COFFEE SHOP

NEWYORK, USA

Sales Data Analysis

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Know more about shop!

INTRODUCTION

Maven Roasters is a fictional coffee shop with three locations in New York City. The dataset provided includes transaction records that capture essential details such as transaction dates, timestamps, store locations, product categories, product types, unit prices, transaction quantities, and total sales.

The main objective of this analysis is to gain actionable insights into the coffee shop's sales performance, identify trends, and provide recommendations to improve business operations. By leveraging retail sales data, we can uncover patterns in customer behavior, peak sales periods, and top-performing products, ultimately helping the business enhance revenue and customer satisfaction.

BUSINESS OBJECTIVE

PROBLEM STATEMENT

COFFEE SHOP SALES

The coffee shop management wants to understand its sales trends and customer purchasing behavior to optimize operations and improve profitability.

Retail businesses, especially in the food and beverage industry, face several challenges, such as fluctuating sales, varying customer demand across different locations, and identifying best-selling products. To make data-driven decisions, the coffee shop needs insights

THE KEY CHALLENGES TO BE ADDRESSED

- Sales Trends Over Time
- Store Performance Comparison
- Peak Sales Periods
- Best Selling Products
- Monthly Revenue Analysis
- Category & Product Type

DATASET WE HAVE

Data Preview: Coffee Shop Sales

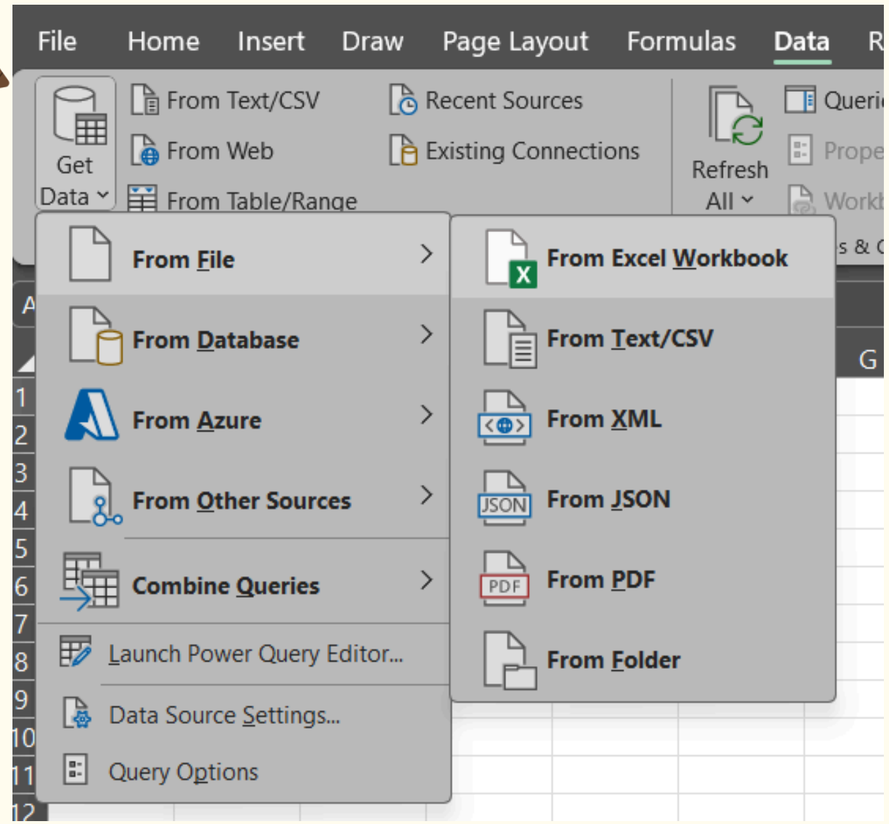
Coffee Shop Data Dictionary | Coffee Shop Sales Preview

Field	Description
transaction_id	Unique sequential ID representing an individual transaction
transaction_date	Date of the transaction (MM/DD/YY)
transaction_time	Timestamp of the transaction (HH:MM:SS)
transaction_qty	Quantity of items sold
store_id	Unique ID of the coffee shop where the transaction took place
store_location	Location of the coffee shop where the transaction took place
product_id	Unique ID of the product sold
unit_price	Retail price of the product sold
product_category	Description of the product category
product_type	Description of the product type

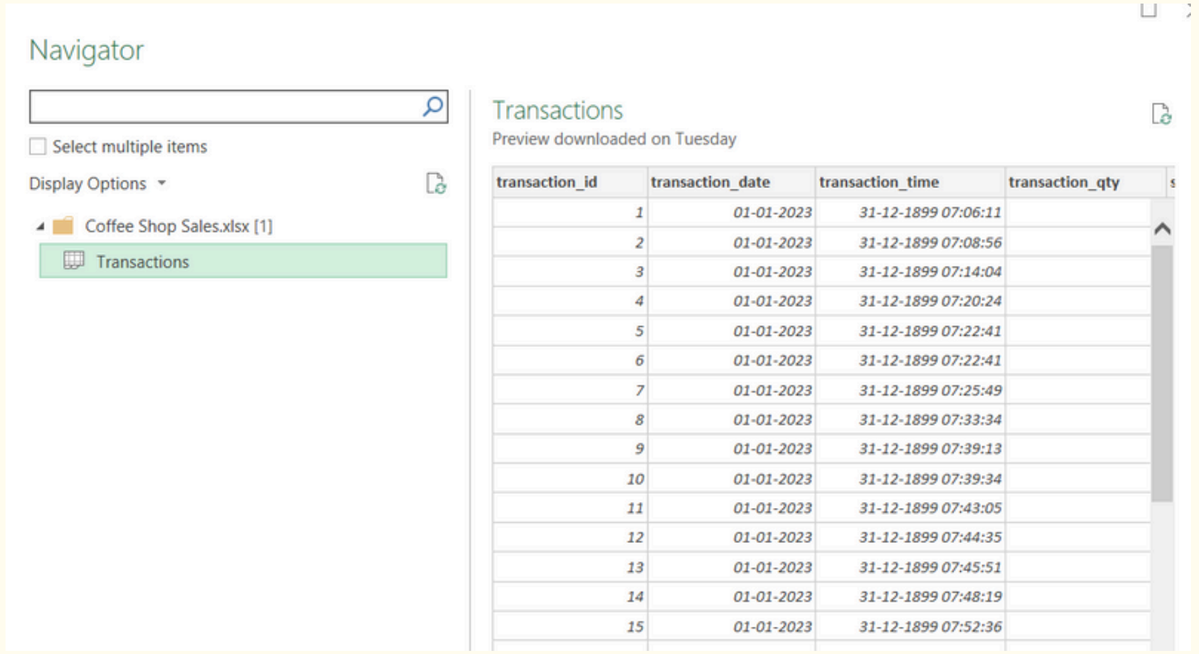
DATA CLEANING

START

To work on the dataset, first we have to load in the excel worksheet using "GET DATA"

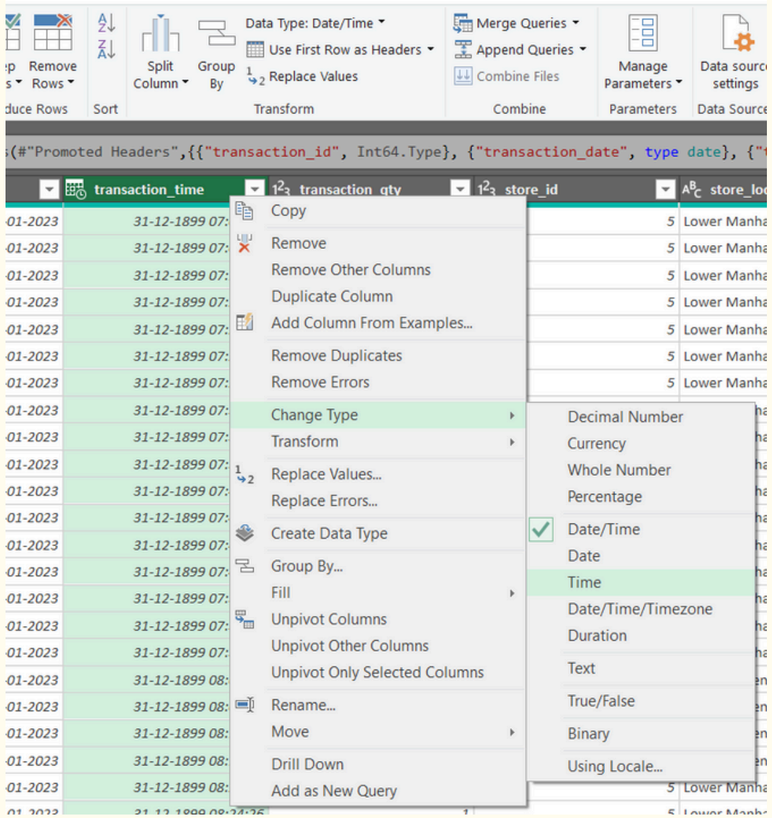


LOADING.....



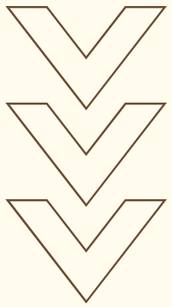
transaction_id	transaction_date	transaction_time	transaction_qty
1	01-01-2023	31-12-1899 07:06:11	
2	01-01-2023	31-12-1899 07:08:56	
3	01-01-2023	31-12-1899 07:14:04	
4	01-01-2023	31-12-1899 07:20:24	
5	01-01-2023	31-12-1899 07:22:41	
6	01-01-2023	31-12-1899 07:22:41	
7	01-01-2023	31-12-1899 07:25:49	
8	01-01-2023	31-12-1899 07:33:34	
9	01-01-2023	31-12-1899 07:39:13	
10	01-01-2023	31-12-1899 07:39:34	
11	01-01-2023	31-12-1899 07:43:05	
12	01-01-2023	31-12-1899 07:44:35	
13	01-01-2023	31-12-1899 07:45:51	
14	01-01-2023	31-12-1899 07:48:19	
15	01-01-2023	31-12-1899 07:52:36	

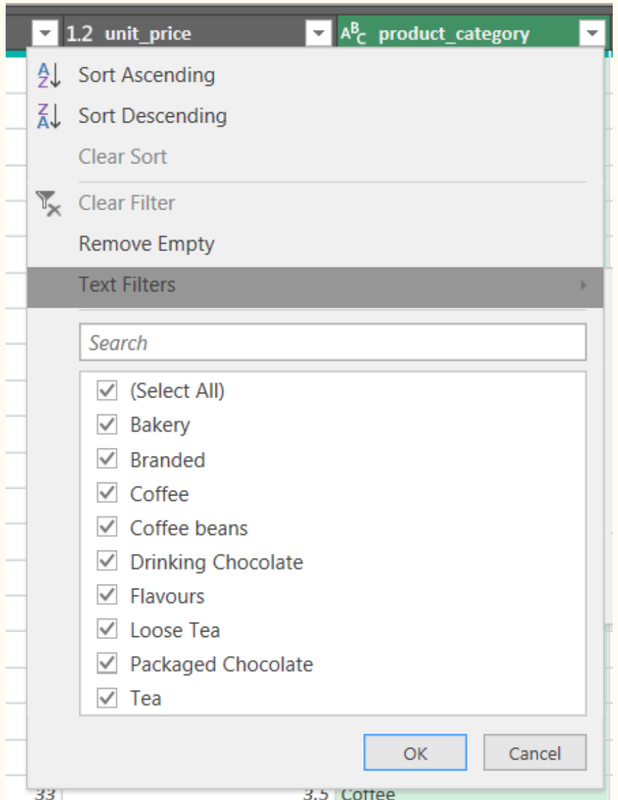
Transform the data in 'POWER QUERY' Editor

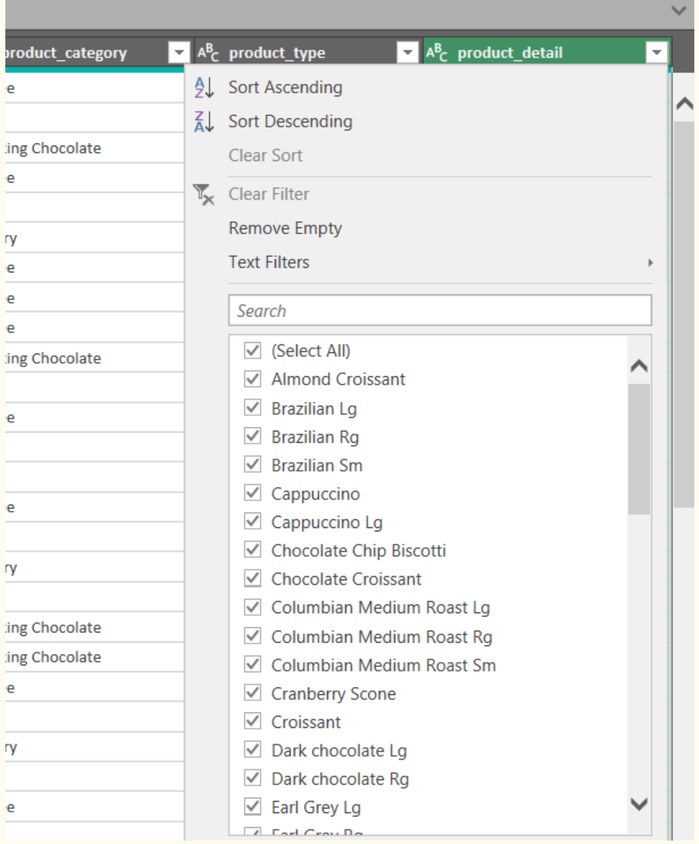


Changed the Data Type of "Transaction_Date" Column

"PRODUCT_CATEGORY" we have

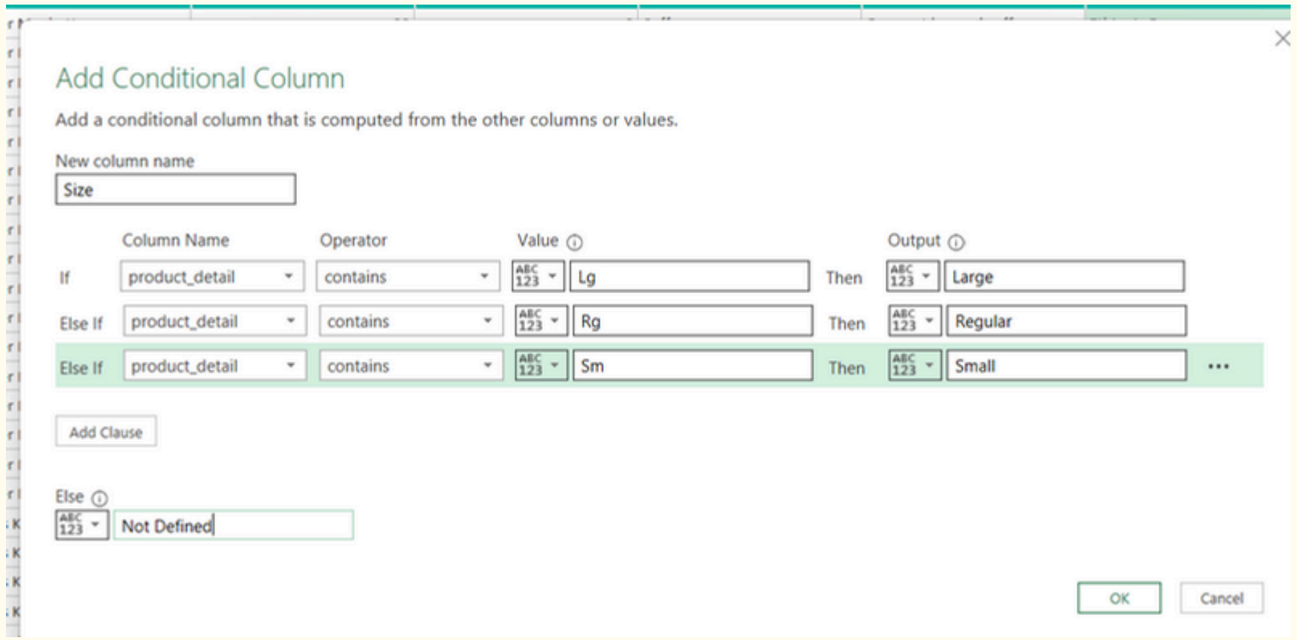


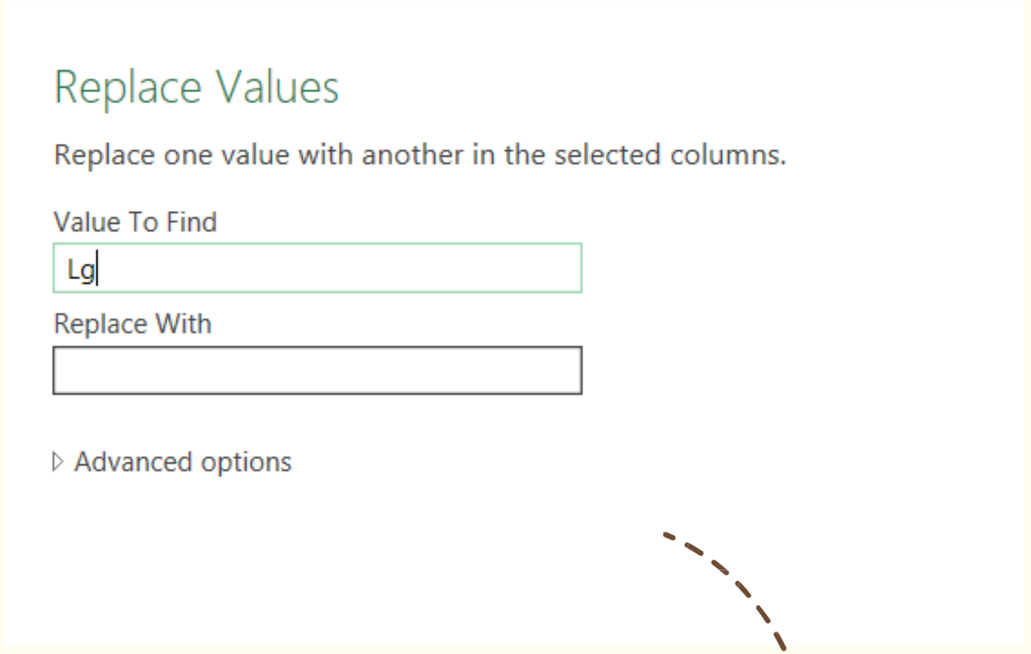




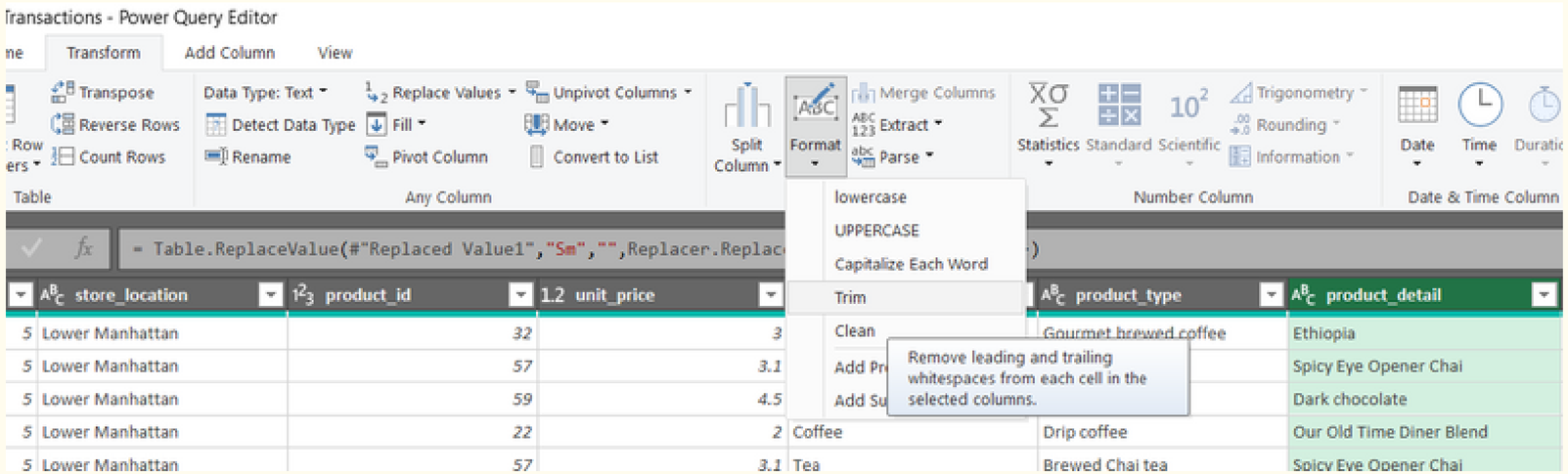
Size of products in "PRODUCT_DETAIL" which customers ordered

Now we will add new column "SIZE" as Conditional Column from the PRODUCT_DETAIL column



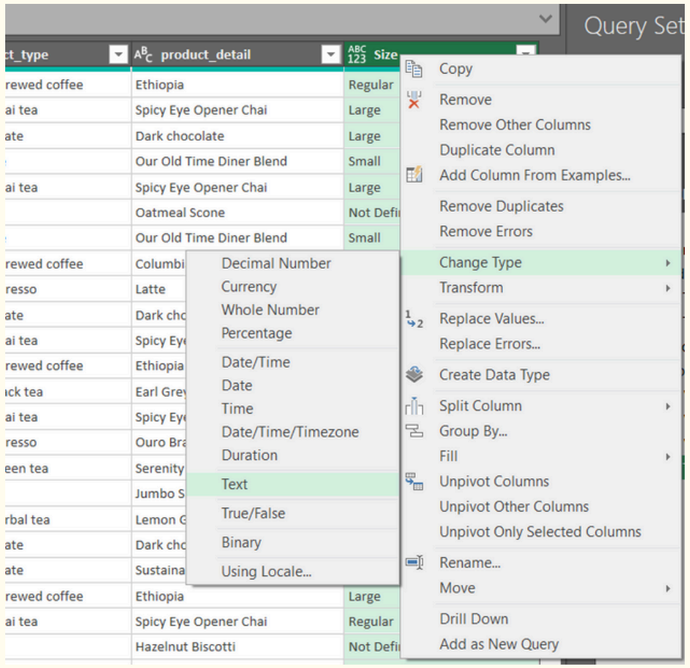


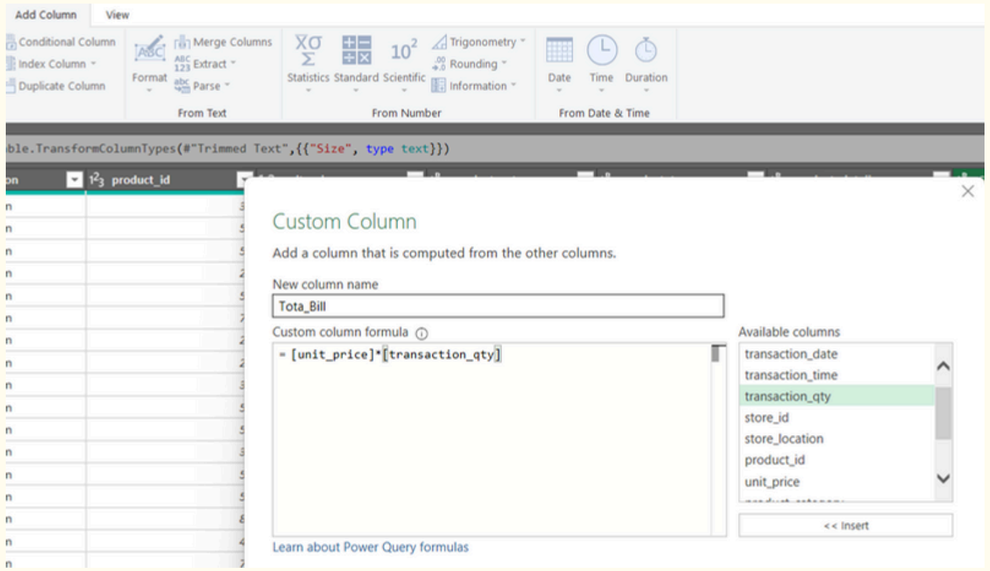
Replace the values "Lg", "Rg", "Sm" with Blank, because we already made a column for size of product ordered



Change the datatype of "SIZE" Column

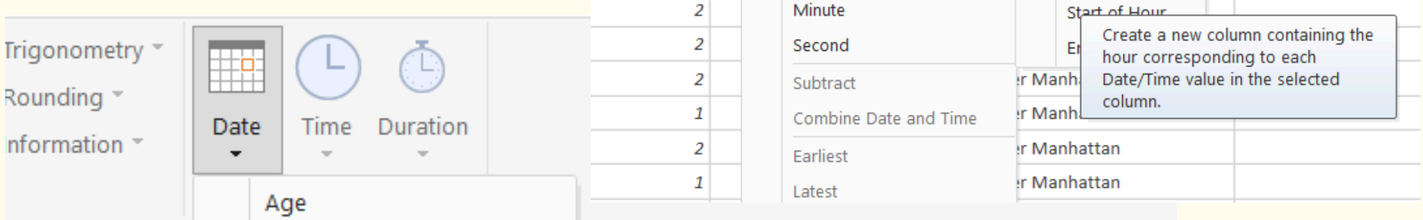
To remove the whitespaces in the column



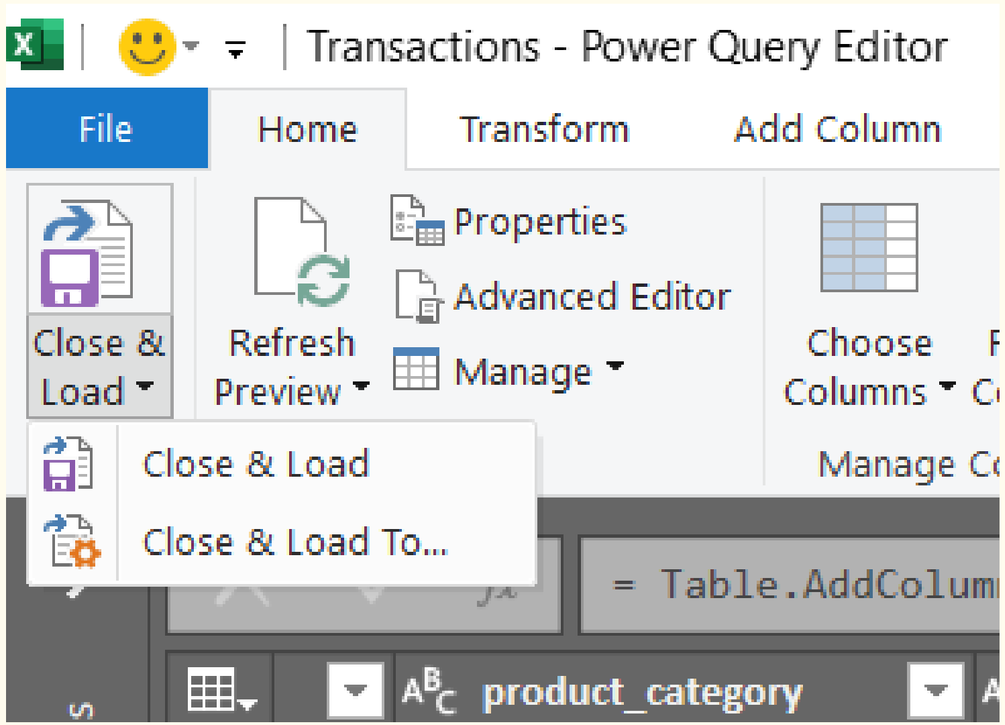


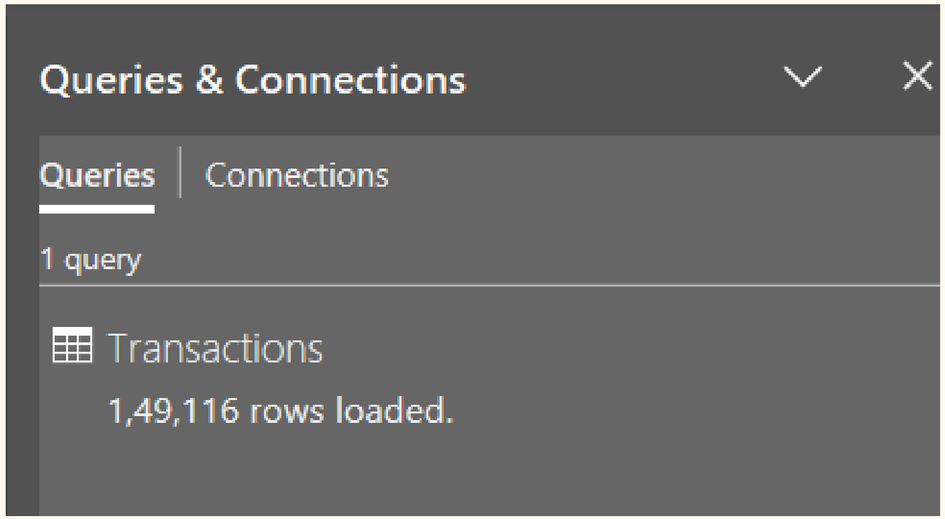
Add custom column for making new column as "Total Bill" as we have "Unit_Price" and "Transaction_Quantity"

New column "Month_Name" & "Hour" using Transaction_Date and Time



Load the dataset to Worksheet

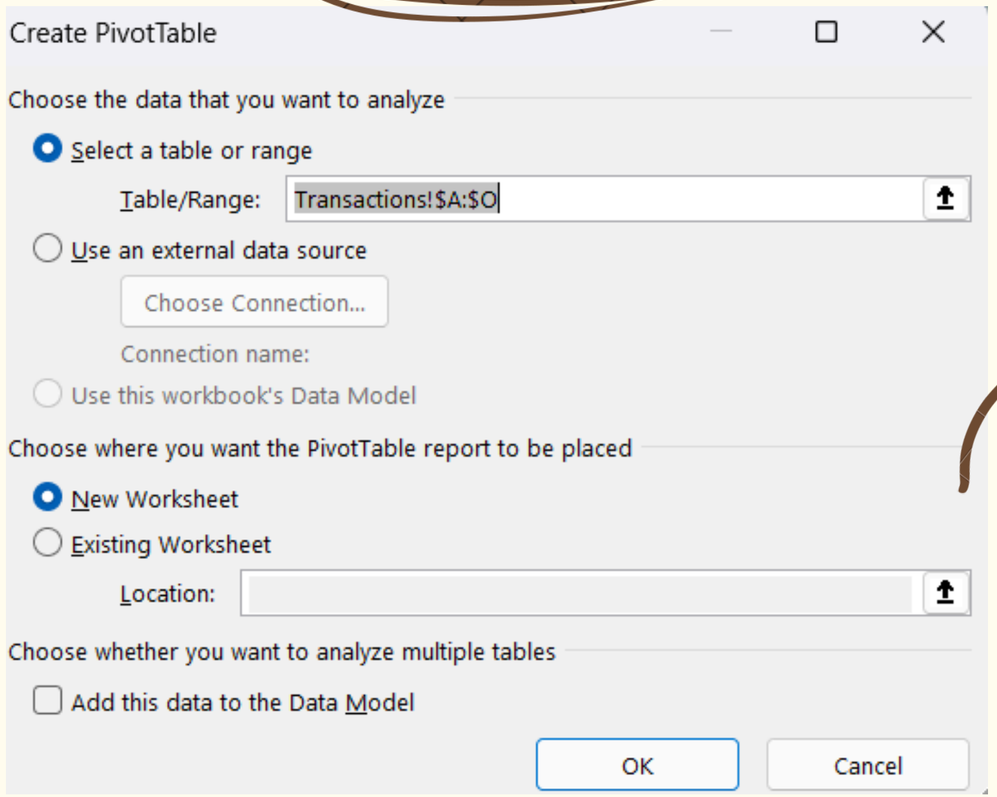




Now! we will be analyzing these rows and making visualization using Dashboards and Pivot Tables

PIVOT-TABLE

Do You Know How To Create Pivot Tables ?

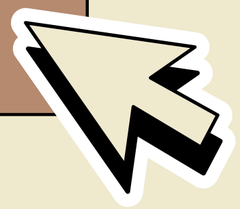


	A	B	C
1			
2			
3	**Product Category**	**Count of transaction_id**	
4	Coffee	58416	
5	Tea	45449	
6	Bakery	22796	
7	Drinking Chocolate	11468	
8	Flavours	6790	
9	Coffee beans	1753	
10	Loose Tea	1210	
11	Branded	747	
12	Packaged Chocolate	487	
13	**Grand Total**	**149116**	

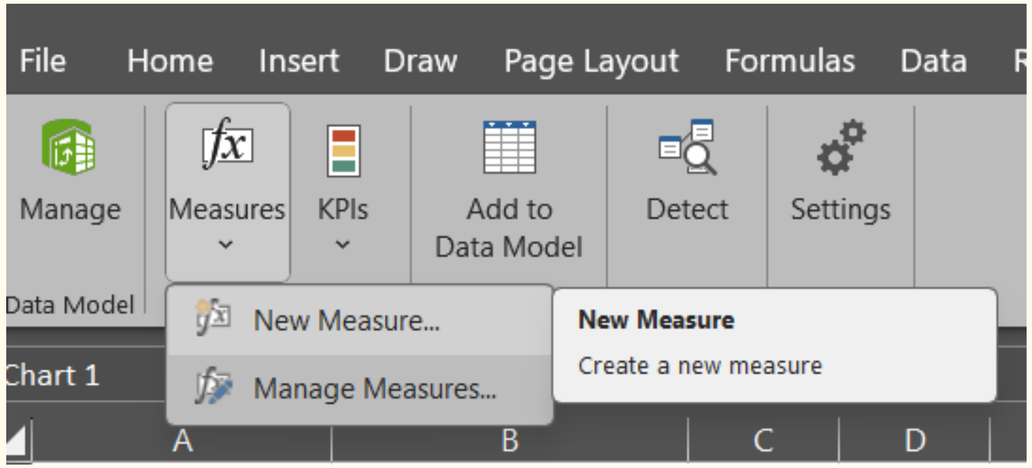
Using Same process we will make other pivot tables also for analyzing the data

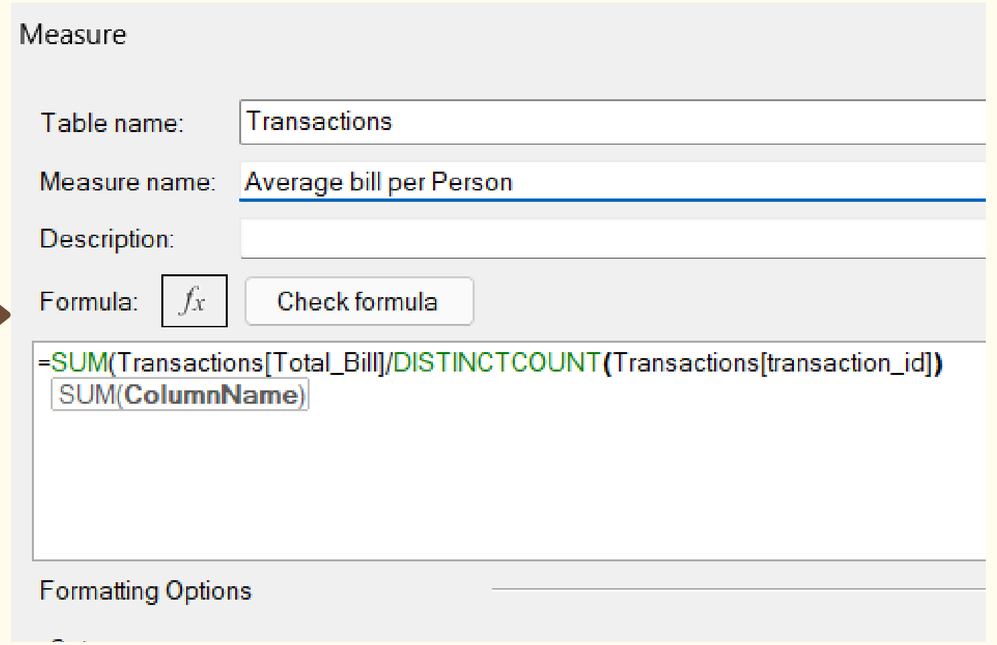
DATA VISUALIZATION

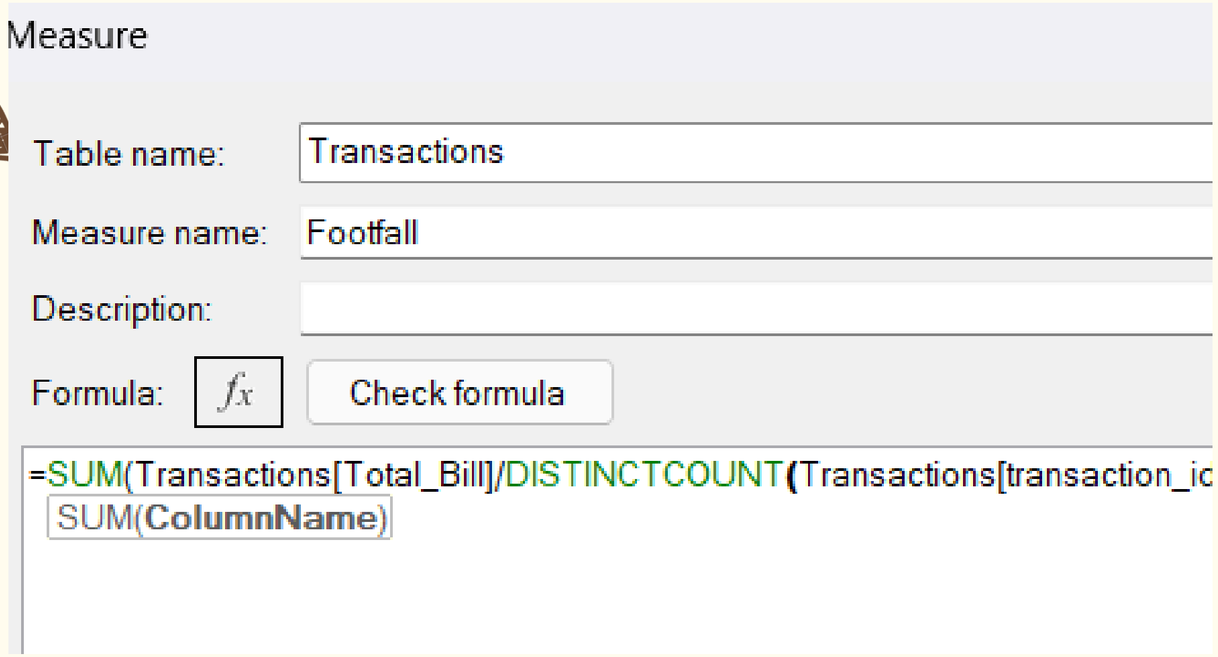
START

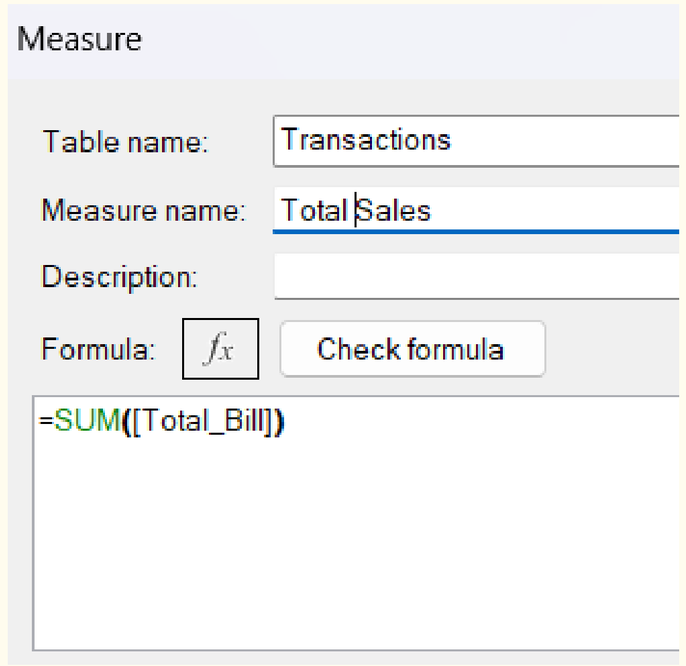


CREATING NEW MEASURES









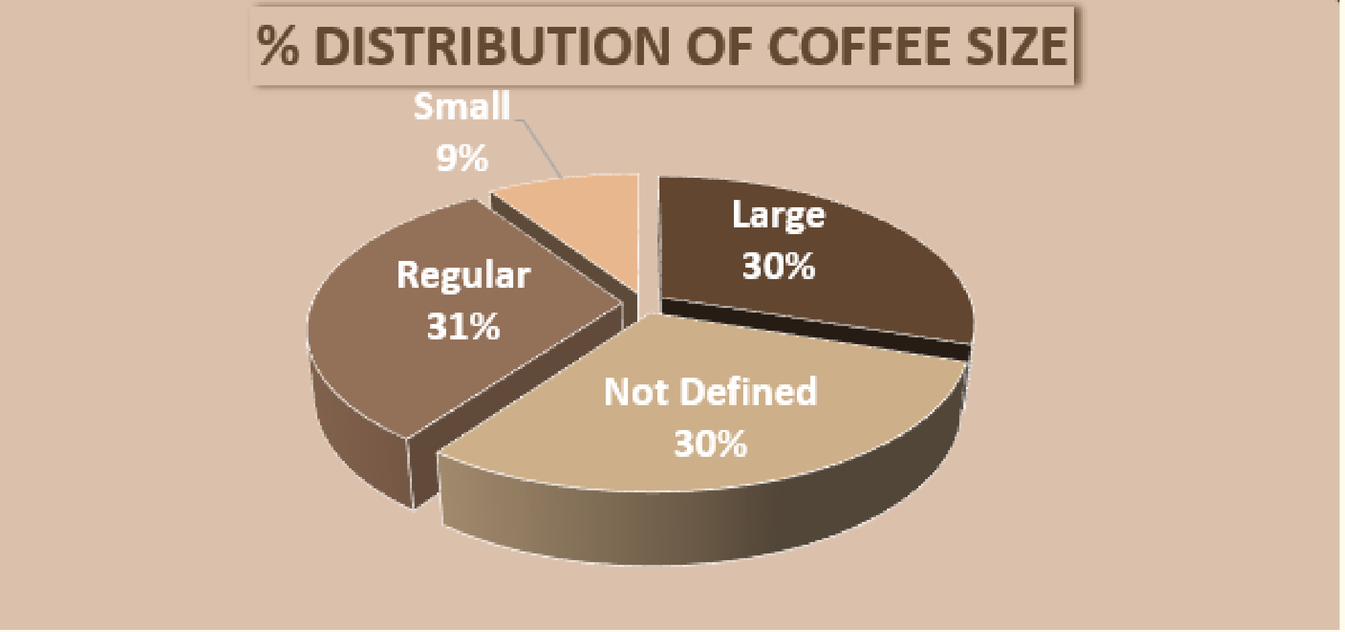
MEASURES

$ 6,98,812
TOTAL SALES

$ 4.69
AVERAGE BILL PER PERSON

149116
TOTAL FOOTFALL

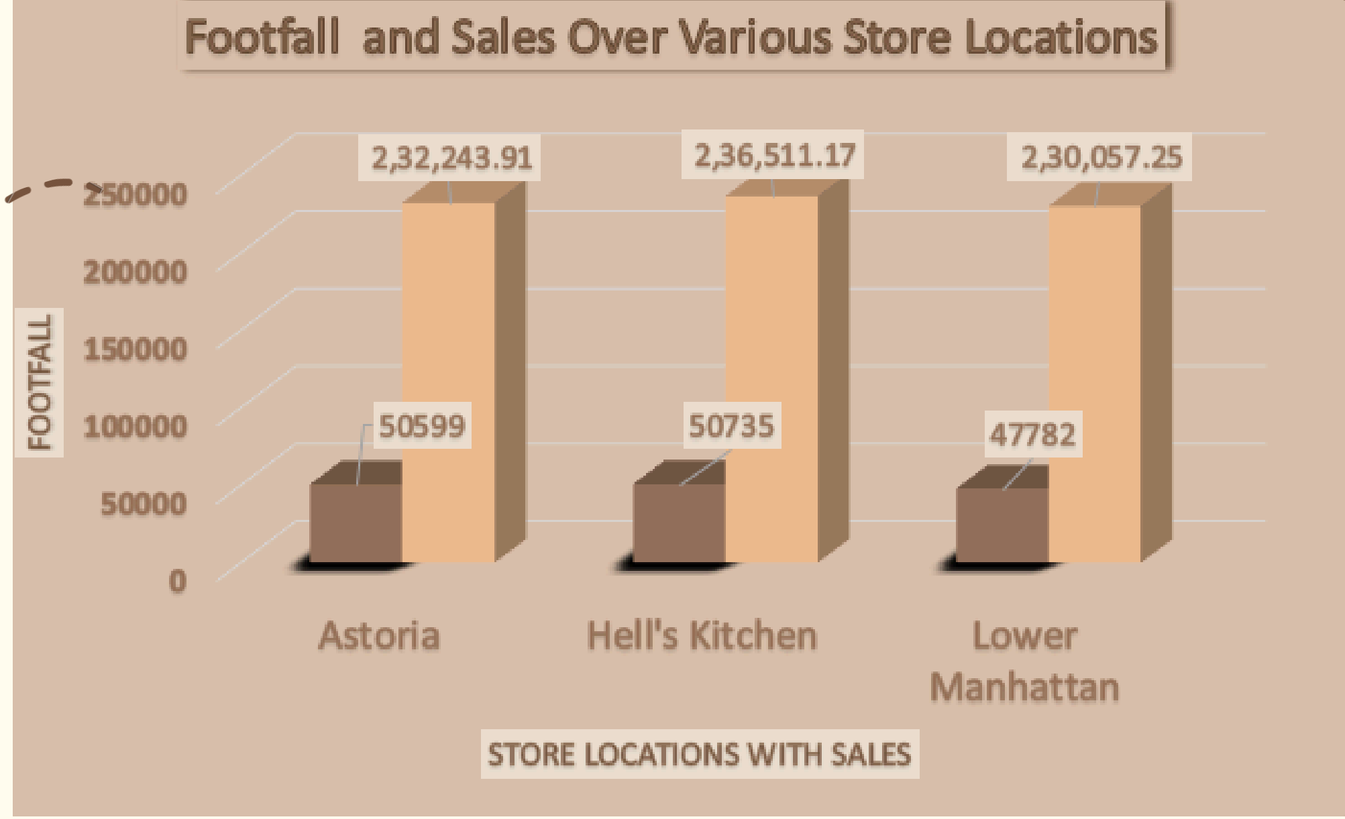
1.4 item
AVERAGE ORDER PER PERSON

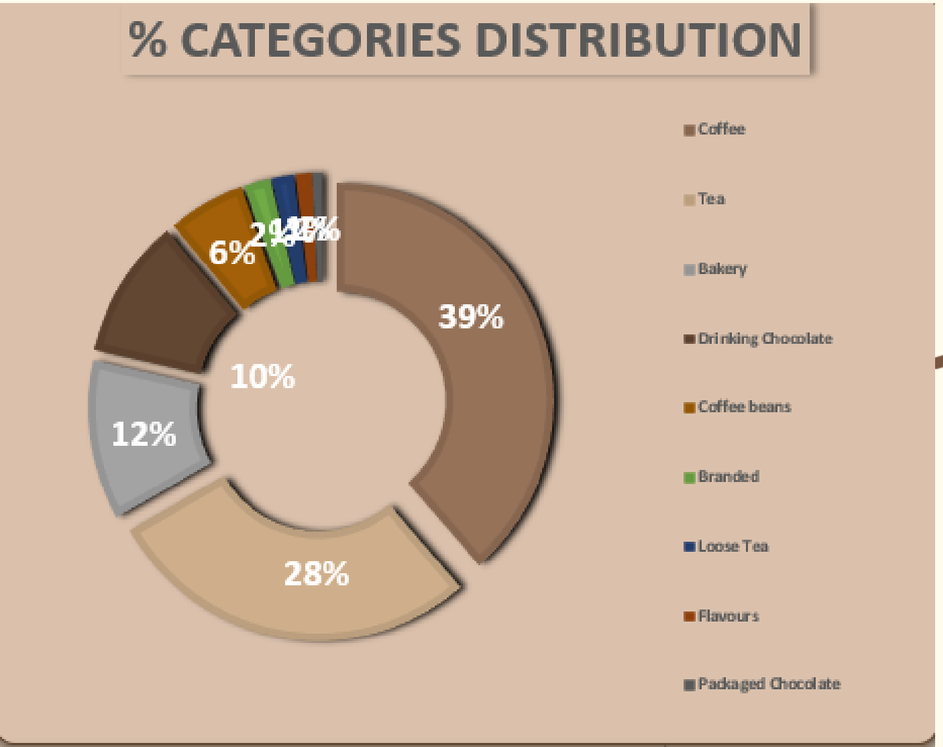


From the distribution of coffee sizes, we can see that the least sold size is "small," while the most sold size is "regular," followed by "large."

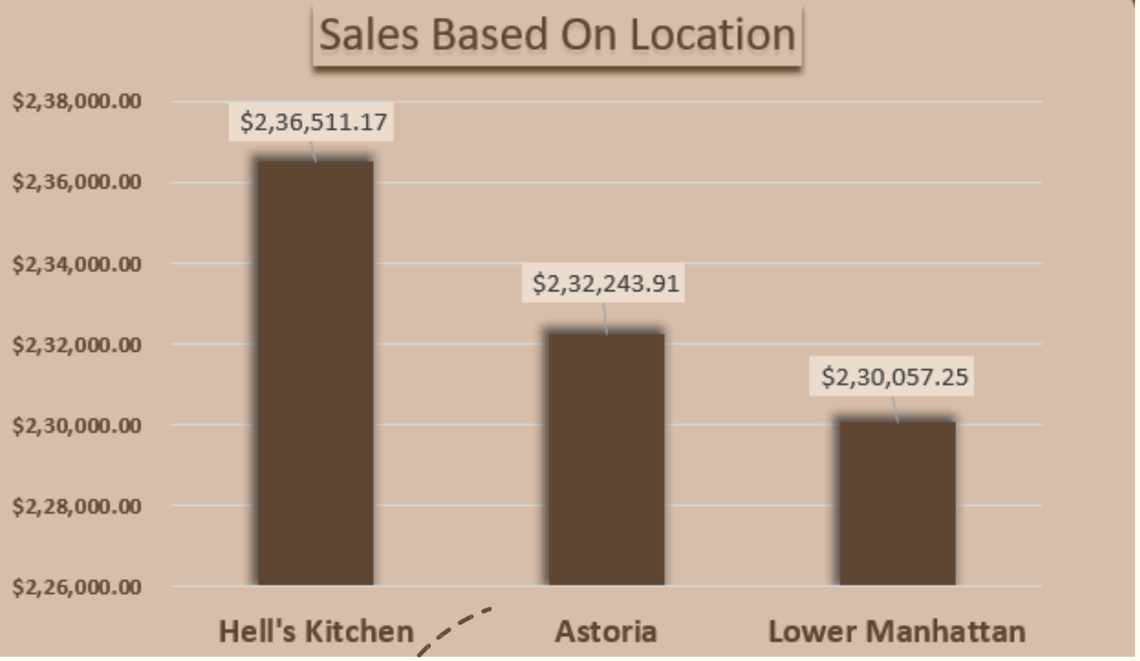
The busiest hours are from 7:00 to 10:00 A.M., during which most orders are received. After this peak, the number of orders gradually decreases towards the end of the day

The sales across the three stores are quite similar, but "Hell's Kitchen" has the highest sales based on footfall among them



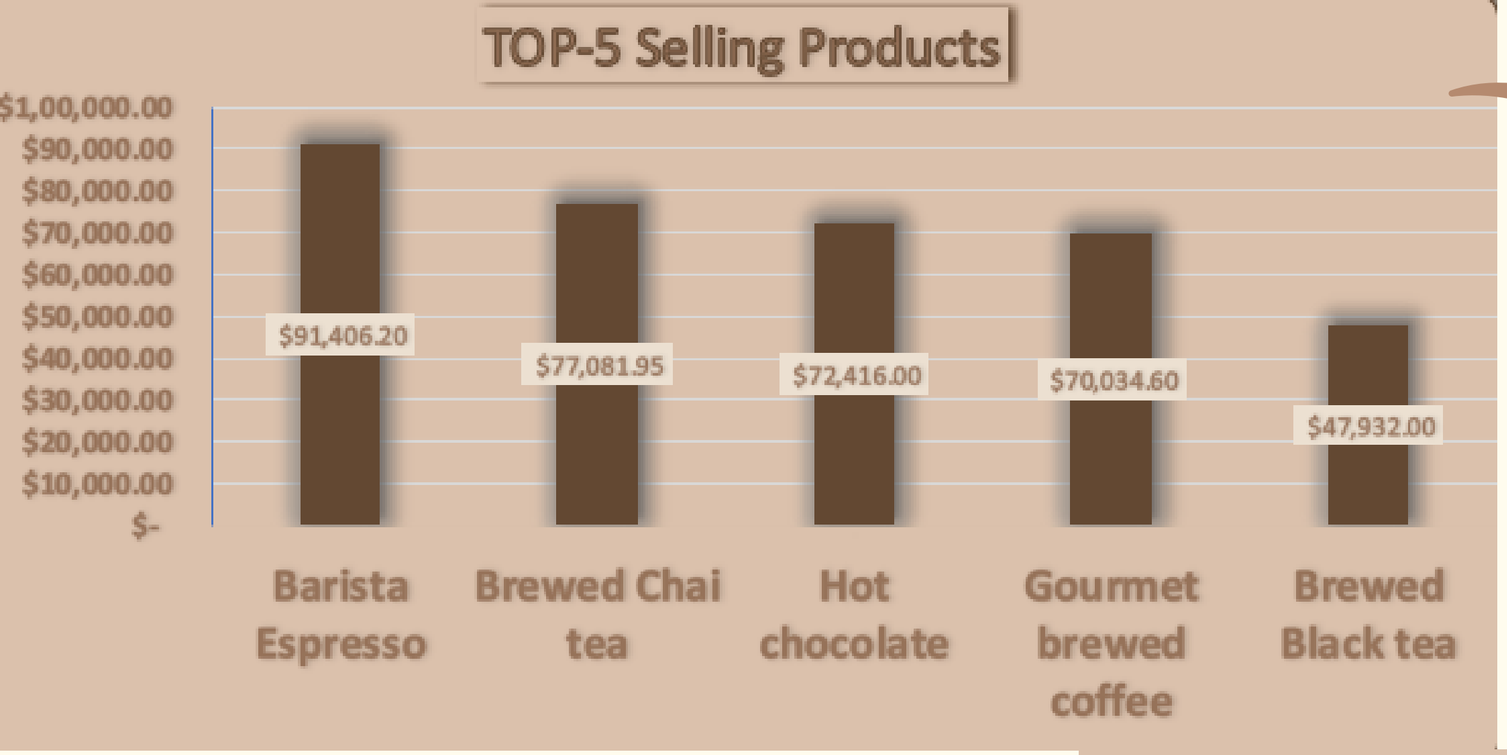


The most sold products are "coffee" and "tea," along with some bakery items and drinking chocolate



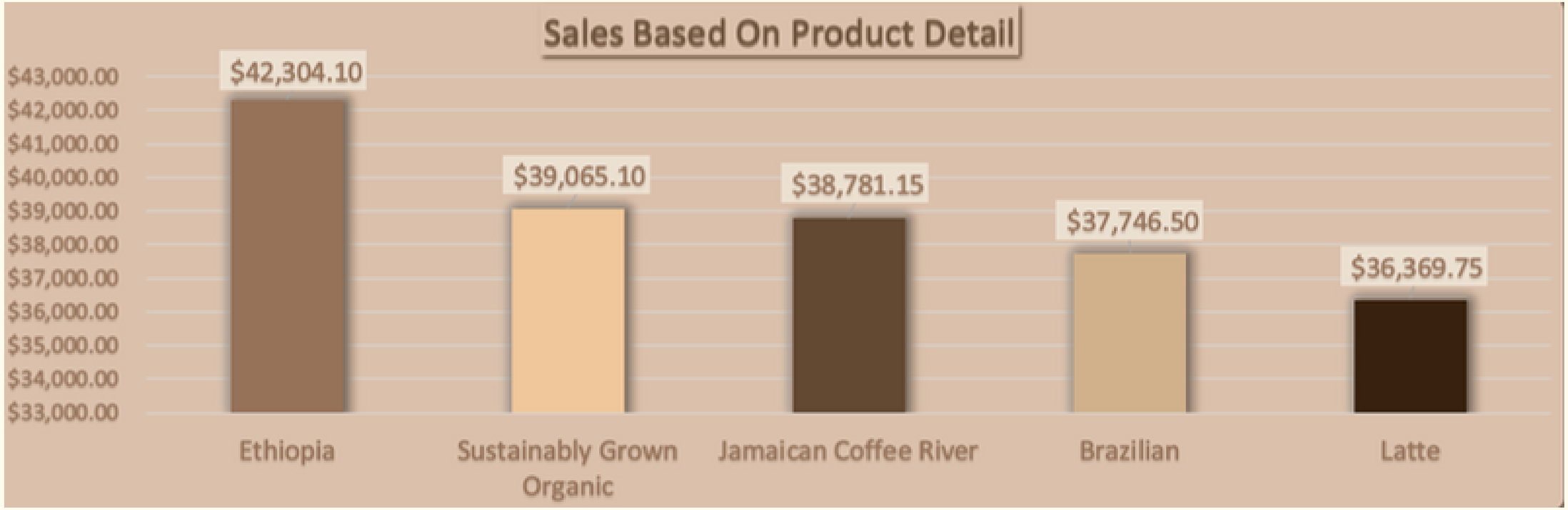
Hell's Kitchen has the highest sales among them based on location

By observing this graph we can say that the "Saturday & Sunday" has the least sales as compared to other days because of weekend days



As we can see that "Barista Espresso", "Brewed Chai Tea" is the highest selling product

Sales are increasing as the month passes



"Ehiopia", "Sustainably Grown Organic"
are highest revenue generating
Products based on product detail

ANALYSIS...

START

QnA

1.How do sales vary by day of the week and hour of the day?

Ans: Sales are highest on weekdays, with a noticeable decline over the weekends. Additionally, the peak hours for sales are between 7:00 and 10:00 A.M., during which the majority of orders are placed.

2. Are there any peak times for sales activity?

Ans: The peak hours for sales are between 7:00 and 10:00 A.M. with majority orders placed and gradually decline by the end of the day

3. What is the total sales revenue for each month?

Ans: Sales are relatively low at the beginning of the year, particularly in January. However, as the months progress, there is a steady increase in sales over time

QnA

How do sales vary across different store locations?

The "Hell’s Kitchen" location records the highest sales, primarily due to its significantly higher footfall compared to other locations. The increased customer traffic contributes to greater order volume and overall revenue.

What is the average price/order per person

On average, the bill per person is $4.69, with each customer ordering approximately 1.4 items per transaction. This indicates that most customers purchase a single item, while some opt for additional items, slightly raising the average.

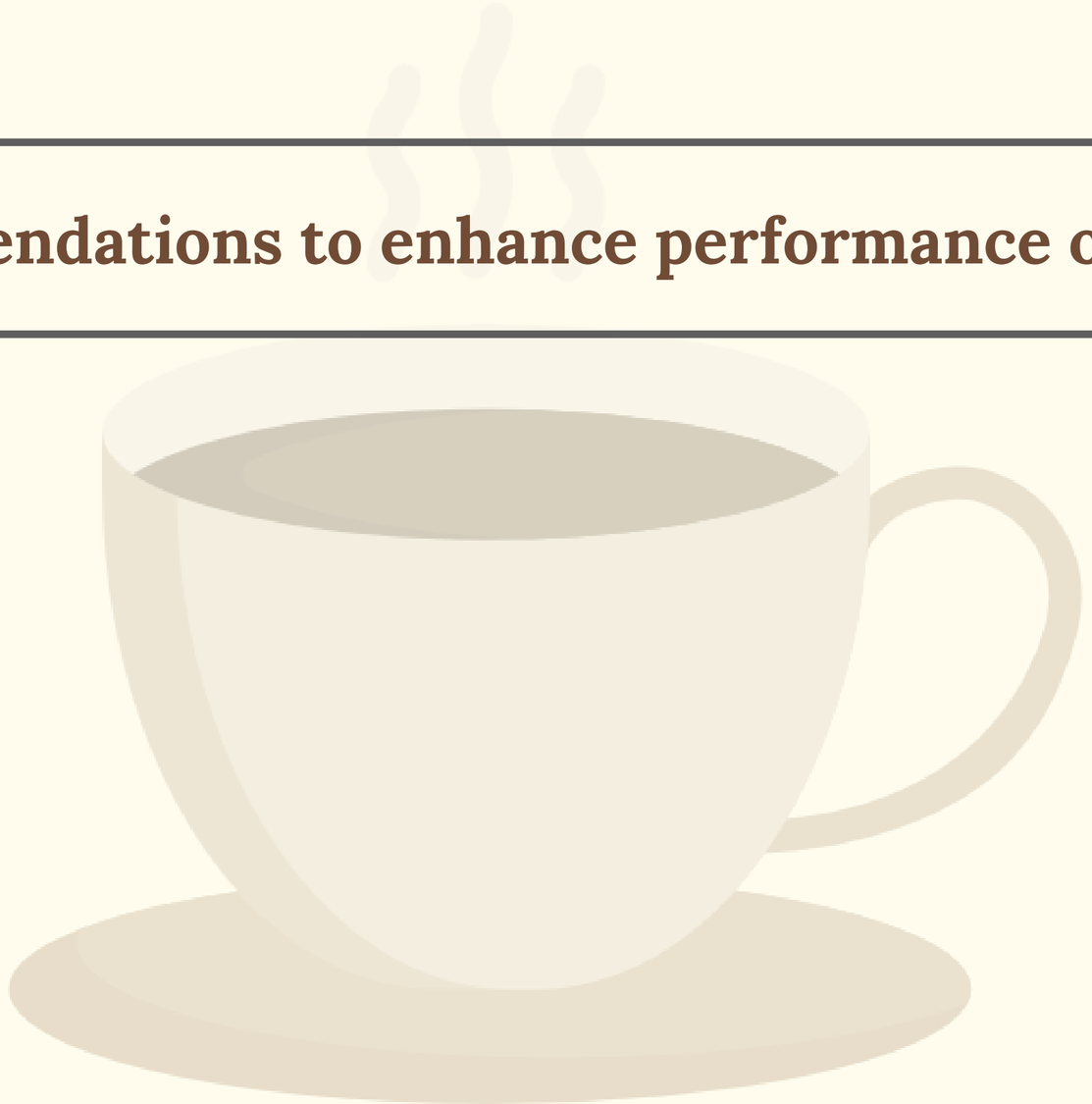
Which products are the bestselling in terms of quantity and revenue?

The highest-selling products, including "Barista Espresso Coffee," "Brewed Chai Tea," and "Hot Chocolate," contribute the most to overall revenue generation. These popular items consistently drive sales, making them key revenue drivers for the business.

How do sales vary by product category and size?

The most popular products sold include "coffee," "tea," "bakery items," and "drinking chocolate," which collectively drive a significant portion of total sales. Among these, the highest-selling sizes are "regular," "large," and "not defined," contributing substantially to overall revenue generation

Recommendations to enhance performance of coffee shop



Optimize Peak Hour Efficiency (7:00 - 10:00 A.M.)

- Increase staffing during peak hours to reduce wait times and improve service speed.
- Implement self-service kiosks or a mobile ordering system to streamline orders and improve order fulfillment speed.
- Introduce a "Morning Rush Combo" (e.g., coffee + pastry at a discounted price) to encourage larger orders.
- Offer a loyalty program where customers earn a free drink after purchasing a set number of morning beverages.

Boost Weekend Sales

- Sales decline on weekends—combat this by offering:
  - Weekend-exclusive discounts (e.g., “Buy 1 Get 1 Free” on select items).
  - Brunch deals with coffee and bakery pairings.
  - Live events like coffee tastings, music, or themed days to attract families and groups.

Leverage High-Demand Products for Maximum Revenue

- Top-selling items: "Barista Espresso Coffee," "Brewed Chai Tea," and "Hot Chocolate" contribute the most to revenue.
- Introduce seasonal and limited-edition flavors (e.g., pumpkin spice in fall, peppermint mocha in winter) to create urgency and increase sales.
- Promote upselling techniques—train baristas to recommend add-ons like extra espresso shots, flavored syrups, or specialty milk options

Capitalize on Best-Selling Sizes

- "Regular" and "Large" sizes contribute most to revenue—boost sales by:
  - Offering a "Go Large for Less" discount to encourage upsizing.
  - Providing customization options (e.g., extra toppings, milk alternatives) for an additional charge.
  - Implementing a "Refill Discount" for customers who bring their reusable cups.

Maximize Performance at ‘Hell’s Kitchen’ Location

- Hell’s Kitchen has the highest footfall and sales—leverage this success by:
  - Expanding store capacity or adding outdoor seating to accommodate more customers.
  - Conducting a customer survey to understand what drives footfall and replicating these strategies in other locations.
  - Launching an exclusive store-specific promotion (e.g., "Hell’s Kitchen Special" drink or discount)

Increase Average Spend Per Customer

- With an average bill of $4.69 per person and 1.4 items per order, boosting revenue per transaction is crucial:
  - Introduce bundle deals (e.g., “Coffee + Croissant” at a slight discount).
  - Display strategic product placements at checkout (e.g., grab-and-go snacks).
  - Implement a personalized recommendation system for frequent customers based on purchase history.

Address Seasonal Sales Fluctuations

- Sales are lower at the beginning of the year (January). To counteract this:
  - Offer a New Year discount or January Membership Plan to drive repeat visits.
  - Launch winter-themed drinks and promotional campaigns to attract more customers.
  - Partner with local offices for corporate coffee subscription plans to ensure steady weekday sales.

CONCLUSIONS

By implementing these strategies, the coffee shop can enhance customer experience, boost revenue, and maintain consistent sales throughout the year.

THANK YOU