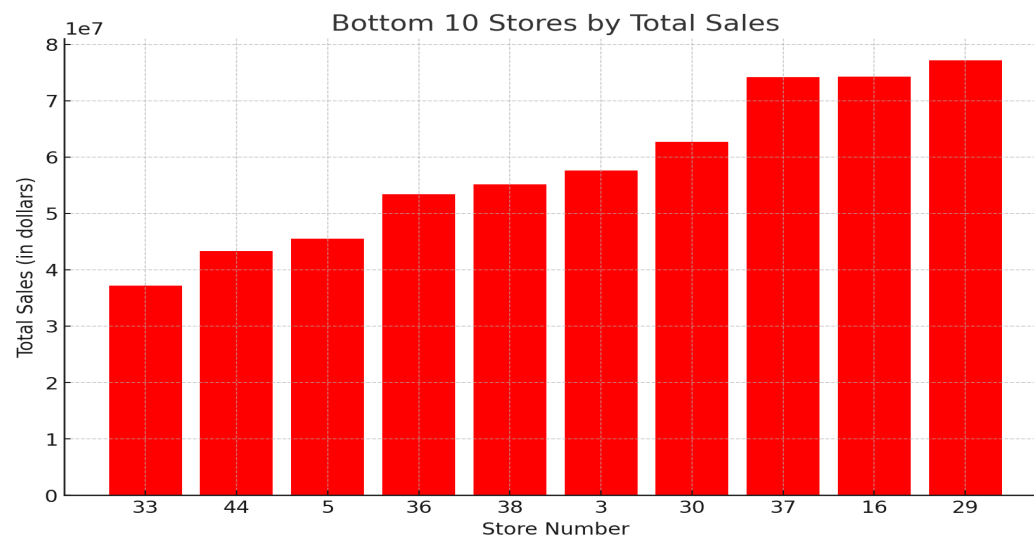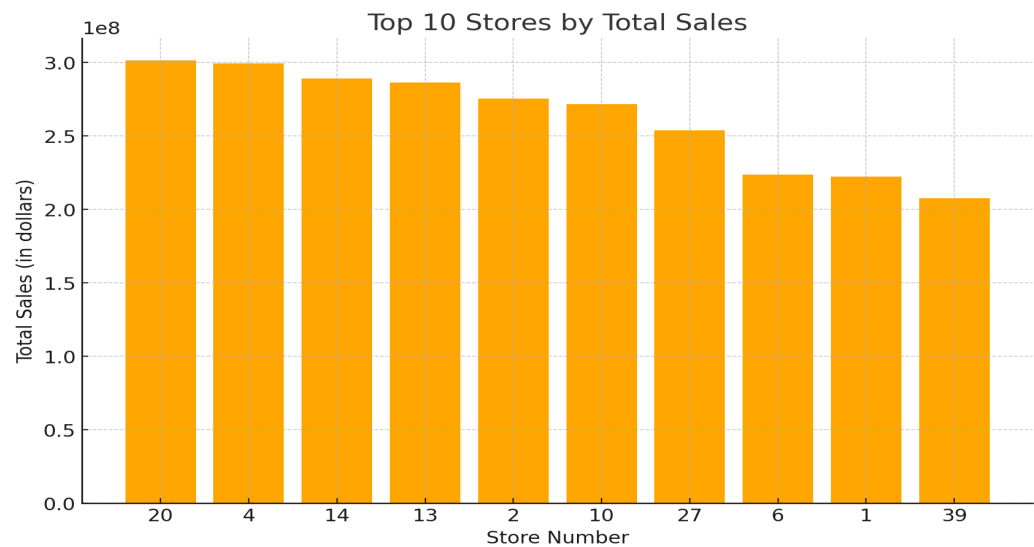
Observation: Sales performance varies significantly between stores.

Supporting Evidence: Bar charts for the top 10 and bottom 10 selling stores showed a wide gap in total sales. The top 10 stores consistently outperform others, suggesting that certain stores may benefit from better locations, larger

customer bases, or more effective store management.

Seasonal Sales Trends

Total Weekly Sales by Season for Each Year
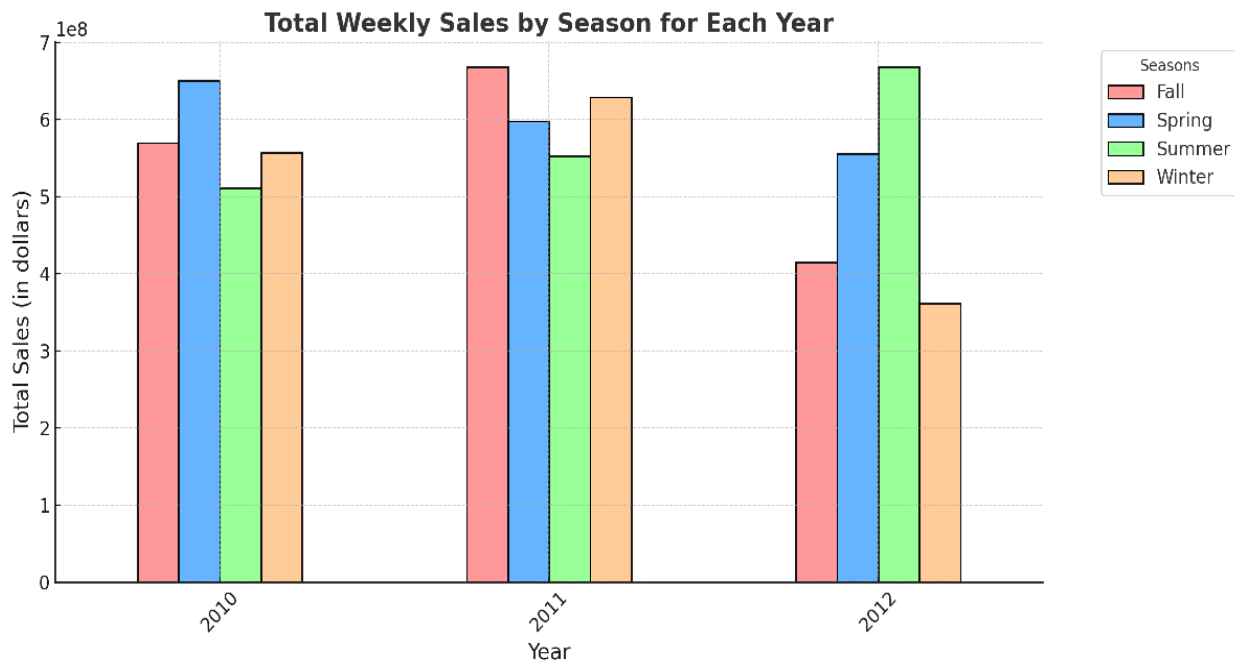
Observation: Sales vary across seasons, with some seasons generating higher sales than others.

Supporting Evidence: A bar chart of total weekly sales by season across each year shows that the winter and fall seasons generally bring higher sales, likely due to holiday shopping (e.g., Thanksgiving, Christmas). Spring and summer see relatively lower sales, which could be due to

the absence of major retail holidays during those times.

Conclusion

- The analysis of the Walmart sales dataset reveals several key trends:

- Holidays play a crucial role in driving higher sales, making them essential for Walmart's revenue strategy.

- Seasonal sales patterns show that winter and fall are the most profitable seasons, likely due to holiday shopping.

- While economic factors like CPI and unemployment may impact consumer spending, their correlation with sales is relatively modest compared to the impact of holidays.

- Store performance varies widely, with some stores consistently outperforming others. This may be an area to investigate further to identify the factors driving top store performance.

Recommendations

- ★ Focus on Holiday Marketing: Given the significant increase in sales during holiday weeks, Walmart should continue to leverage holiday promotions and events to maximize revenue.

- ★ Target High-Performing Stores: Investigate what makes the top-selling stores so successful and replicate those strategies in lower-performing locations.

- ★ Seasonal Promotions: Tailor promotions to key seasons, particularly during winter and fall, to capitalize on natural shopping trends.

- ★ Further Investigation: Explore additional factors that may affect store performance, such as store size, location, and customer demographics.