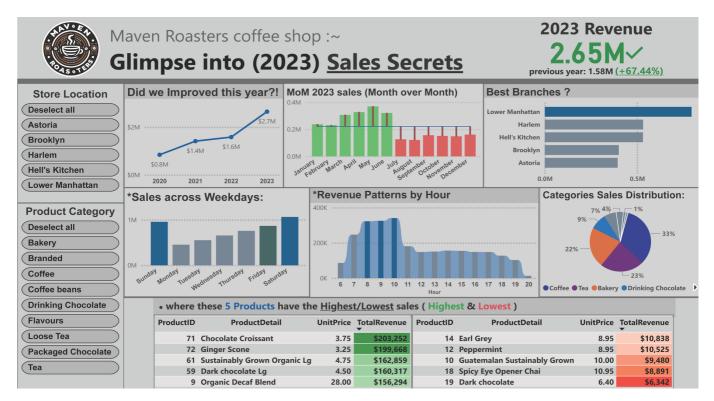
# Maven Roasters 2023 Sales Analysis Report

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## Introduction

This report presents the results of a sales analysis performed on Maven Roasters, a premium coffee shop chain with five locations in New York City. The purpose of this analysis was to maximize revenue by performing a comprehensive analysis of sales trends and patterns. The analysis involved data augmentation, transforming the dataset into a star schema, and using Power BI and Power Query for data manipulation and visualization.

## **Executive Summary**

The analysis revealed several key insights related to the sales performance of Maven Roasters. Yearly growth, seasonal trends, location performance, and product mix were among the primary areas of focus.

### **Key Findings**

- 1. **Yearly Growth:** Revenue increased by 67.44% from 2022 to 2023, reaching \$2.65M.
- 2. **Seasonal Trends:** Sales peak during spring and early summer (March to June), with a noticeable decline in the latter half of the year.
- 3. **Location Performance:** Lower Manhattan is the best-performing branch, followed by Harlem and Hell's Kitchen.
- 4. Daily Patterns: Saturday and Sunday are the busiest days, with a midweek dip.
- 5. **Hourly Trends:** Peak hours are between 7 AM and 11 AM, with a sharp decline after noon.
- 6. **Product Mix:** Coffee (33%) and tea (23%) are the top-selling categories, followed by bakery items (22%).
- 7. **Best-selling Items:** Chocolate Croissant and Ginger Scone are top revenue generators.

## **Data Description**

#### **Data Source:**

The original dataset consisted of 140,000 records covering a 6-month period. Data augmentation was performed to expand the dataset to over 1 million records, covering full 4 years from 01/01/2020 to 31/12/2023.

#### **Used Augmented-Dataset Link:**

https://www.mediafire.com/file/m4vj72hiyhnpl8e/augmented coffee shop sales.csv

#### **Original Dataset Link:**

https://www.kaggle.com/datasets/ahmedabbas757/coffee-sales/data

#### **Data Overview:**

- Variables: The dataset includes variables such as :
  - o transaction\_id
  - o transaction\_date
  - o transaction\_time
  - transaction\_qty
  - o store\_id
  - o store\_location
  - o product\_id
  - unit\_price
  - product\_category
  - product\_type
- Size: The augmented dataset contains over 1 million records.
- **Type:** The data includes numerical and categorical variables pertinent to sales metrics.

### **Data Wrangling:**

• Data augmentation was performed using Scikit-learn (Python).

- The dataset was transformed into a star schema for optimized analysis.
- Power Query was used for data manipulation, including adding columns for revenue and month names plus some measures.

## Exploratory Data Analysis (EDA)

### Sales Trends and Patterns

- 1. **Yearly Growth:** Significant increase in revenue from 2022 to 2023.
- 2. **Seasonal Trends:** Higher sales during spring and early summer.
- 3. Location Performance: Variation in performance across different store locations.
- 4. Daily Patterns: Weekend sales outperform weekdays.
- 5. Hourly Trends: Morning hours (7 AM 11 AM) show peak sales.
- 6. **Product Mix:** Coffee and tea dominate sales, with strong performance from bakery items.
- 7. Best-selling Items: Specific products (Chocolate Croissant, Ginger Scone) identified as top performers.

#### **Visualizations:**



Figure: Maven Roasters 2023 Sales Dashboard

### Results

### **Key Findings:**

- 1. Revenue growth of 67.44% from 2022 to 2023.
- 2. Seasonal sales patterns with peaks in spring and early summer.
- 3. Lower Manhattan as the top-performing location.
- 4. Weekend sales outperforming weekdays.
- 5. Morning hours (7 AM 11 AM) as peak sales time.
- 6. Coffee and tea as dominant product categories.
- 7. Specific bakery items identified as top revenue generators.

### Interpretation:

The findings suggest strong overall growth for Maven Roasters, with clear patterns in seasonal, daily, and hourly sales trends. Location performance varies, indicating potential for optimization or expansion.

### Discussion

### **Insights:**

- Morning rush aligns with typical New York work patterns.
- Weekends see higher sales, suggesting use as social spaces.
- Seasonal impacts affect foot traffic and sales.
- Diverse menu with synergistic pairings (e.g., coffee and bakery items) enhances customer satisfaction.
- Premium products reflect NYC consumers' willingness to pay for quality experiences.

#### **Limitations:**

The analysis was based on augmented data, which may not perfectly reflect real-world variations. Further analysis with actual long-term data could provide more robust insights.

#### **Future Work:**

Future analysis could involve customer segmentation, loyalty program effectiveness, and more detailed product mix optimization.

### Conclusion

The analysis of Maven Roasters' sales data revealed significant growth and clear patterns in customer behavior and product preferences. These insights provide a strong foundation for strategic decision-making to further enhance revenue and customer satisfaction.

### Recommendations

- 1. Capitalize on peak seasons with special promotions and new product launches.
- 2. Develop strategies to boost sales during slower months (August-December).
- 3. Consider expanding successful locations or opening new branches in similar areas.
- 4. Optimize staffing schedules to match peak hours and busy weekends.
- 5. Create weekday promotions to attract more customers on slower days.
- 6. Promote and potentially expand variations of best-selling items.
- 7. Evaluate and improve underperforming products through menu adjustments or marketing efforts.

## About the Analyst

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## Thank you