

Veronica's

Sales Analysis

Ironhack
Data Analytics
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Veronica's

Bakery and Pasta Shop Opened in 2022

Breads | Pastries | Sandwiches | Coffee |
House Made Fresh Pasta | Gourmet Pantry Items

Ontario, Canada
Population: 785 000

February 2023 to November 2024
Total Net Sales: \$2,090,908.68

Business Problem:

How can Veronica's Bakery use sales patterns influenced by:

1. Holidays
2. Weather Conditions

To make better decisions for:

- Revenue Growth
- Operational Efficiency

Key Questions:

- Which **days, months, and seasons** have the highest sales?
- How do **rainfall, snowfall, and temperature** affect sales?
- How do sales fluctuate around the **holidays** compared to **regular days**?



Dataset

Sales: Gathered from Point of Sale app

Weather: Government of Canada

Holidays: holidays library on Python

Time Frame: last 22 months



Category	Examples
Sales	Sales amounts, discounts, taxes
Payments	Payment methods, gift card sales
Weather	Temperature, rain, snow, precipitation
Holidays	Holiday names, days around holidays
Engineered	Season, temperature categories, store status

Statistical Tests

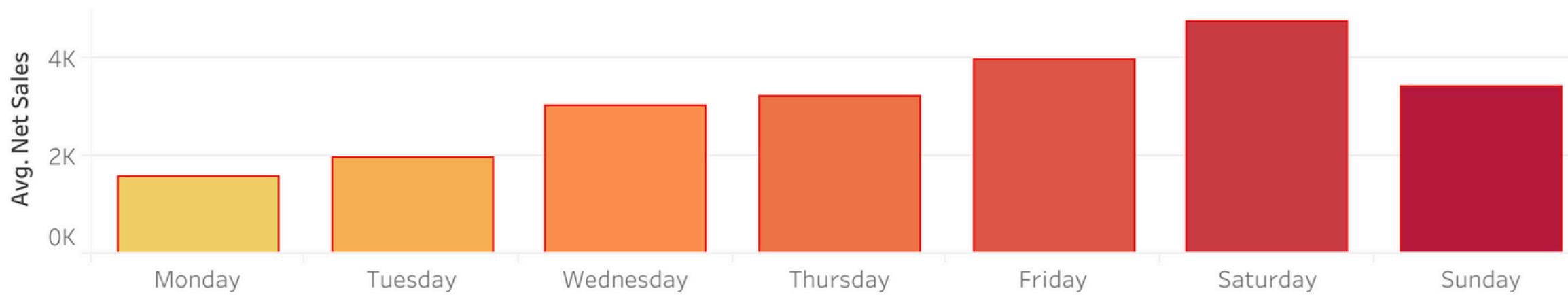
Hypothesis:	Conclusion:
Sales by Day of the Week	Significant Difference ✓
Rainy vs. Non-Rainy Days	No Significant Difference ✗
Snowy vs. Non-Snowy Days	Significant Difference ✓
Holidays vs. Non-Holidays	Significant Difference ✓
Sales Across Seasons	No Significant Difference ✗



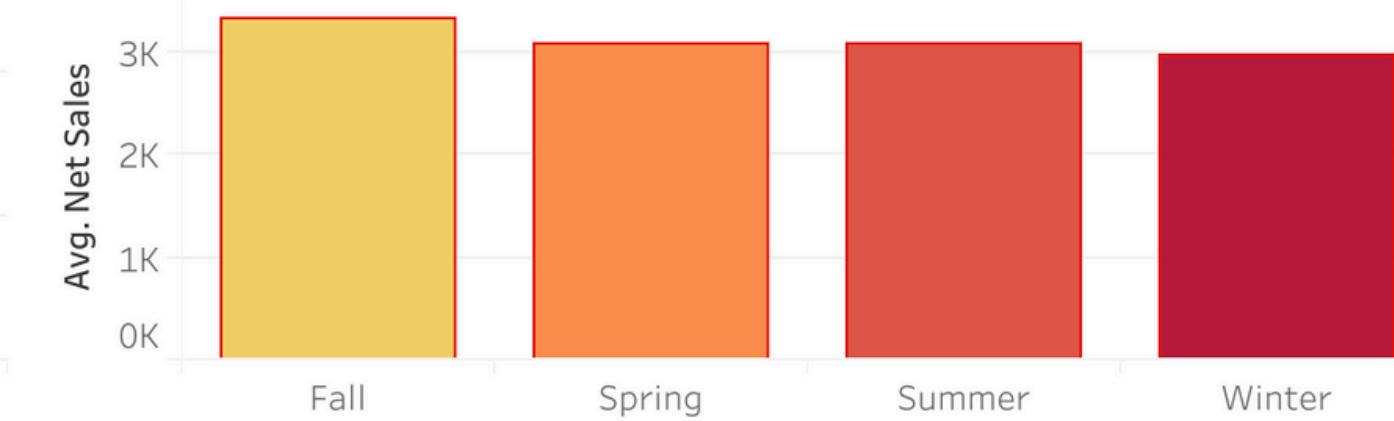
Sales Insights: Veronica's

Time Frame: 2023-02 - 2024-11 Total Net Sales: \$2,090,908.68 Net Profit Margin: 15%

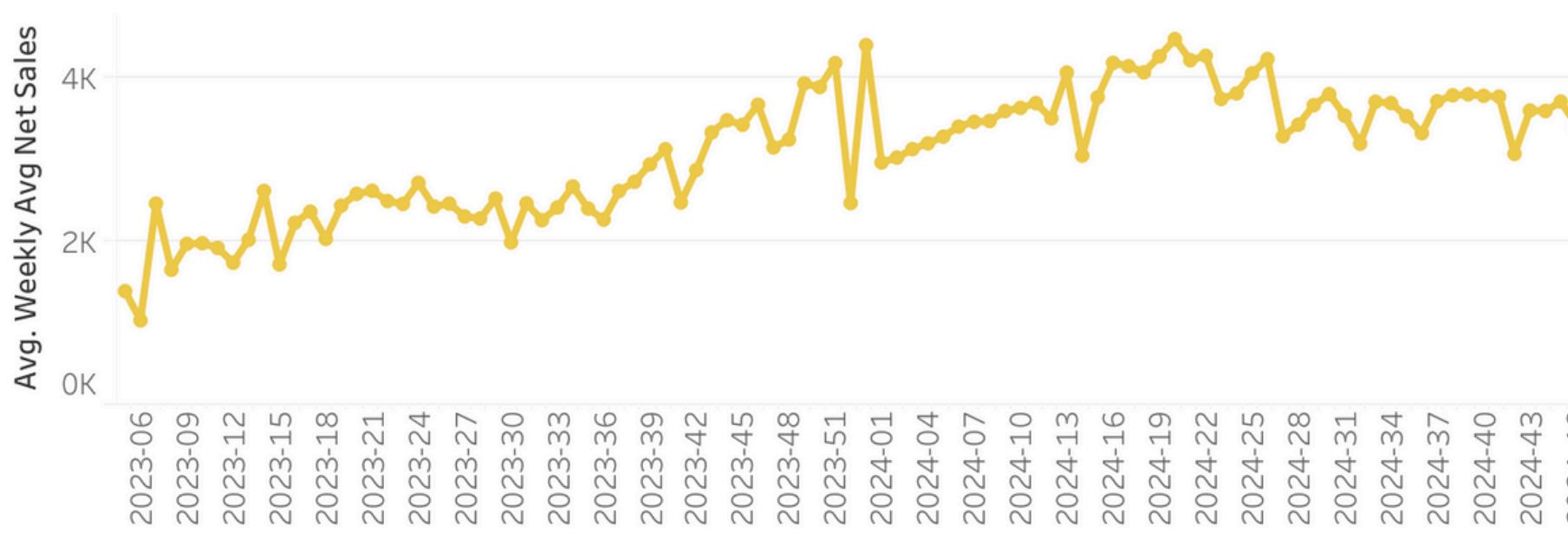
Average Sales by Day of the Week



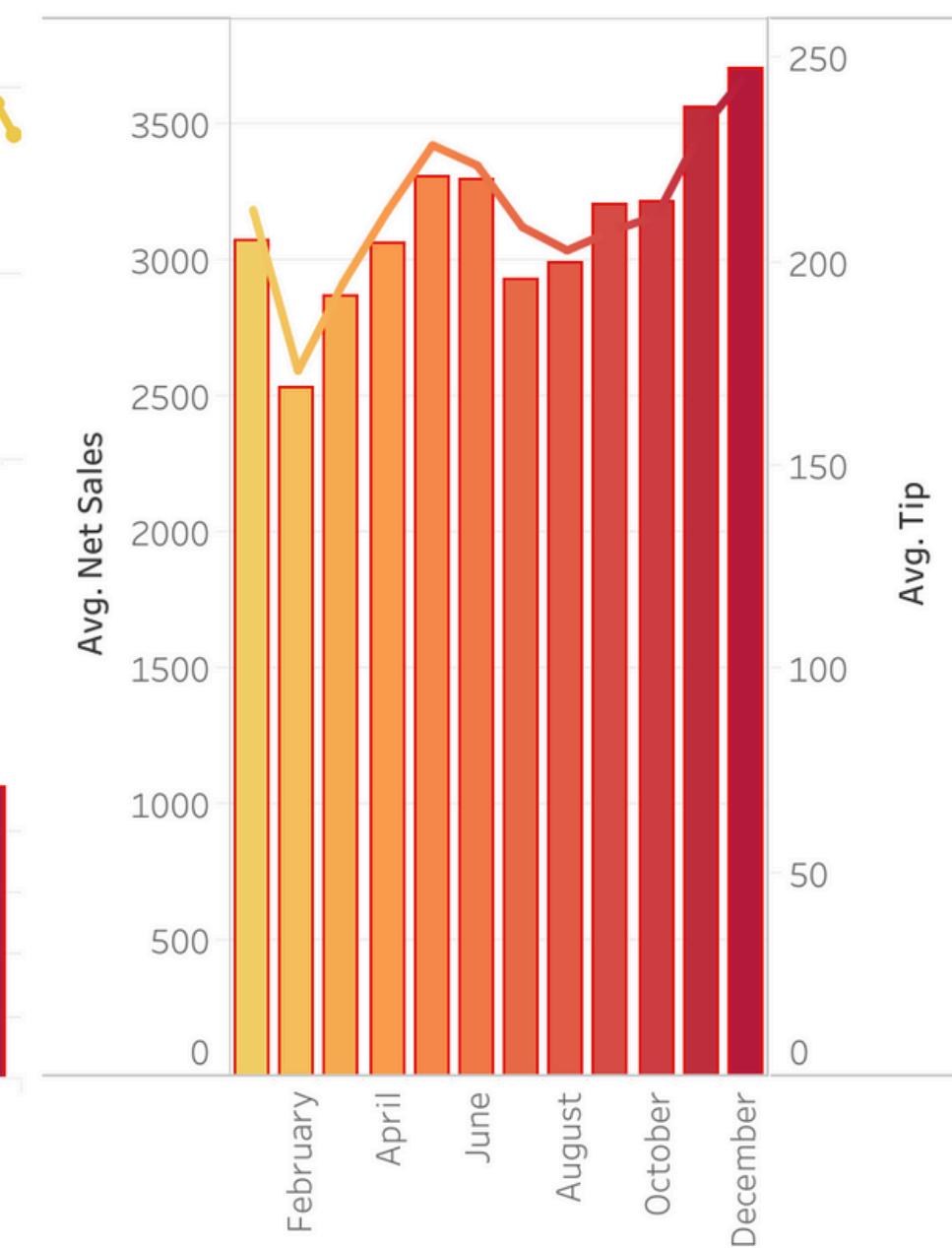
Average Sales by Season



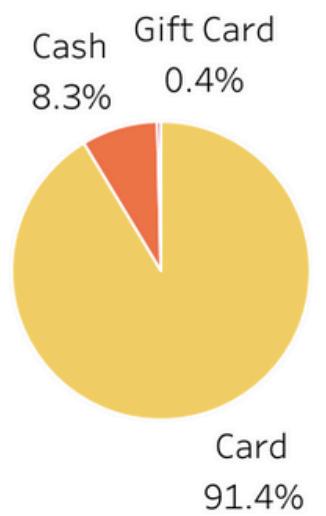
Weekly Sales Trend



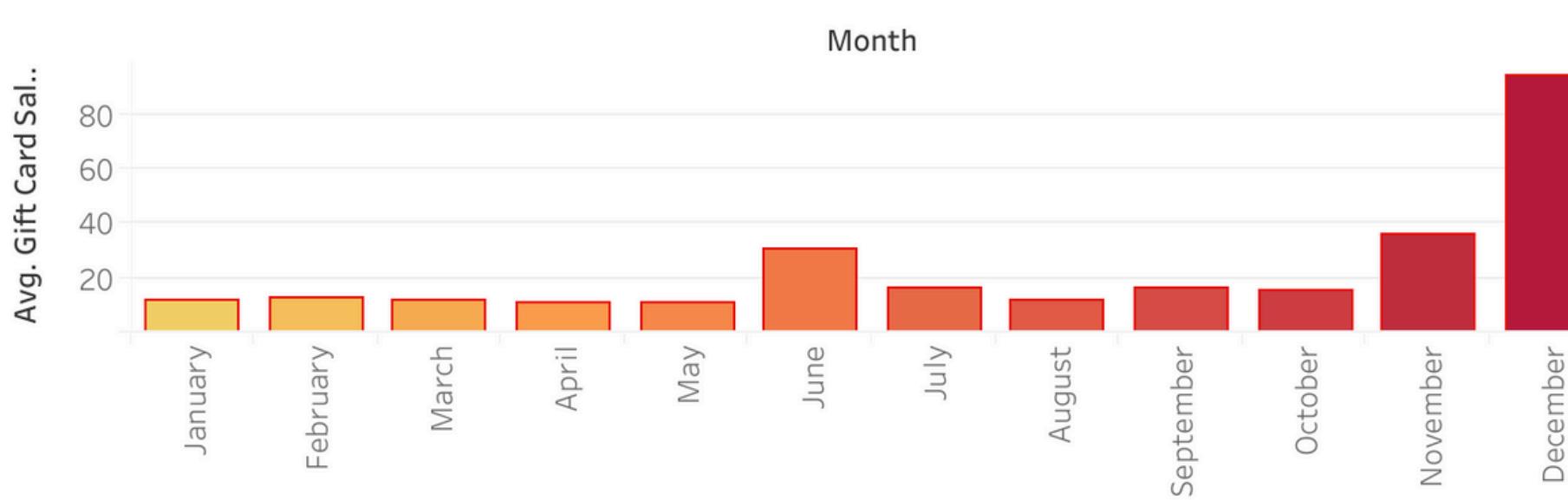
Average Sales per Month with Average Tips (6.75%)



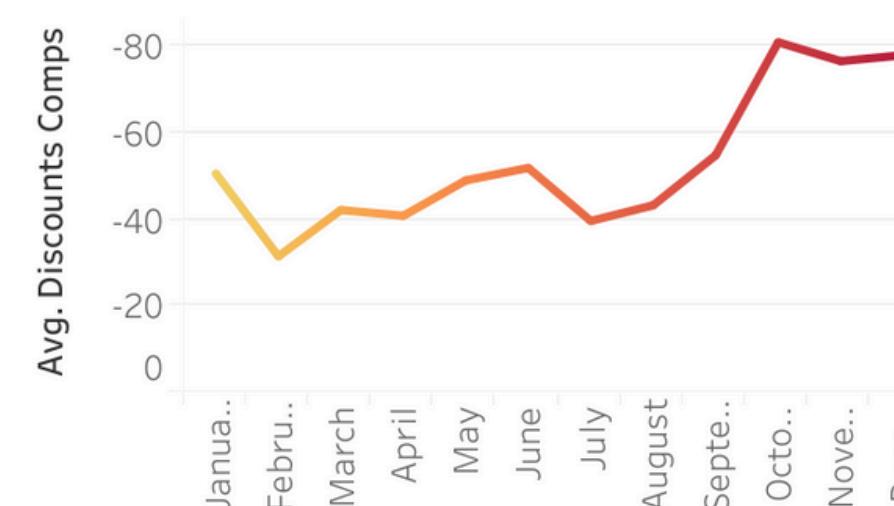
Customer Payment Methods



Average Gift Card Sales per Month



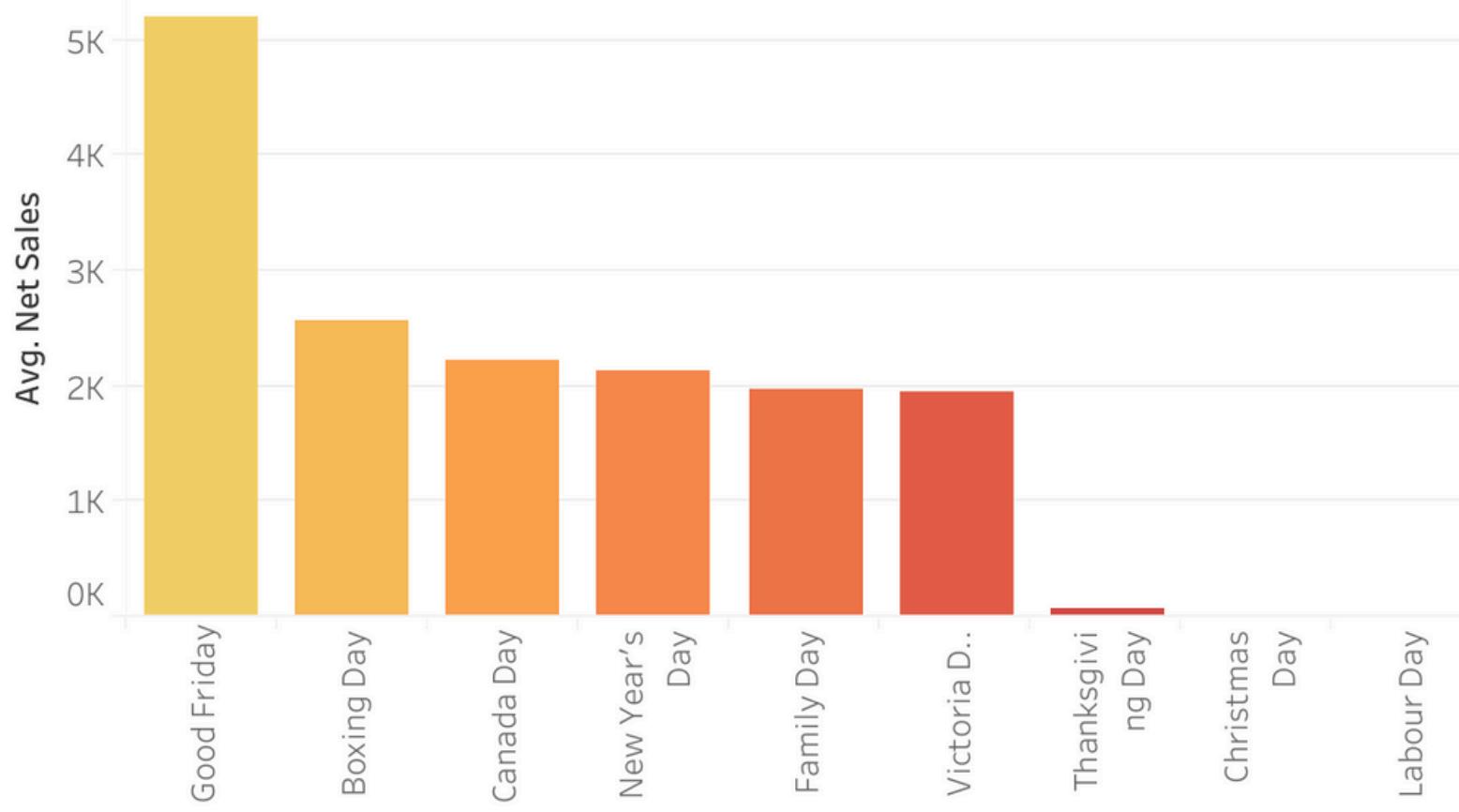
Average Discount Amount



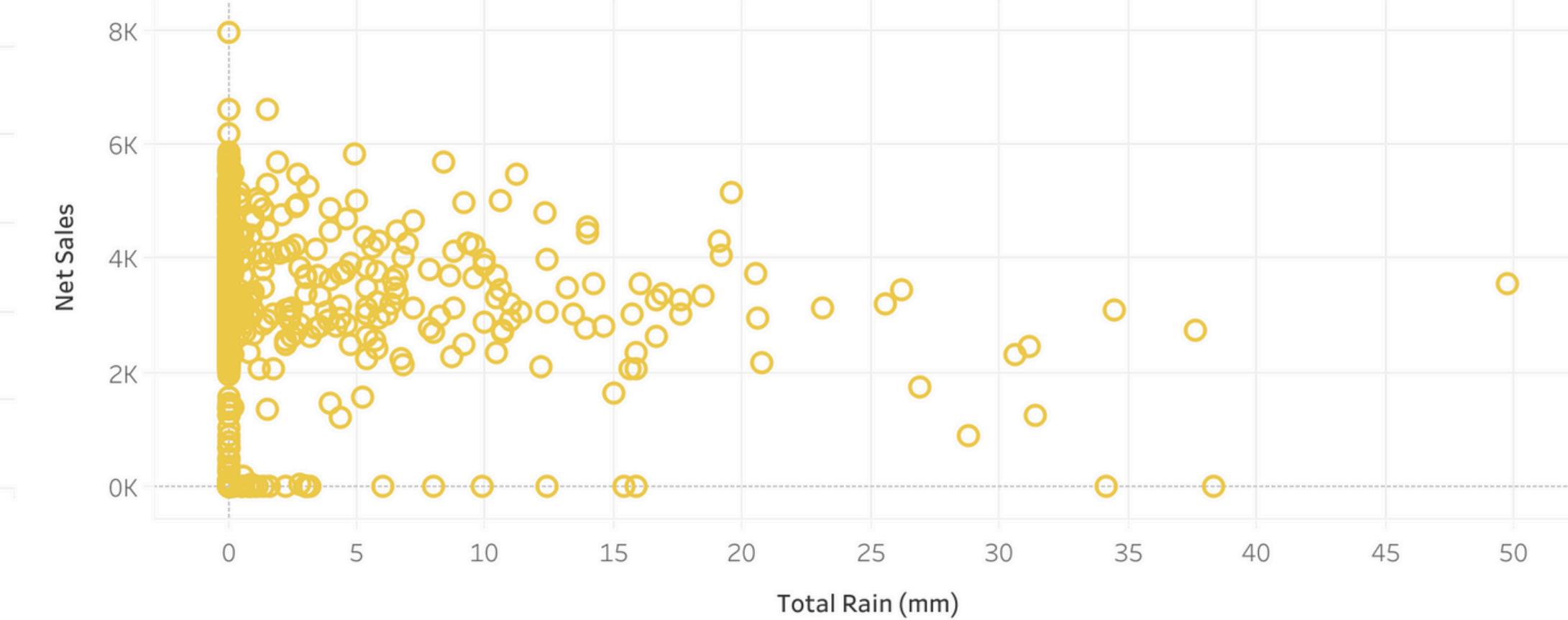
Holiday and Weather Condition Patterns - Veronica's

Time Frame: 2023-02 - 2024-11 Total Net Sales: \$2,090,908.68 Net Profit Margin: 15%

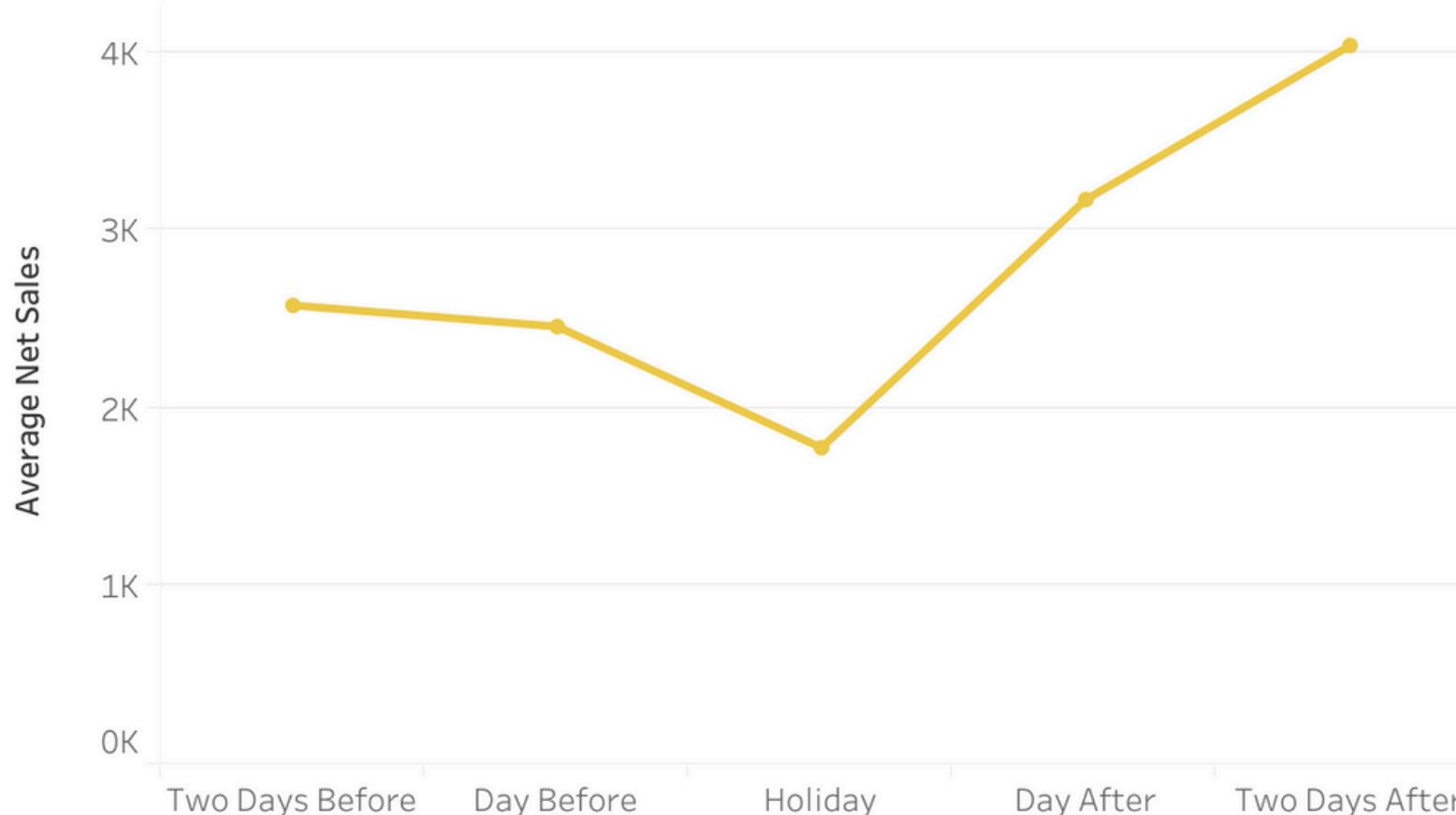
Top Performing Holidays



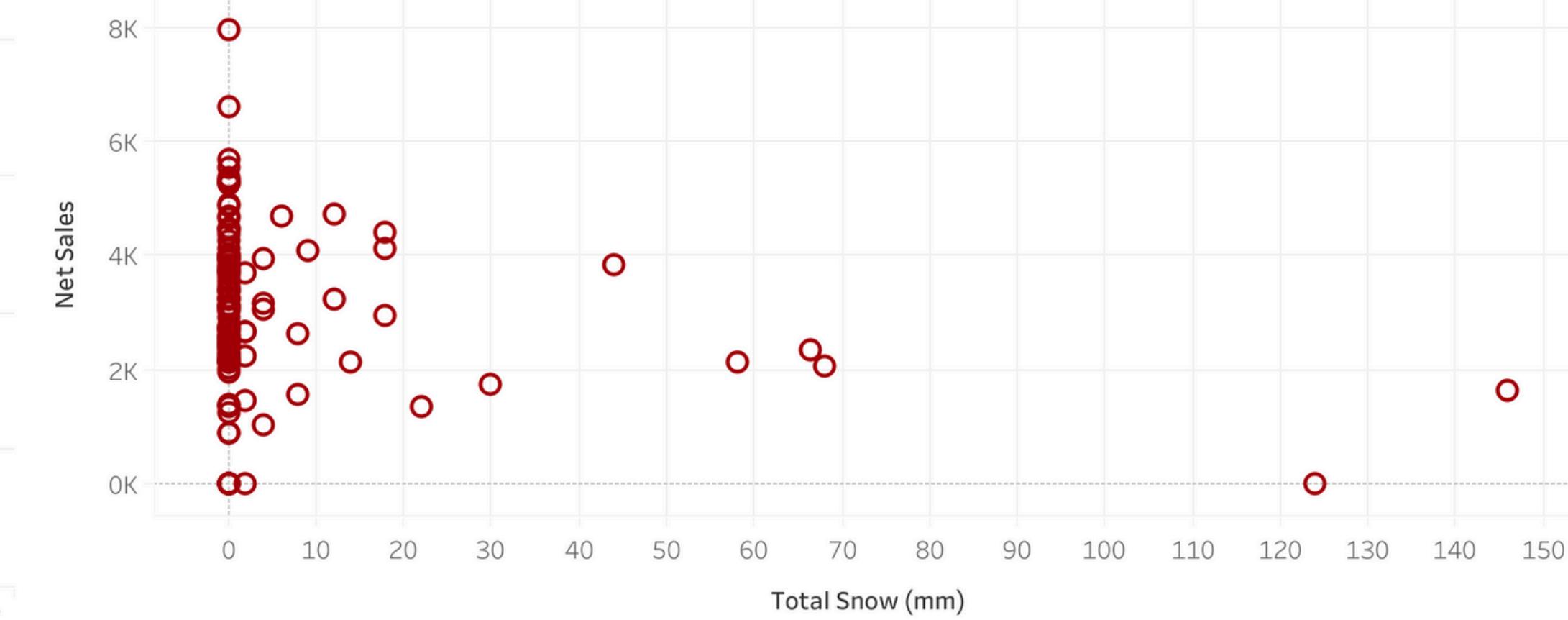
Rainfall Impact on Sales (Total # of Rainy Days: 241)



Average Sales During Holiday Time



Snowfall Impact on Sales (Total # of Snowy Days: 45)

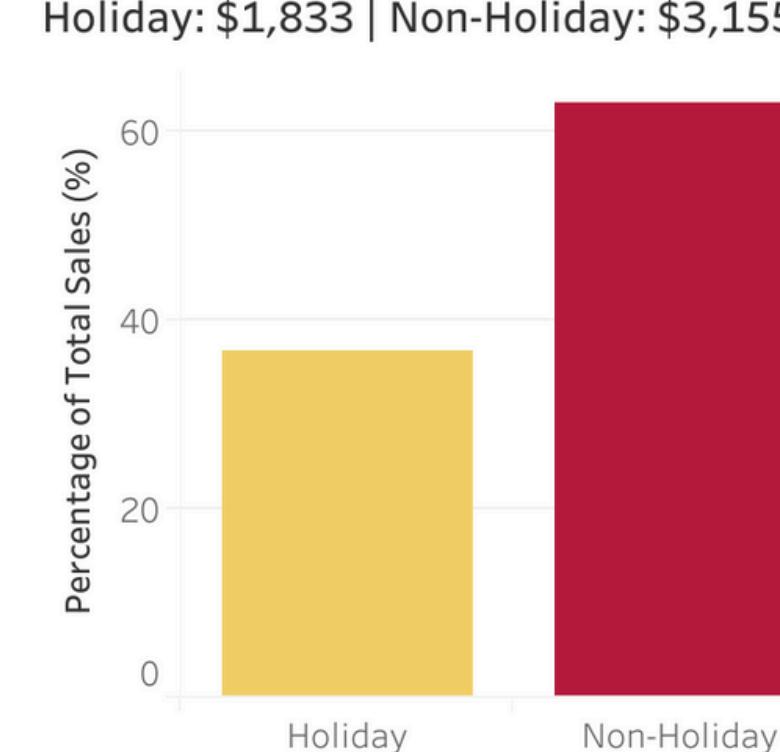


Key Performance Indicators - Veronica's

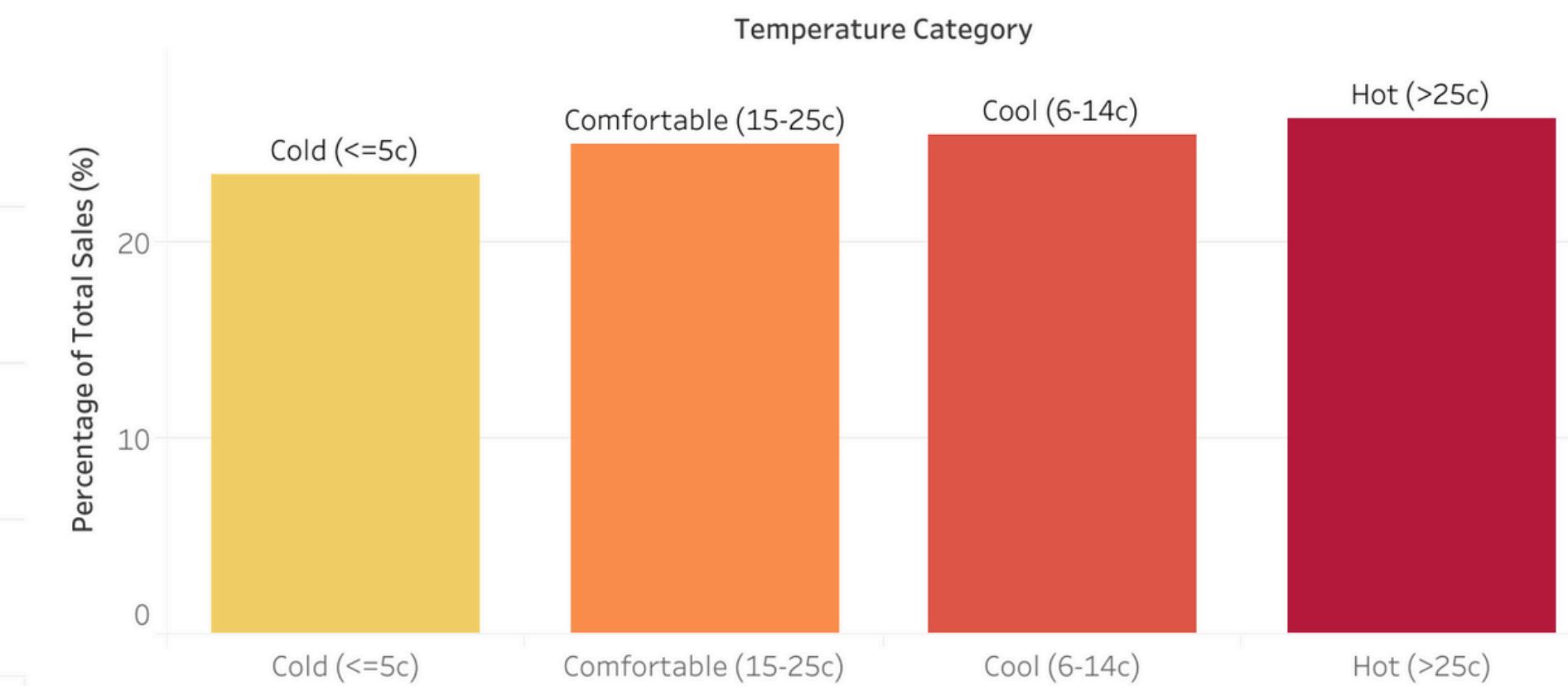
Time Frame: 2023-02 - 2024-11 Total Net Sales: \$2,090,908.68 Net Profit Margin: 15%

#1: Average Sales Per Day = **\$3125.42**

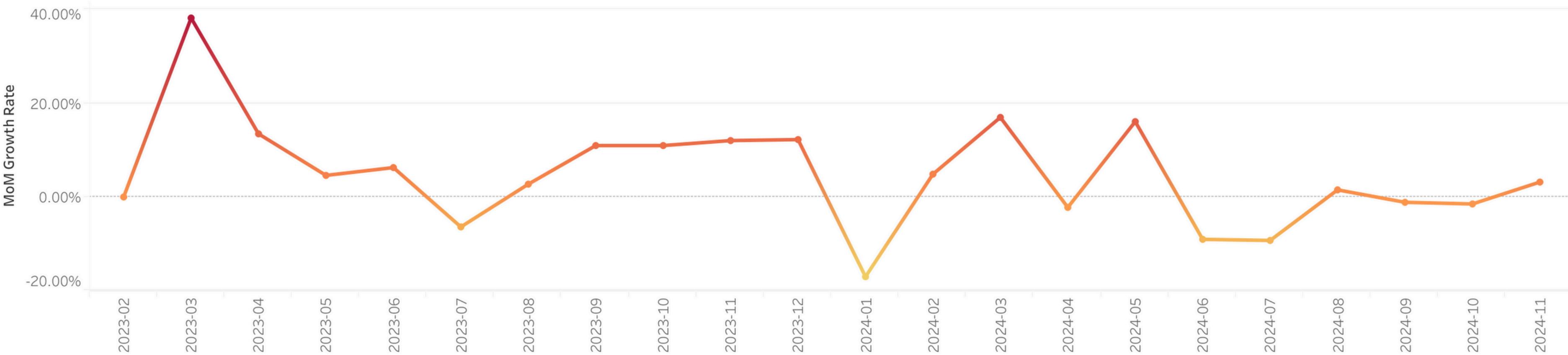
2: Holiday vs. Non-Holiday Sales Percentage
Average Net Sales:
Holiday: \$1,833 | Non-Holiday: \$3,155



#3: Temperature Impact on Sales Percentage



#4: Sales Growth Rate (Month-over-Month)



Recommendations:



1

Boost Daily Sales

- Target: > \$3,125.42/day
- Promotions: Specials on Mondays and Tuesdays

2

Increase Sales Growth

- Focus Months: February, March, July

3

Optimize Holiday Strategy

- Pre-Holiday Deals: 1-2 days before holidays
- Post-Holiday Discounts: 2 days after holidays

4

Leverage Weather Trends

- Hot Days: Icy drinks & snacks
- Cold Days: Warm drinks & comfort food
- Seasonal Menus & Delivery Service during cold weather

5

Enhance Data Collection

- Upgrade POS System to track: itemized/category sales, transactions and employee hours
- New KPIs:
 - Avg. Transaction Value, Sales per Category, Employee Turnover



Future Work

Improve Predictive Sales Model

Current Best Models:

- 1) Linear Regression: $R^2: 50.2\%$
- 2) Gradient Boosting (Random Search): $R^2: 47.9\%$

Cost-Benefit Analysis

Determine if opening on holidays is worthwhile by considering:

- Revenue Potential
- Operational Costs
- Impact on Brand Image

Develop Loyalty Club App

Ability to track:

Visit Frequency, Spending Habits, and Demographics

Veronica's

Thank you!



[GitHub Repo](#)

