

Husnain Zahoor

Data Analytics Portfolio

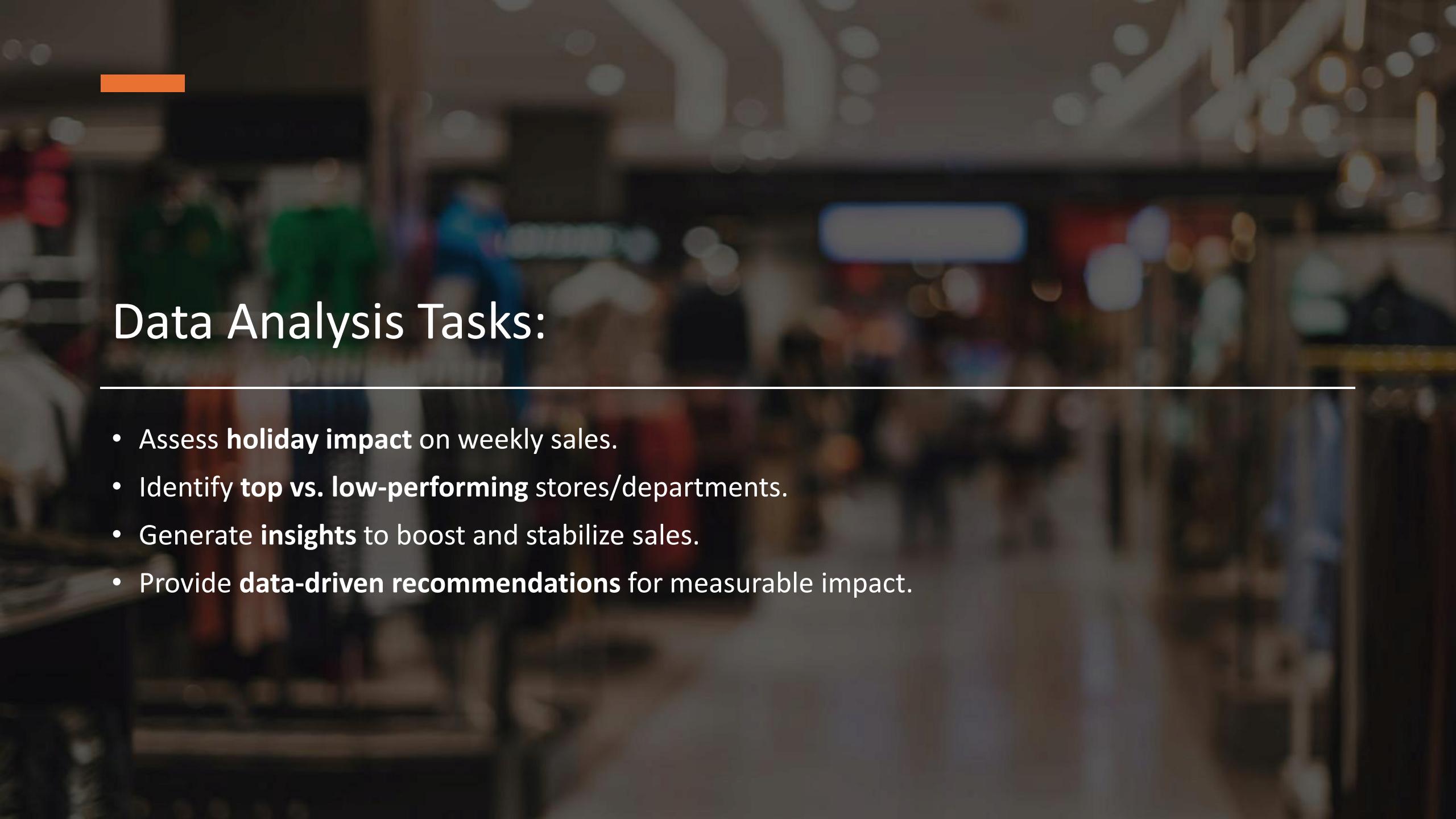


Walmart Store Sales Analysis:

- A comprehensive data driven approach to enhance the sales of stores and calculate the impact of holidays on weekly sales.

Project Overview:

- **Business Context:**
Walmart struggles to predict sales due to regional variations, holidays, and large-scale operations.
- **Business Problem:**
Analyze how holidays affect weekly sales and why some stores outperform others.
- **Approach:**
Used Excel, Pivot Tables, Lookups, hypothesis testing, and statistical analysis to identify top stores and evaluate holiday impact.



Data Analysis Tasks:

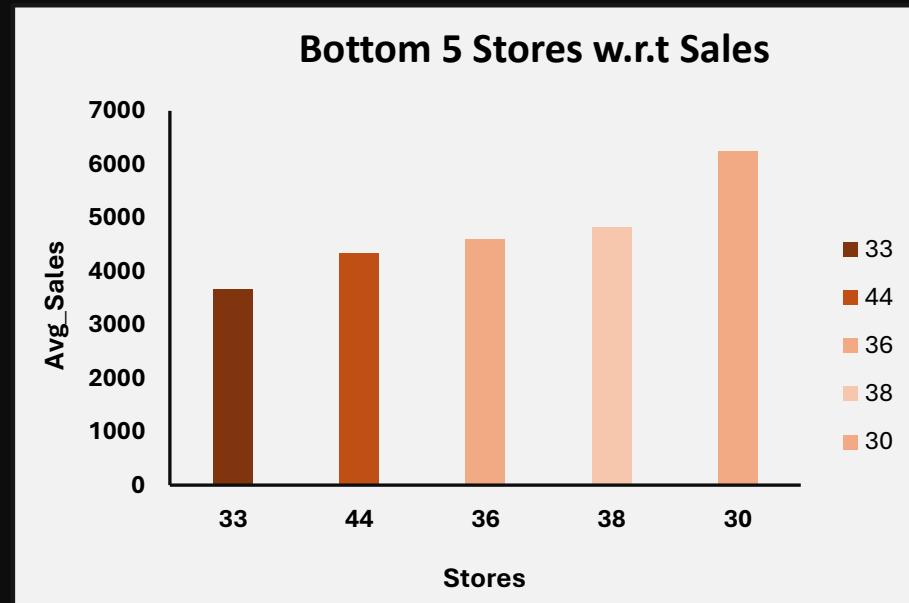
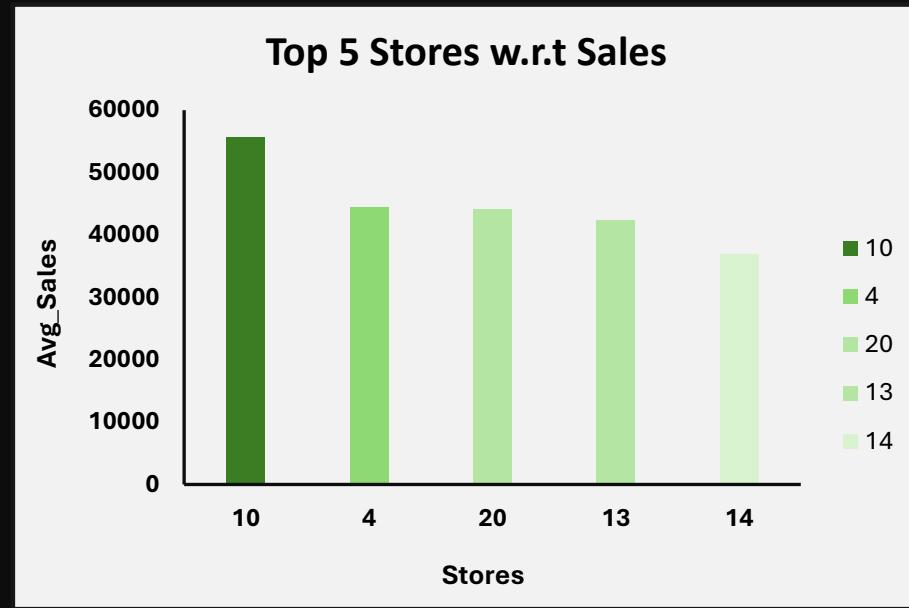
- Assess **holiday impact** on weekly sales.
- Identify **top vs. low-performing** stores/departments.
- Generate **insights** to boost and stabilize sales.
- Provide **data-driven recommendations** for measurable impact.

Action: Data Preparation in Excel:

- **Data Collection:** Processed 3 years of sales data; ensured quality and consistency.
- **Data Cleaning:** Removed duplicates, handled missing values, standardized formats, and treated outliers (IQR method).
- **Variable Creation:** Created helper variables to detect anomalies and support analysis.
- Data set Link: <https://github.com/digital-munich/lumen-data-analytics-module1-fundamentals/blob/main/README.md>

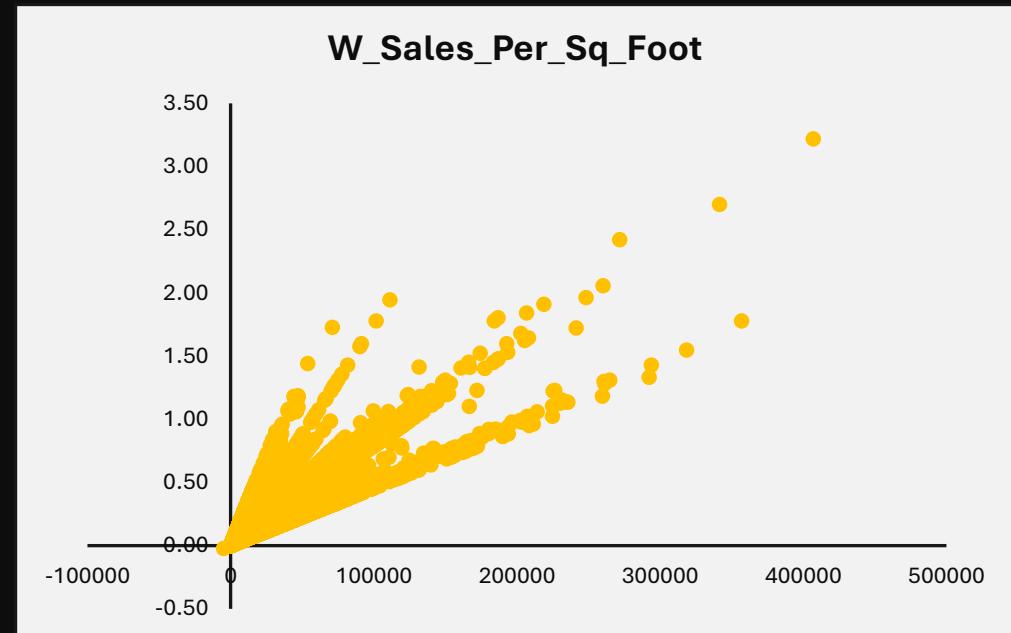
Key Findings:

Top & Bottom Stores W.R.T Sales Performance:

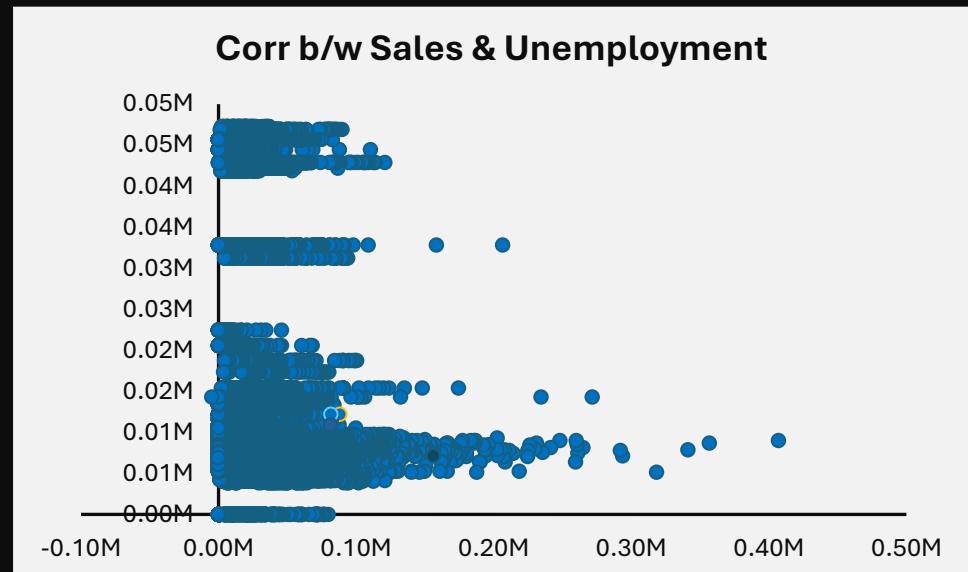


Key Findings:

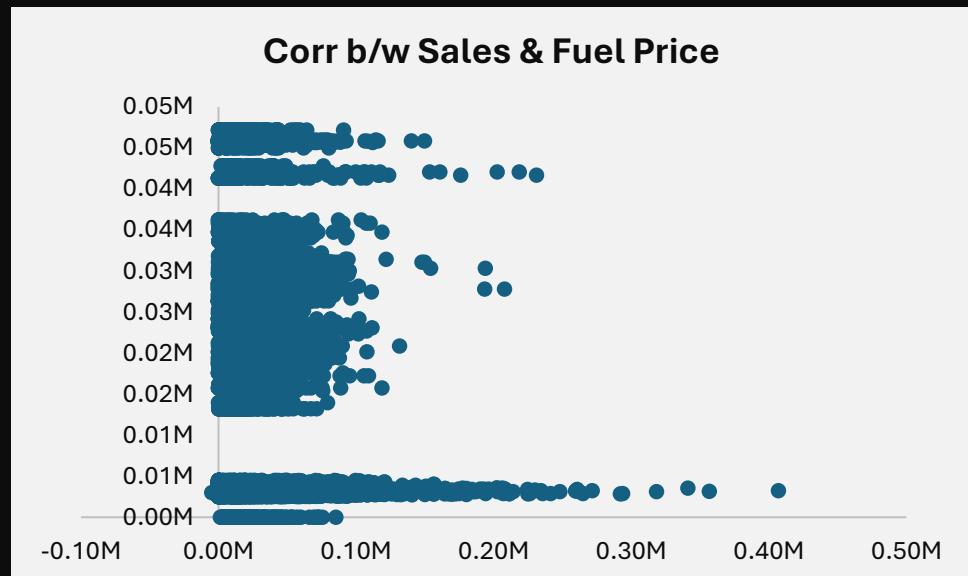
- **Sales vs. Sales per Square Foot: 0.75**, indicating a strong positive relationship.
- The trends in the chart suggest a positive linear relationship, meaning that as one factor increases, the other also increases. This indicates a potentially strong impact on sales.



- **Correlation Coefficient:** -0.0469
Very weak negative — sales and unemployment are nearly unrelated
- **Visual Insight:** The chart shows no clear trend and does **not** exhibit a linear relationship.

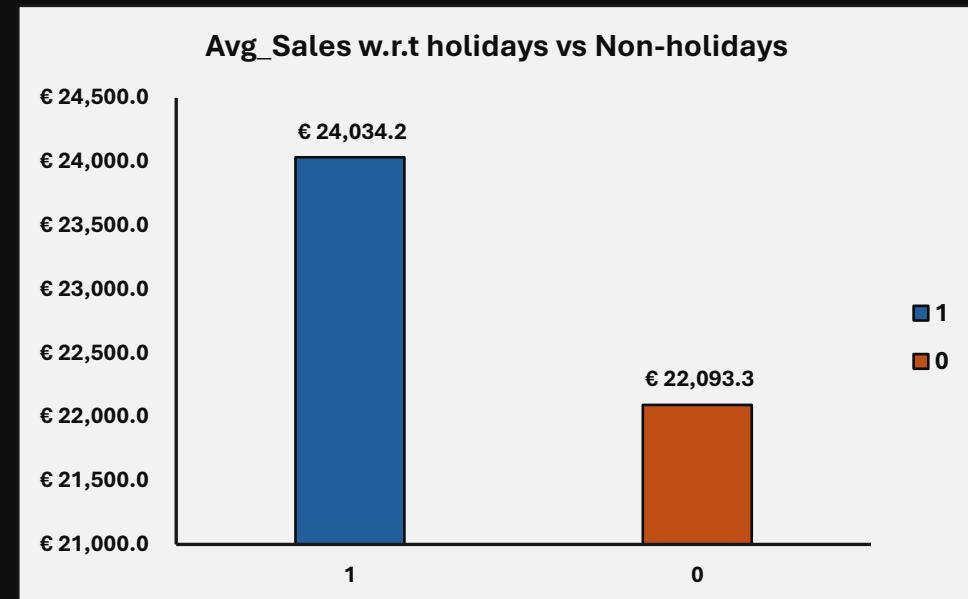


- **Correlation Coefficient:** 0.007027
Very weak — sales and fuel price are nearly unrelated.
- **Visual Insight:** The chart shows a slightly more consistent pattern than the first graph, suggesting a possible linear trend, though the correlation remains weak.



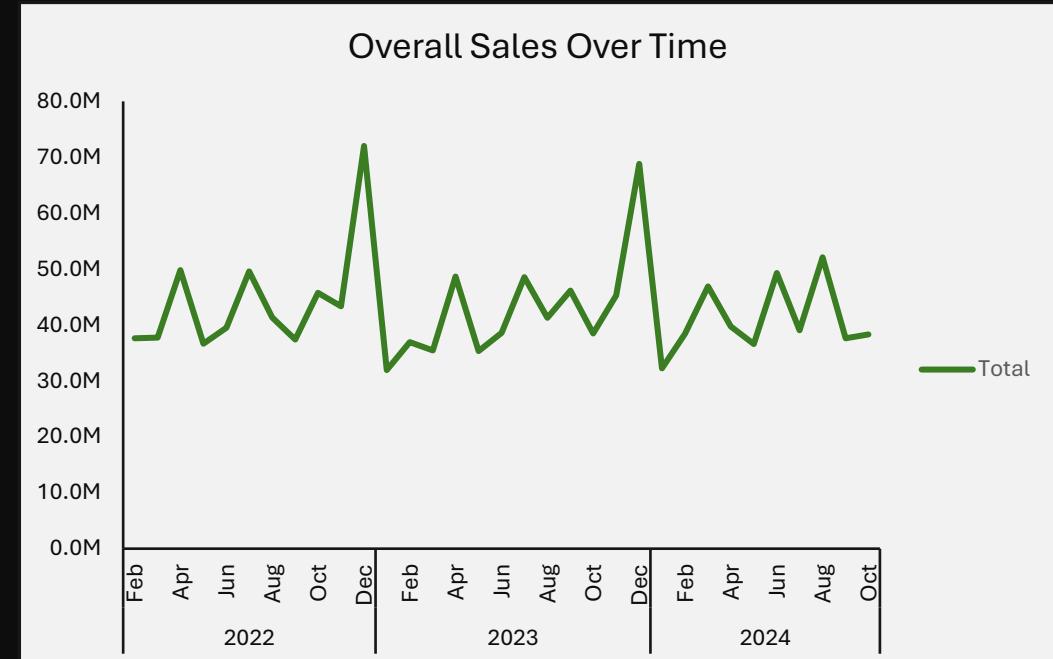
Key Findings:

Sales in the holiday season are higher than in non-holiday periods.



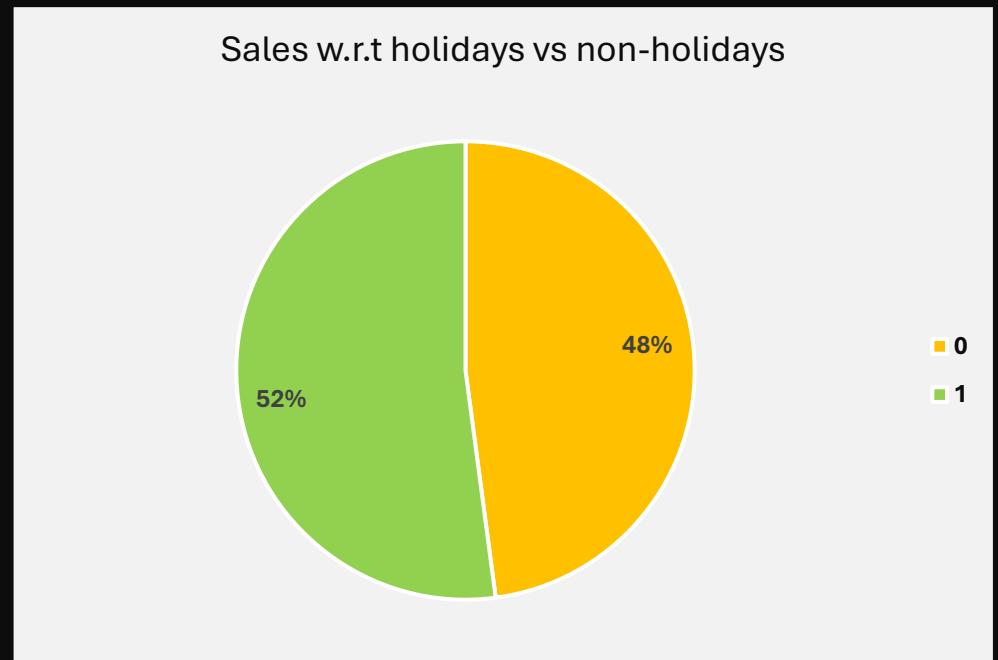
Key Findings:

Sales spiked in December 2022 and 2023 due to business events.



Key Findings:

- In the pie chart, 48% represents non-holiday sales, while 52% represents holiday sales.
- No major impact of holidays on sales.



Strategic Recommendations:

- **Expand Targeted Promotions:** Focus on underperforming stores/departments with high revenue potential.
- **Optimize Timing:** Align promotions with weekends, as holidays have minimal impact on sales.
- **Monitor & Scale:** Track promotion performance and scale successful strategies across stores.
- **Leverage Holidays:** Run targeted campaigns during holidays and in weaker-performing regions to boost sales.

Technical Skills Demonstrated:

- **Excel Proficiency:** Advanced use of Pivot Tables, Lookups, data cleaning, and validation.
- **Hypothesis Testing:** Defined and tested null and alternative hypotheses; successfully rejected the null hypothesis with 95% confidence.
- **Statistical Analysis:** Performed hypothesis and significance testing to derive reliable insights.
- **Strategic Thinking:** Translated complex data patterns into actionable business recommendations.

This project demonstrates my ability to deliver business value through systematic data analysis and evidence-based strategic recommendations.

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