Maven Roasters Coffee Shop

Sales Analysis

Presented by:

Analyst\ Maher Mahmoud

29-09-2024

Maven Roasters coffee shop :~

Glimpse into (2023) Sales Secrets

2023 Revenue

2.65M✓

previous year: 1.58M (+67.44%)

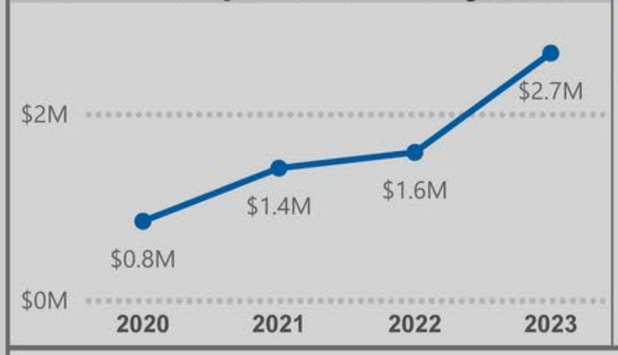
Store Location

- Deselect all
- Astoria
- Brooklyn
- Harlem
- Hell's Kitchen
- Lower Manhattan

Product Category

- Deselect all
- Bakery
- Branded
- Coffee
- Coffee beans
- Drinking Chocolate
- Flavours
- Loose Tea
- Packaged Chocolate
- Tea

Did we Improved this year?!



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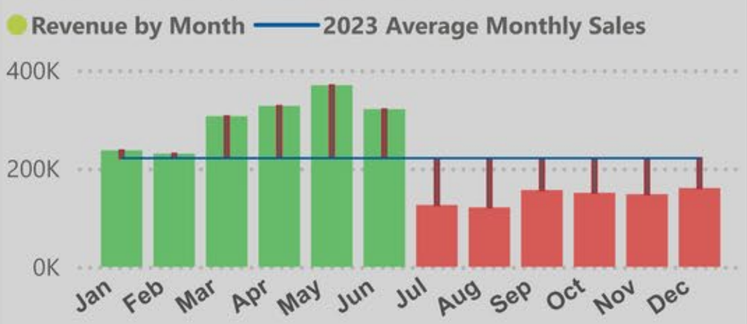

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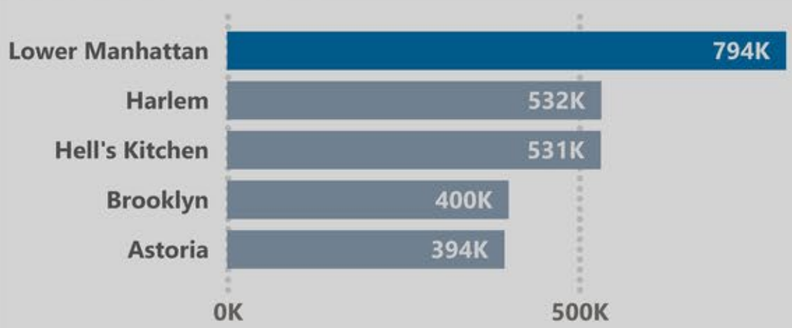

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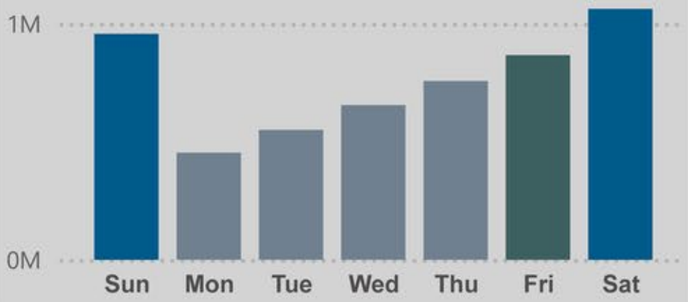

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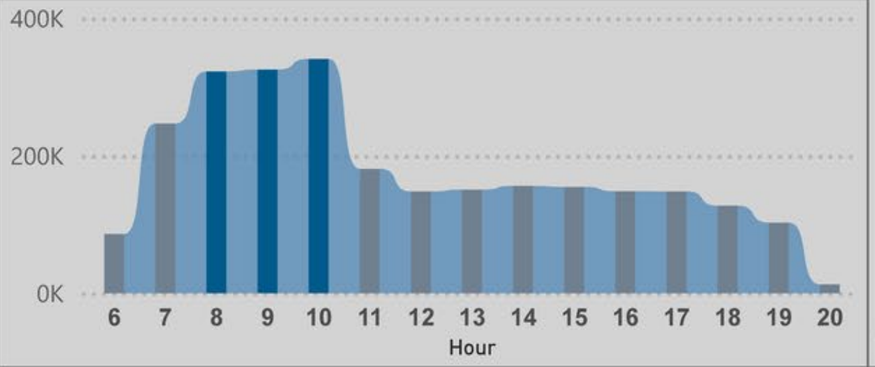

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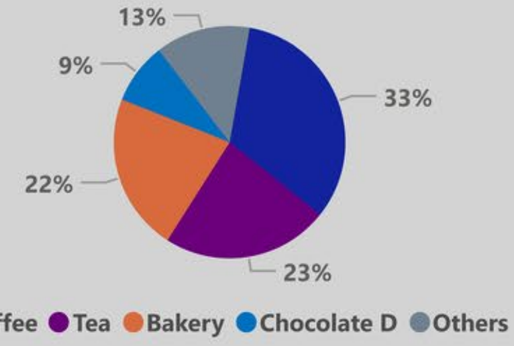

- where these 5 Products have the Highest/Lowest sales (Highest & Lowest)

ProductID	ProductDetail	UnitPrice	TotalRevenue
71	Chocolate Croissant	3.75	$203,252
72	Ginger Scone	3.25	$199,668
61	Sustainably Grown Organic Lg	4.75	$162,859
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● COMPANY OVERVIEW

Maven Roasters is a premium coffee shop chain with **five NYC locations**.

● ANALYSIS GOAL

Maximizing revenue by performing a comprehensive analysis of sales trends and patterns.

● METHOD

1. Transforming the dataset into a **star schema** for optimized analysis
2. Using **Power BI** and Power Query as the primary tools for data manipulation and visualization
3. Creating a structured data model with **dimension tables**
4. **Establishing relationships** between these tables to enable multi-dimensional analysis
5. **Designing a dashboard** with key performance indicators (KPIs) and various visualizations to identify patterns and trends in sales data
6. Generate **insights** and provide **recommendations**

● Problem addressing

- The current dataset, which is **artificial**

- consists of **140,000** records
  - that covers only a **6-month** period
  - This limitation restricts comprehensive analysis
  - and may lead to skewed results

- Which led to the need to do **data augmentation**

● Methodology

- **Library Used** : Scikit-learn (Python)
- **Data Augmentation** :
  1- Cover **4 full years** from 01/01/2020 to 31/12/2023
  2- Expand the dataset to **over 1 million** records
  3- **Preserve original daytimes trends**, weekdays, and seasonal patterns.

● Output

- Due to the **Excel limit of 1,048,000 records**, the final dataset will be **exported as a CSV** file and import it to **PowerBI** for further analysis

***Data augmentation**

is the process of artificially generating new data from existing data, primarily to train new machine learning (ML) models. **common tools and libraries** :

- **For Image Data**: Keras, TensorFlow, Albumentations and OpenCV
- **For Text Data**: NLTK, TextAttack, BackTranslation and Transformers
- **For Tabular Data**: Augmentor, Synthetic Data Vault and SMOTE
- **For General-Purpose Libraries**: Scikit-learn and Imbalanced-learn

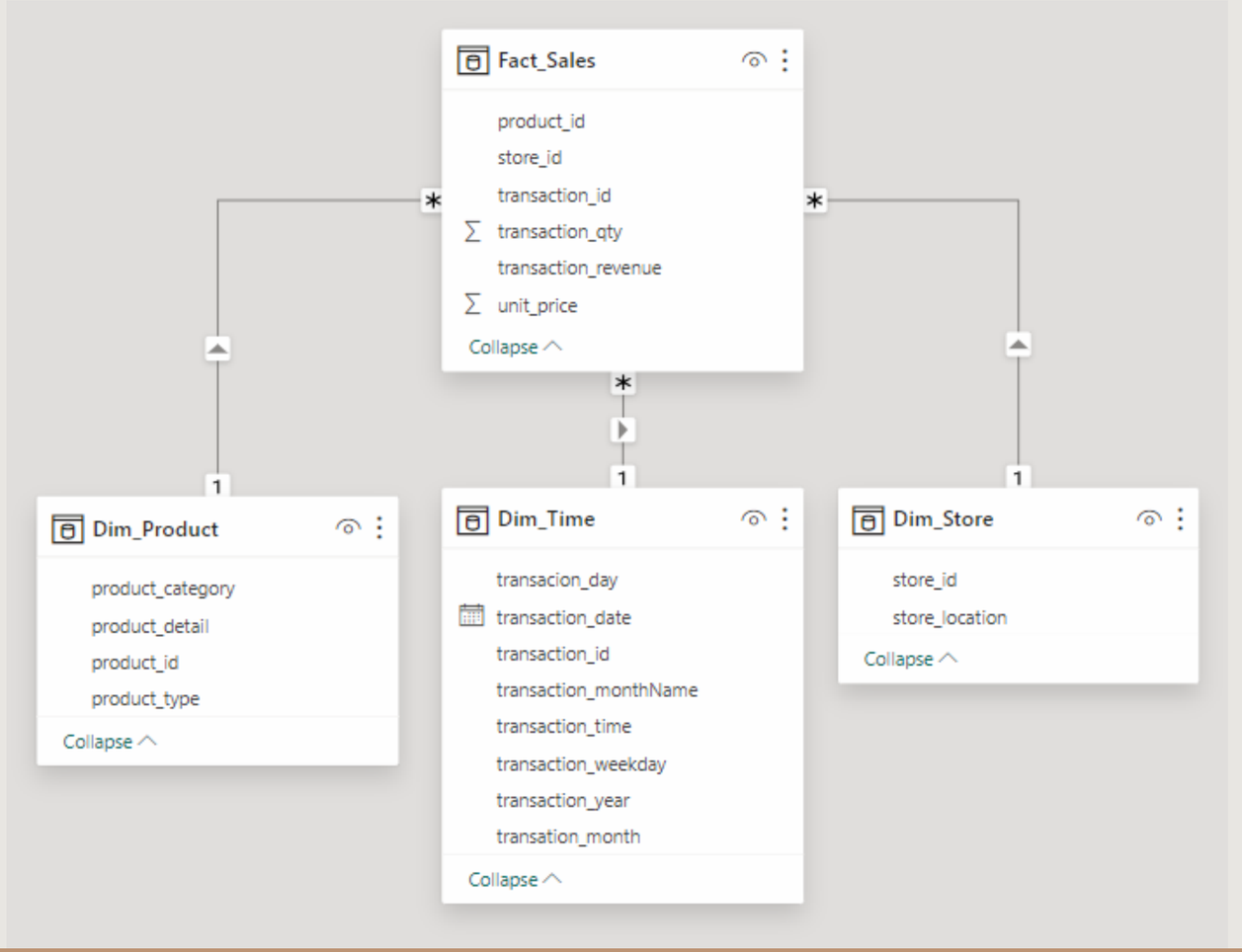
● Dataset Overview

- transaction_id -Unique identifier for each transaction
- transaction_date -Date of transaction
- transaction_time -Time of transaction
- transaction_qty -Quantity of products sold
- store_id -ID of the store
- store_location -Name of the store location
- product_id -ID of the product sold
- unit_price -Price of each product sold
- product_category -Category of the product
- product_type -Type of the product

● Using PowerQuery

- **Added Columns** - revenue & monthName and measures

● Star Schema



***Star Schema**

a data modeling technique that organizes data into:
a central **fact table** and surrounding **dimension tables**

- **Fact table**: contains all **Measures** and **IDs**
- **Dimension tables**: contains **Primary key** and **Descriptive attributes**

EDA & Dashboard

Exploring Data Trends and Visualizing Insights

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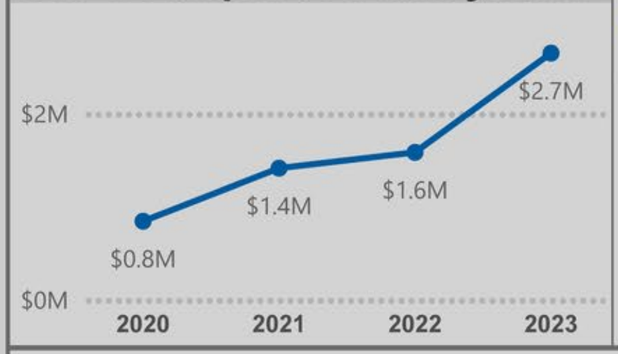

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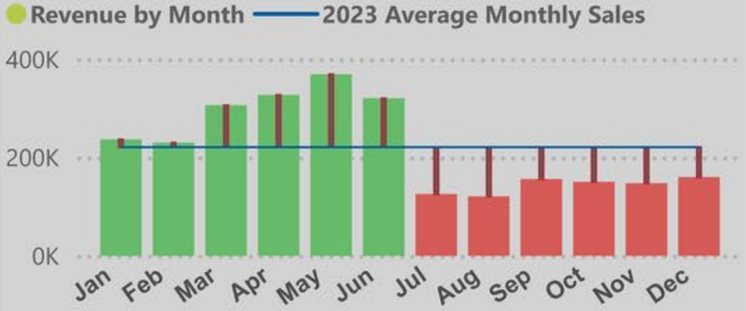

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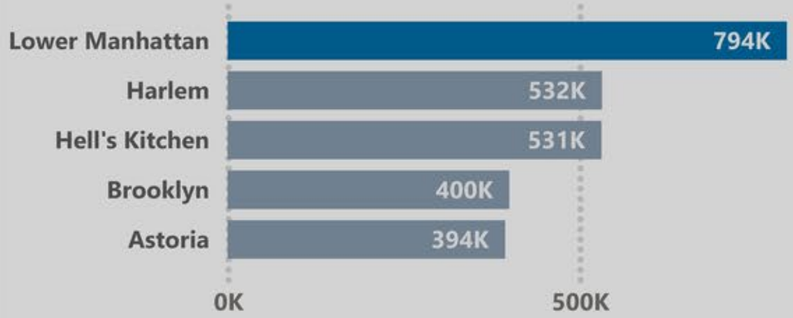

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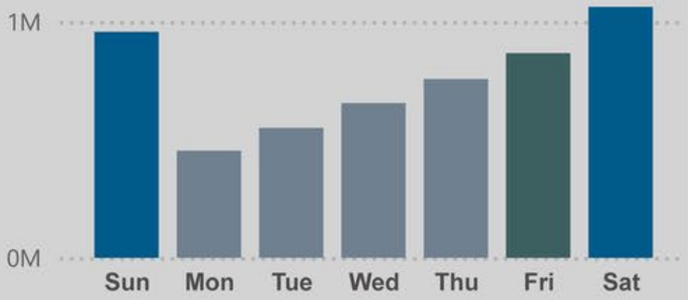

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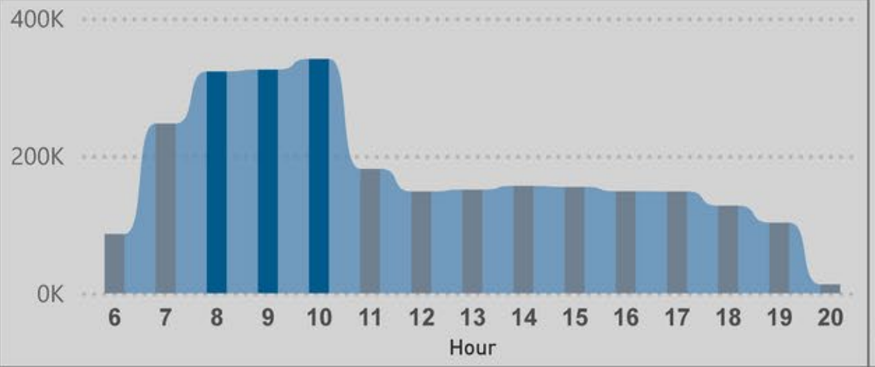

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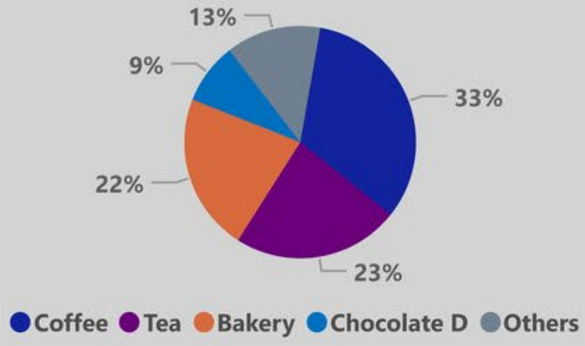

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Conclusions & Insights

Extracting Value from Data Analysis

Conclusions

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

Insights

- **Morning rush**: The peak hours of **7-11 AM** align with the typical **New York work crowd** seeking their morning coffee.
- **Weekend social hub**: Higher sales on weekends suggest people use coffee shops as **meeting places** or for **leisure time**.
- **Seasonal impacts**: The sales dip in **late summer and fall** could be due to **holidays** and **changing weather** patterns affecting foot traffic.
- **Diverse menu**: Pairing **freshly baked goods** with coffee or tea creates a synergistic menu that enhances customer satisfaction and **boosts sales**.
- **Premium products**: The popularity of items like **organic blends** and **specialty drinks** reflects a willingness among **NYC consumers** to pay for **high-quality**, **unique coffee experiences**.

Recommendation & Strategies

Data-Driven Decisions & Approaches

Recommendations

1- **Capitalize on peak seasons** : Implement special promotions and new product launches during the **March-June period** to maximize sales during the busiest months.

2- **Address off-peak periods** : Develop strategies to boost sales during **slower months (August-December)**, such as **seasonal menu items or loyalty programs**.

3- **Expand successful locations** : Consider opening new branches in areas similar to **Lower Manhattan** or expanding existing **high-performing locations**.

4- **Optimize staffing** : Adjust employee schedules to ensure adequate coverage during **peak hours (7-11 AM)** and **busy weekends**

5- **Enhance midweek offerings** : Create **weekday promotions or combo deals** to attract more customers on typically **slower days (Monday-Wednesday)**.

6- **Focus on top performers** : Promote and potentially expand variations of **best-selling items** like **Chocolate Croissant** and **Ginger Scone**.

7- **Improve low performers** : Evaluate why certain products (e.g., **Earl Grey**, **Peppermint**) are underperforming and consider **menu adjustments** or **marketing efforts** to boost sales.

About the Analyst

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Thank You

Maven Roasters Café