📊 Maven Roasters Sales Performance Analysis (Excel Portfolio Project)

In New York City’s competitive coffee scene, tight margins and customer loyalty are driven by precise operations, smart product strategy, and data-driven decision-making. Maven Roasters, a growing café chain with three locations, generates a large volume of transactional data — but lacks the analytical infrastructure to turn that data into insight. This project demonstrates how Excel can be used to transform raw data into actionable insights through cleaning, analysis, and dashboarding.

# 🔹 Business Problem

Maven Roasters lacks clear visibility into sales patterns, customer traffic, and product performance across its three NYC locations. This results in inefficiencies in staffing and inventory management, missed revenue opportunities, and challenges in forecasting and growth planning. Without data-driven insights, the business risks making decisions based on assumptions rather than facts.

# 🔹 Data Source

The dataset was obtained from Maven Analytics’ Data Playground:  
https://mavenanalytics.io/data-playground/coffee-shop-sales  
  
Dataset details:  
- ~149,000 rows of transactional sales records  
- Covers 3 New York City café locations  
- Fields include transaction date, time, product, category, quantity, and unit price

# 🔹 Key Analysis Objectives

The primary goal of this project was to uncover sales and customer behavior patterns. Key questions addressed include:

* How do sales vary by day of the week and hour of the day?
* Are there any peak times for sales activity?
* What is the total sales revenue for each month?
* How do sales vary across different store locations?
* What is the average price/order per person?
* Which products are the best-selling in terms of quantity and revenue?
* How do sales vary by product category and type?

# 🔹 Data Preparation (Excel Power Query)

To ensure accuracy and usability, the dataset was cleaned and transformed using Power Query:

* Removed duplicates and inconsistencies in product/category names
* Trimmed unnecessary spaces from text fields
* Created calculated columns such as ‘Size’ and ‘Total Bill’ (Quantity × Unit Price)
* Extracted time-based features (Month, Day of Week, Hour) from transaction timestamps

# 🔹 Data Analysis (Excel Pivot Tables & Power Pivot)

Analytical techniques included:

* Pivot Tables to aggregate and explore sales patterns
* Power Pivot measures for KPIs such as Total Sales, Average Order/Person, and Total Footfall
* Calculated columns and advanced Excel formulas for deeper insights
* Interactive slicers for filtering by location, month, and product category

# 🔹 Dashboard Creation

An executive dashboard was designed in Excel to provide an interactive and business-friendly view of sales performance. The dashboard includes:

* KPIs: Total Sales, Average Order Value, Average Bill per Person, Total Footfall
* Trend charts for sales by day and hour
* Comparisons across store locations
* Product-level performance (best sellers, revenue contribution)
* Dynamic filters using slicers (location, month, category)

# 🔹 Key Insights & Findings

Some of the main insights derived from the analysis include:

* **Overall Performance**: $698K total sales from 149K customers; average bill $4.68, 1.45 items/order
* **Peak Hours**: 8–10 AM & 2–4 PM, reflecting morning rush & afternoon breaks
* **Top Stores**: Hell’s Kitchen ($236K), Astoria ($232K), Lower Manhattan ($230K).
* **Top Products**: Barista Espresso, Brewed Chai Tea, Hot Chocolate, Gourmet Brewed Coffee, Brewed Black Tea.
* **Revenue Breakdown & Trends**: Coffee 39%, Tea 28%, Bakery 12%; Fridays see highest orders, Saturdays lowest.

# 🔹 Business Recommendations

Based on the insights, Maven Roasters should consider the following actions:

* Increase staffing during morning and afternoon peak hours
* Focus marketing on top-performing products (Lattes, Cappuccinos)
* Optimize inventory management to reduce stockouts during high-demand times
* Explore growth opportunities by replicating Store A’s success factors in other locations
* Leverage seasonal demand by launching promotions around peak months

# 🔹 Skills Demonstrated

* Data cleaning and transformation using Excel Power Query
* Feature engineering (date/time-based analysis)
* Building Pivot Tables and Power Pivot measures
* Dashboard design and storytelling with Excel
* Business insight generation and recommendations

# 🔹 Conclusion

This project demonstrates the ability to take raw transactional data and transform it into a clear, interactive, and insight-rich dashboard using Excel. By combining technical skills in Power Query and Pivot Tables with business acumen, the analysis provides actionable recommendations for improving operations, marketing, and growth planning.