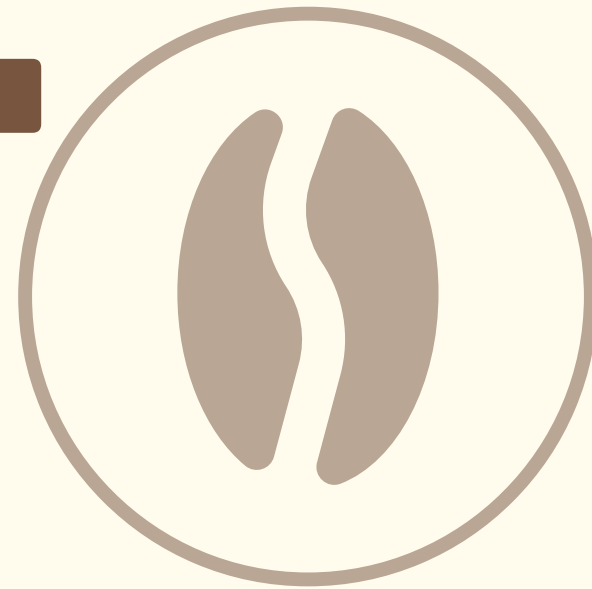
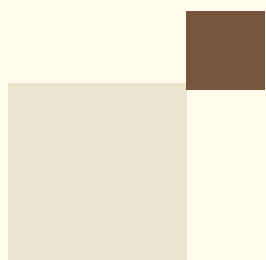


COFFEE SHOP



NEWYORK,
USA

Sales Data Analysis



PRESENTED BY:
Himanshi Saini

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





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

PROBLEM STATEMENT



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

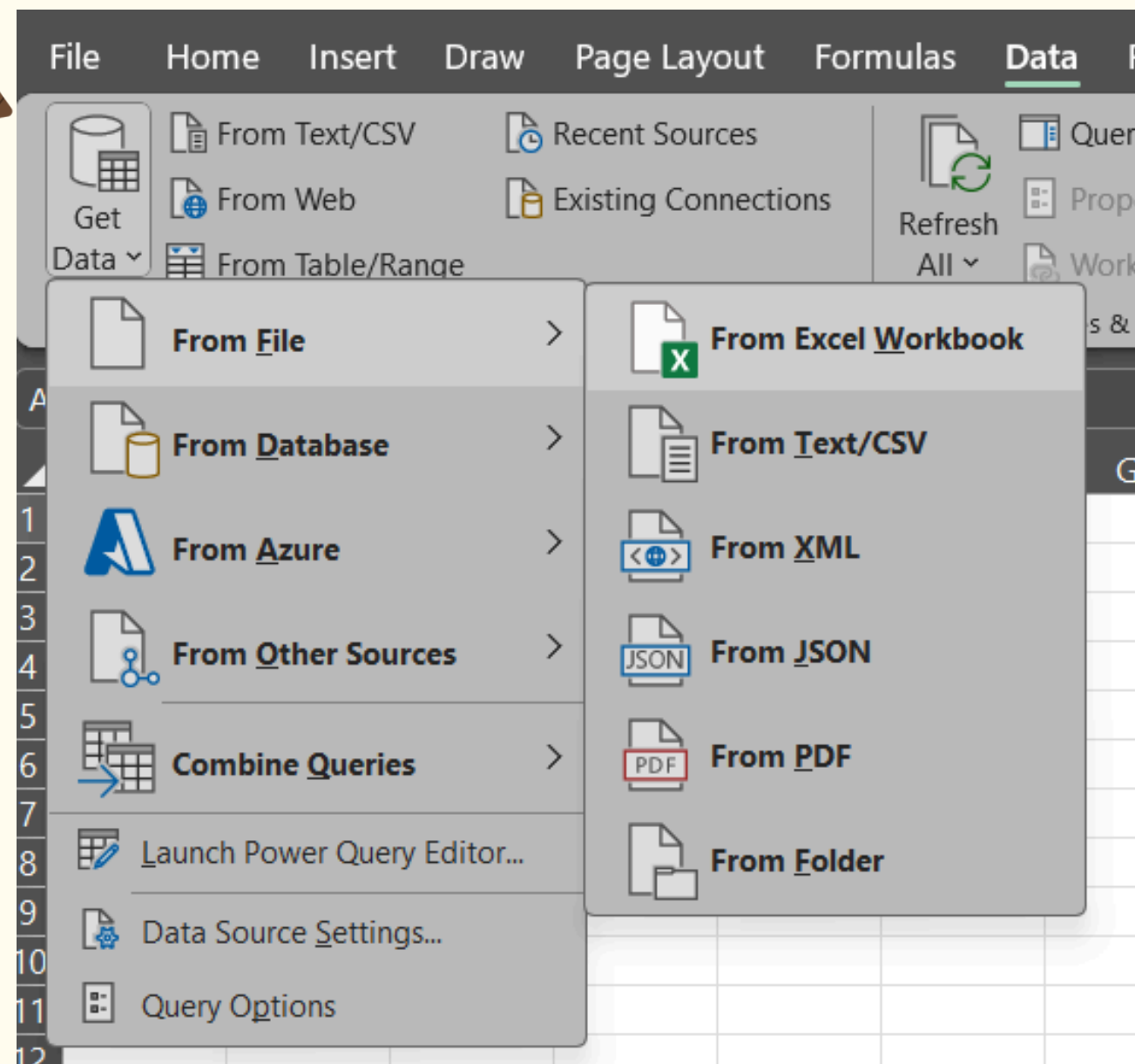


DATA CLEANING

START



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



LOADING.....

The image shows the Power Query Navigator interface. On the left, the 'Navigator' pane displays a folder named 'Coffee Shop Sales.xlsx [1]' with a sub-item 'Transactions' highlighted. On the right, the 'Transactions' table is previewed, showing data downloaded on Tuesday. The table has four columns: 'transaction_id', 'transaction_date', 'transaction_time', and 'transaction_qty'. The data is as follows:

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

Product Category

product_type

product_detail

Sort Ascending

Sort Descending

Clear Sort

Clear Filter

Remove Empty

Text Filters

Search

(Select All)

Almond Croissant

Brazilian Lg

Brazilian Rg

Brazilian Sm

Cappuccino

Cappuccino Lg

Chocolate Chip Biscotti

Chocolate Croissant

Columbian Medium Roast Lg

Columbian Medium Roast Rg

Columbian Medium Roast Sm

Cranberry Scone

Croissant

Dark chocolate Lg

Dark chocolate Rg

Earl Grey Lg

Earl Grey Rg

Transaction Time

transaction_qty

store_id

store_loc

Copy

Remove

Remove Other Columns

Duplicate Column

Add Column From Examples...

Remove Duplicates

Remove Errors

Change Type

Transform

Replace Values...

Replace Errors...

Create Data Type

Group By...

Fill

Unpivot Columns

Unpivot Other Columns

Unpivot Only Selected Columns

Rename...

Move

Drill Down

Add as New Query

Decimal Number

Currency

Whole Number

Percentage

Date/Time

Date

Time

Date/Time/Timezone

Duration

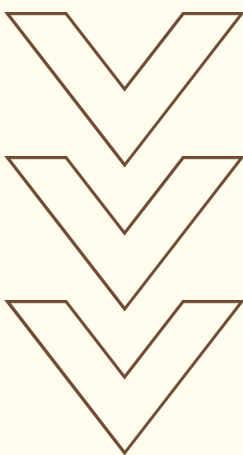
Text

True/False

Binary

Using Locale...

"PRODUCT_CATEGORY"
we have



unit_price

product_category

Sort Ascending

Sort Descending

Clear Sort

Clear Filter

Remove Empty

Text Filters

Search

(Select All)

Bakery

Branded

Coffee

Coffee beans

Drinking Chocolate

Flavours

Loose Tea

Packaged Chocolate

Tea

OK

Cancel

Changed the Data Type of
"Transaction_Date"
Column

Size of products in
"PRODUCT_DETAIL"
which customers ordered

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

Add Conditional Column

Add a conditional column that is computed from the other columns or values.

New column name:

	Column Name	Operator	Value		Output
If	product_detail	contains	Lg	Then	Large
Else If	product_detail	contains	Rg	Then	Regular
Else If	product_detail	contains	Sm	Then	Small

Else:

Replace Values

Replace one value with another in the selected columns.

Value To Find

Lg

Replace With

Advanced options

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

Transactions - Power Query Editor

Home

Transform

Add Column

View

Transpose

Reverse Rows

Count Rows

Data Type: Text

Detect Data Type

Rename

Replace Values

Fill

Pivot Column

Unpivot Columns

Move

Convert to List

Split Column

Format

lowercase

UPPERCASE

Capitalize Each Word

Trim

Clean

Add Prefix

Add Suffix

Merge Columns

Extract

Parse

Statistics

Standard

Scientific

Trigonometry

Rounding

Information

Date

Time

Duration

Table

Any Column

Number Column

Date & Time Column

fx

= Table.ReplaceValue("#Replaced Value1","Sm","",Replacer.Replace

	store_location	product_id	unit_price	product_type	product_detail
5	Lower Manhattan	32	3	Gourmet brewed coffee	Ethiopia
5	Lower Manhattan	57	3.1		Spicy Eye Opener Chai
5	Lower Manhattan	59	4.5		Dark chocolate
5	Lower Manhattan	22	2	Coffee	Drip coffee
5	Lower Manhattan	57	3.1	Tea	Brewed Chai tea

Change the datatype of "SIZE" Column

To remove the whitespaces in the column

Query Set

product_type	product_detail	Size
Gourmet brewed coffee	Ethiopia	Regular
Spicy Eye Opener Chai		Large
Dark chocolate		Large
Our Old Time Diner Blend		Small
Spicy Eye Opener Chai		Large
Oatmeal Scone		Not Defined
Our Old Time Diner Blend		Small
Columbian brewed coffee		Decimal Number
Latte		Currency
Dark chocolate		Whole Number
Spicy Eye Opener Chai		Percentage
Ethiopia brewed coffee		Date/Time
Earl Grey tea		Date
Spicy Eye Opener Chai		Time
Ouro Branco		Date/Time/Timezone
Serenity tea		Duration
Jumbo Scone		Text
Lemon Green tea		True/False
Dark chocolate		Binary
Sustainable		Using Locale...
Ethiopia brewed coffee		Large
Spicy Eye Opener Chai		Regular
Hazelnut Biscotti		Not Defined

Copy

Remove

Remove Other Columns

Duplicate Column

Add Column From Examples...

Remove Duplicates

Remove Errors

Change Type

Transform

Replace Values...

Replace Errors...

Create Data Type

Split Column

Group By...

Fill

Unpivot Columns

Unpivot Other Columns

Unpivot Only Selected Columns

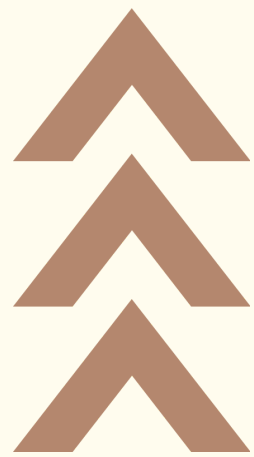
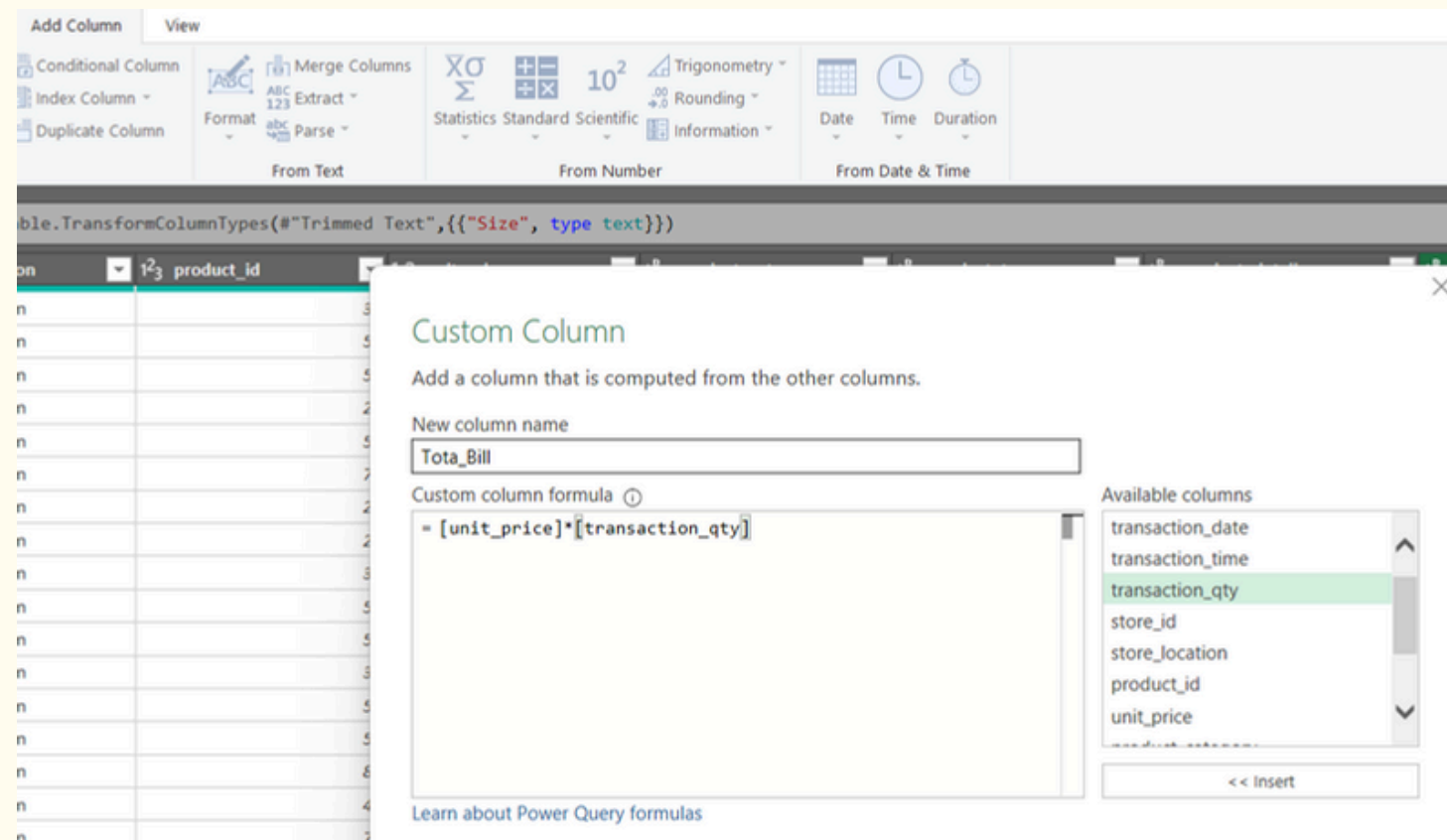
Rename...

Move

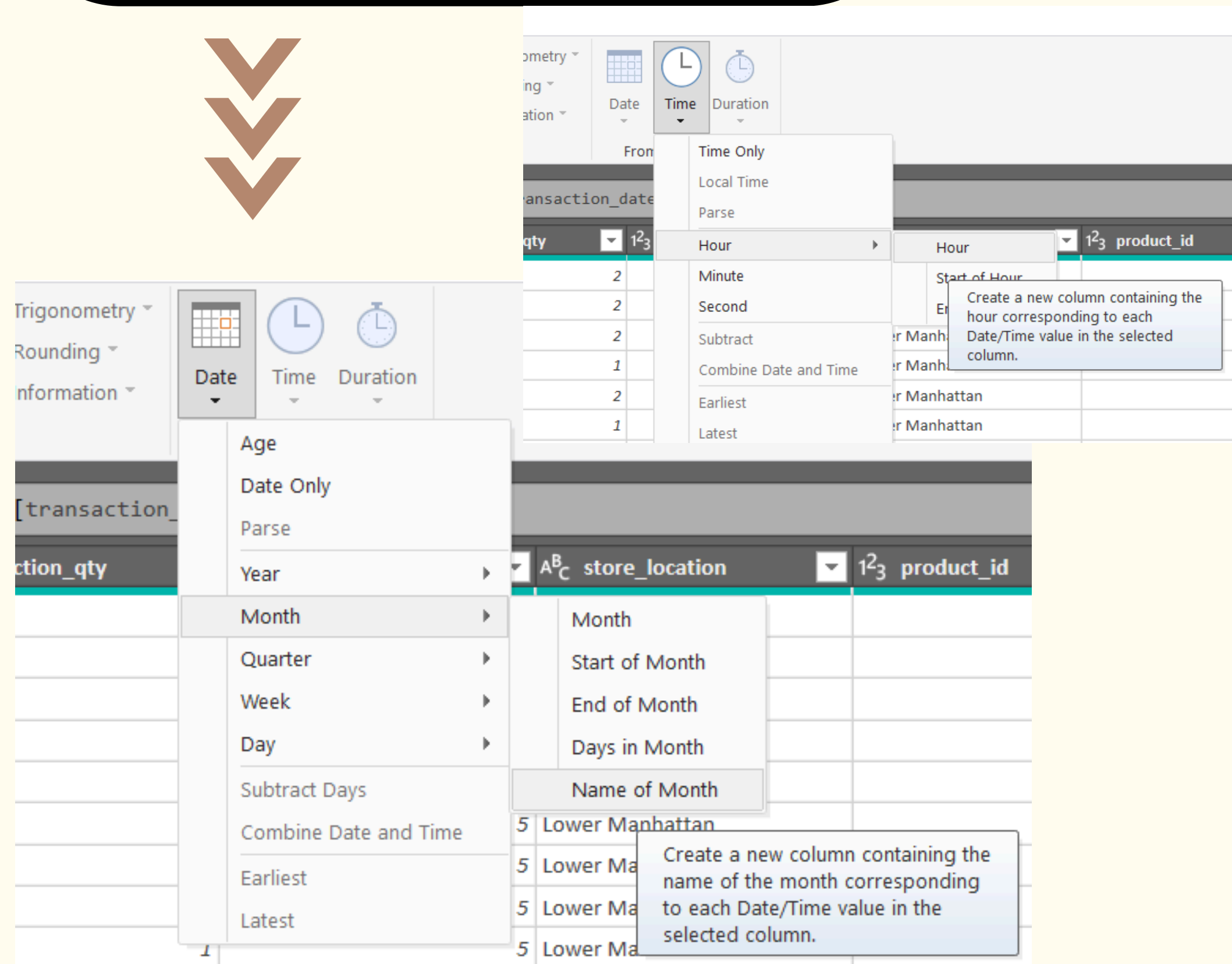
Drill Down

Add as New Query

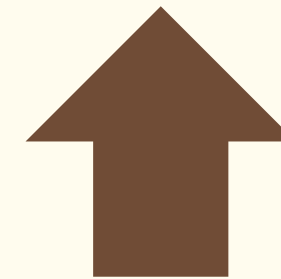
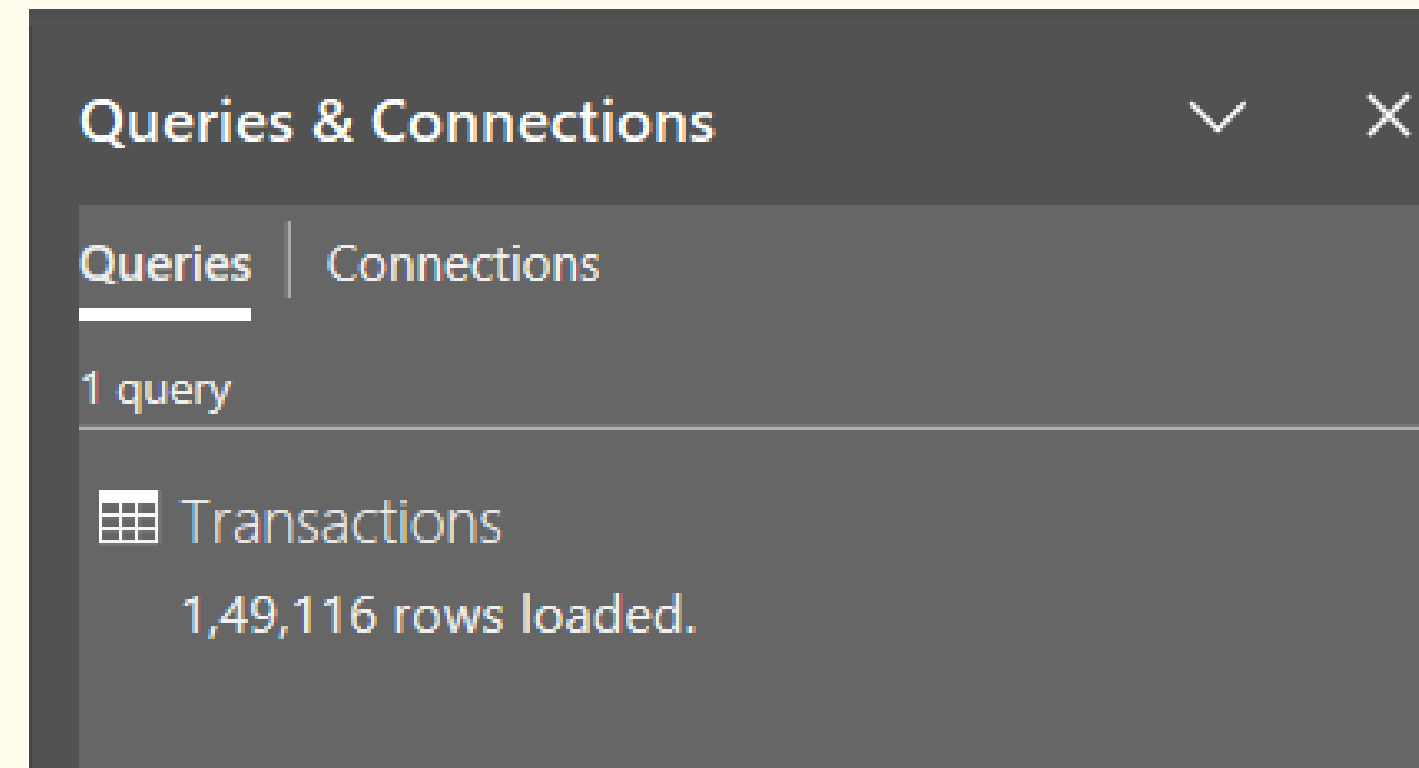
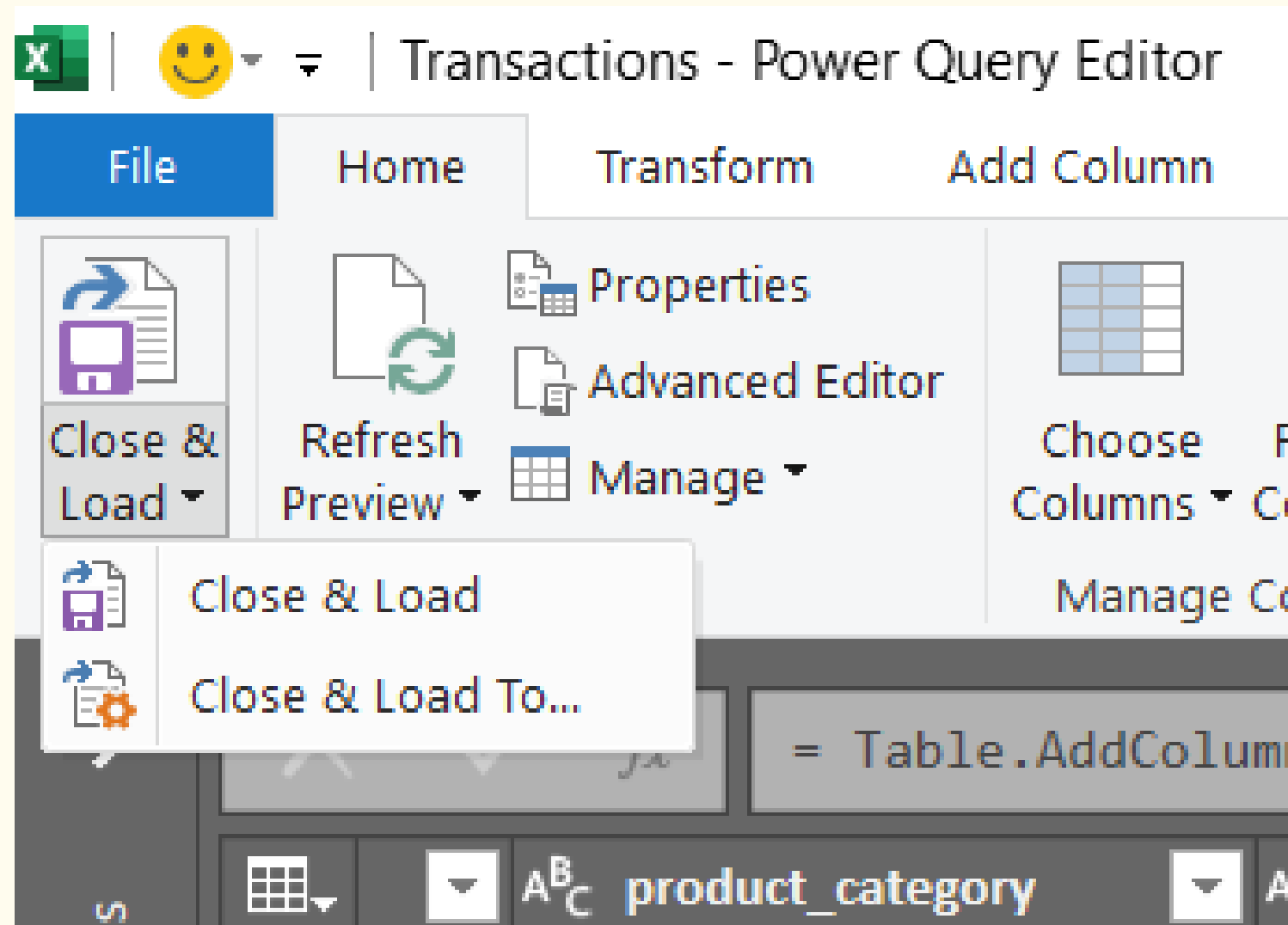
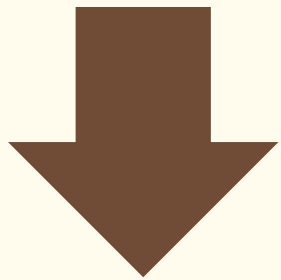
New column "Month_Name" & "Hour"
using Transaction_Date and Time



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



“ 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 ?

Create PivotTable

Choose the data that you want to analyze

☒ Select a table or range

Table/Range:

☐ Use an external data source

Choose Connection...

Connection name:

☐ Use this workbook's Data Model

Choose where you want the PivotTable report to be placed

☒ New Worksheet

☐ Existing Worksheet

Location:

Choose whether you want to analyze multiple tables

☐ Add this data to the Data Model

OK Cancel

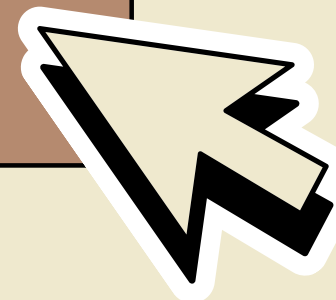
	A	B	C
1			
2			
3	Product Category	Count of transaction_id	
4	Coffee	58416	
5	Tea	45449	
6	Bakery	22796	
7	Drinking Chocolate	11468	
8	Flavours	6790	
9	Coffee beans	1753	
10	Loose Tea	1210	
11	Branded	747	
12	Packaged Chocolate	487	
13	Grand Total	149116	

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

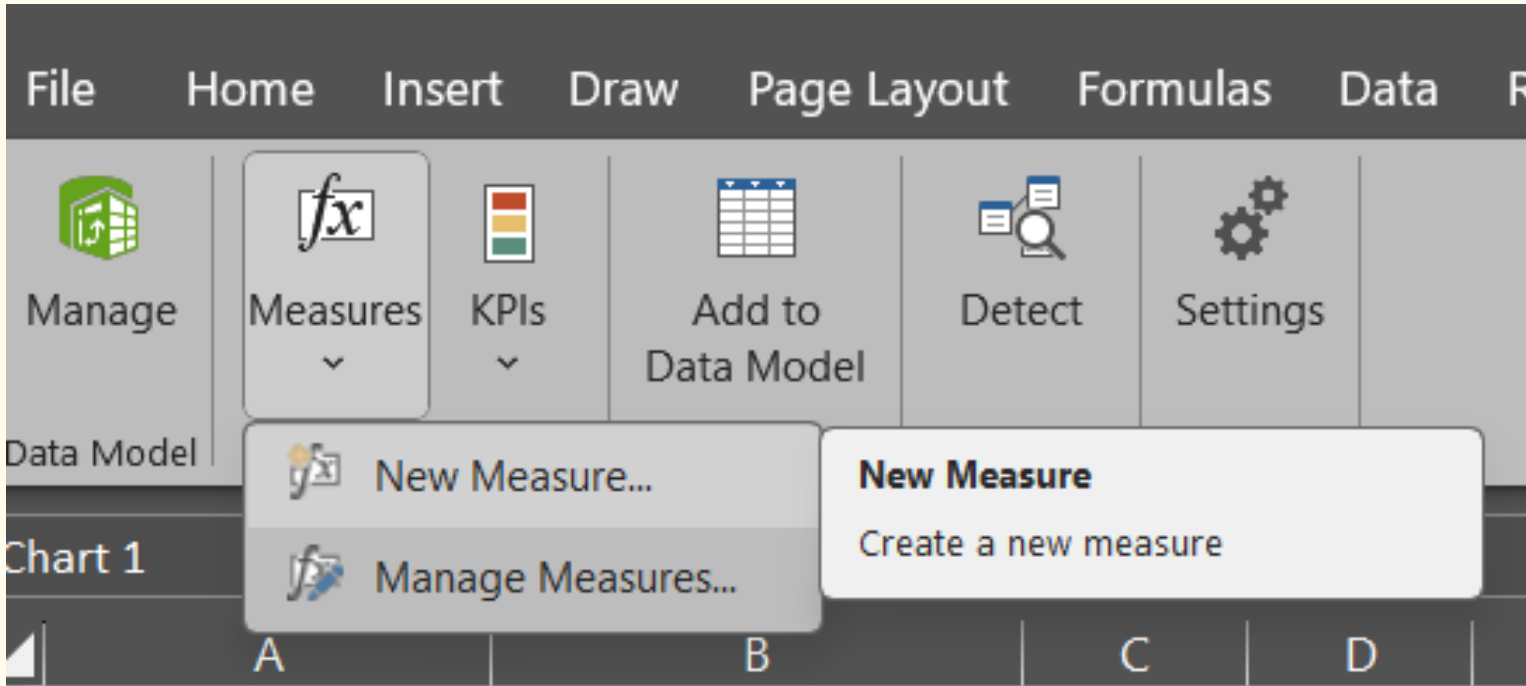


DATA VISUALIZATION

START



CREATING NEW MEASURES



Measure

Table name: Transactions

Measure name: Average bill per Person

Description:

Formula: $\sum x$ Check formula

=SUM(Transactions[Total_Bill]/DISTINCTCOUNT(Transactions[transaction_id]))
SUM(ColumnName)

Formatting Options



Measure

Table name: Transactions

Measure name: Footfall

Description:

Formula: $\sum x$ Check formula

=SUM(Transactions[Total_Bill]/DISTINCTCOUNT(Transactions[transaction_id]))
SUM(ColumnName)



Measure

Table name: Transactions

Measure name: Total Sales

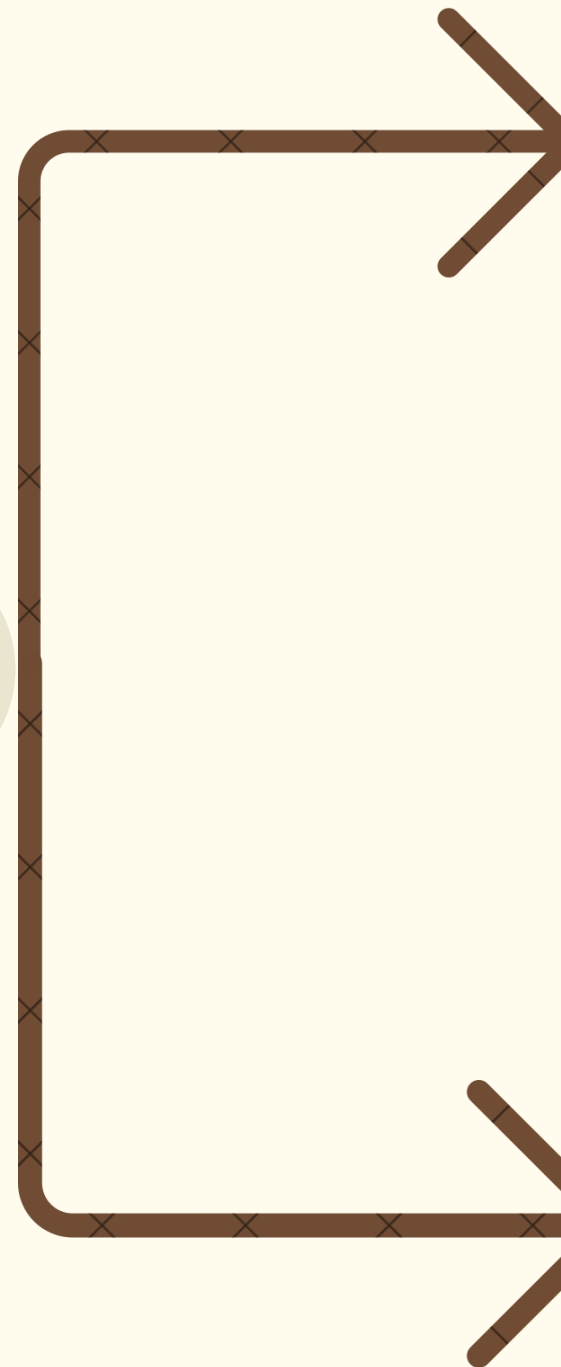
Description:

Formula: $\sum x$ Check formula

=SUM([Total_Bill])



MEASURES



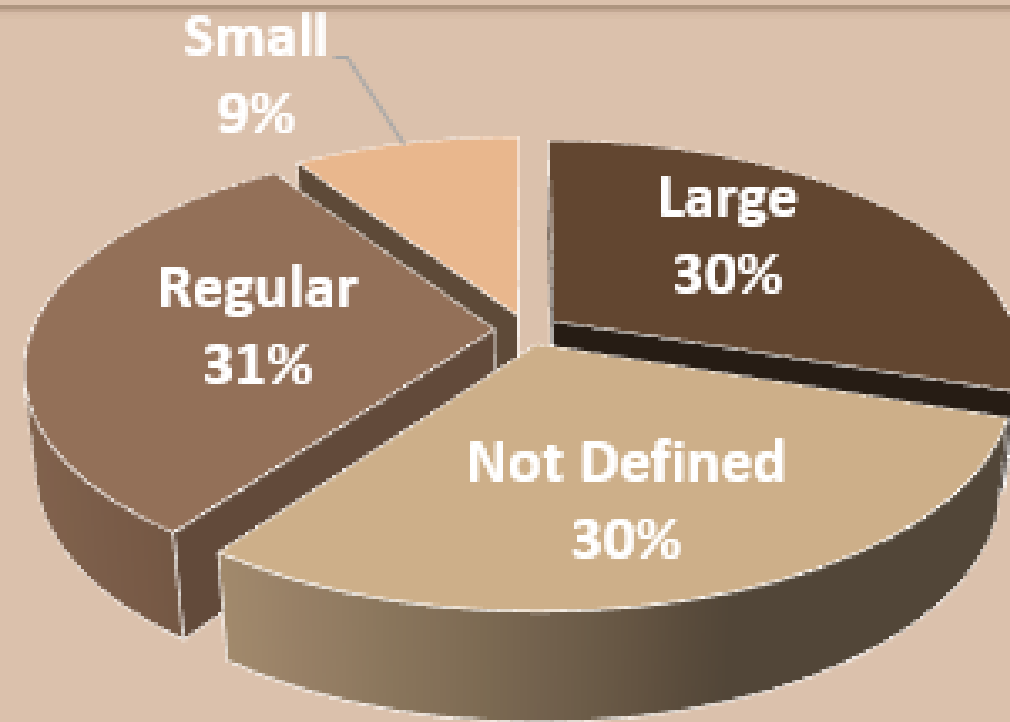
\$ 6,98,812
TOTAL SALES

\$ 4.69
AVERAGE BILL PER PERSON

149116
TOTAL FOOTFALL

1.4 item
AVERAGE ORDER PER PERSON

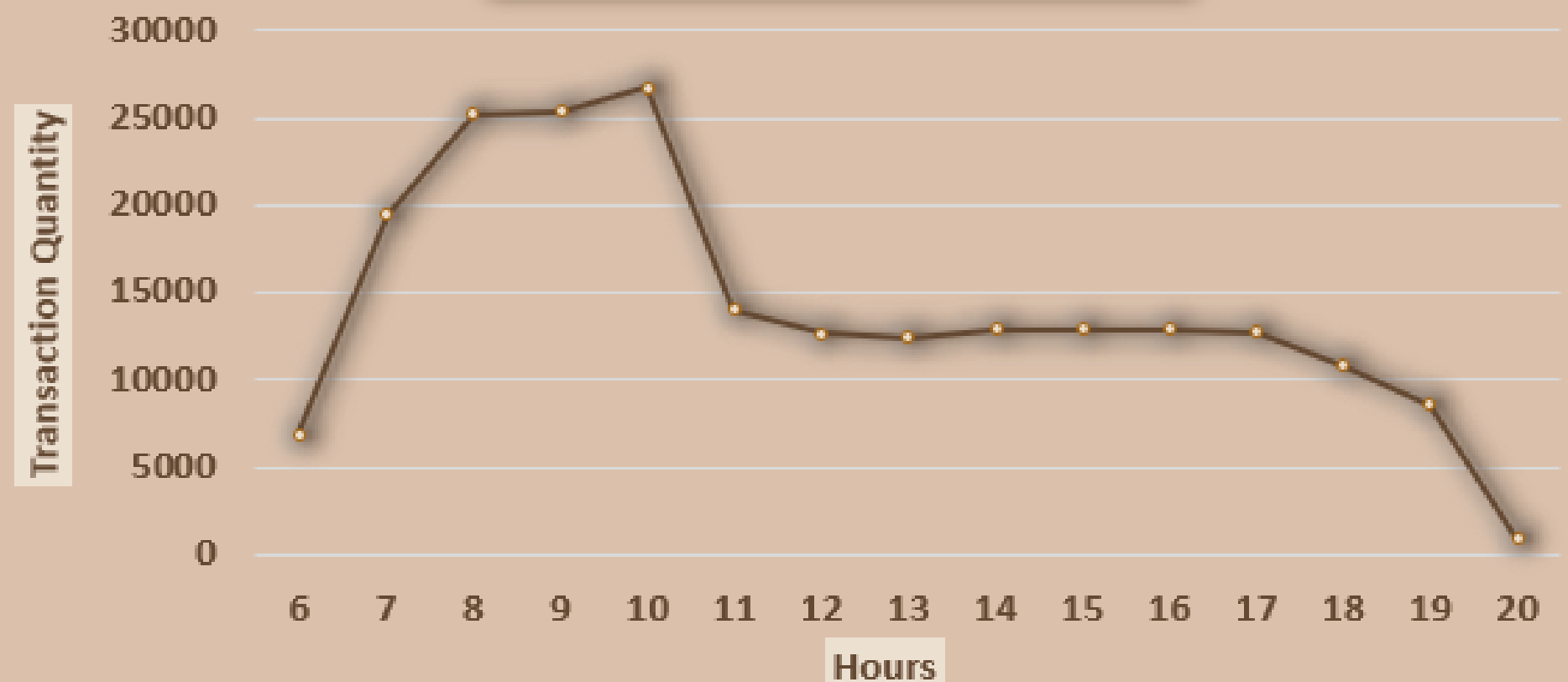
% DISTRIBUTION OF COFFEE SIZE



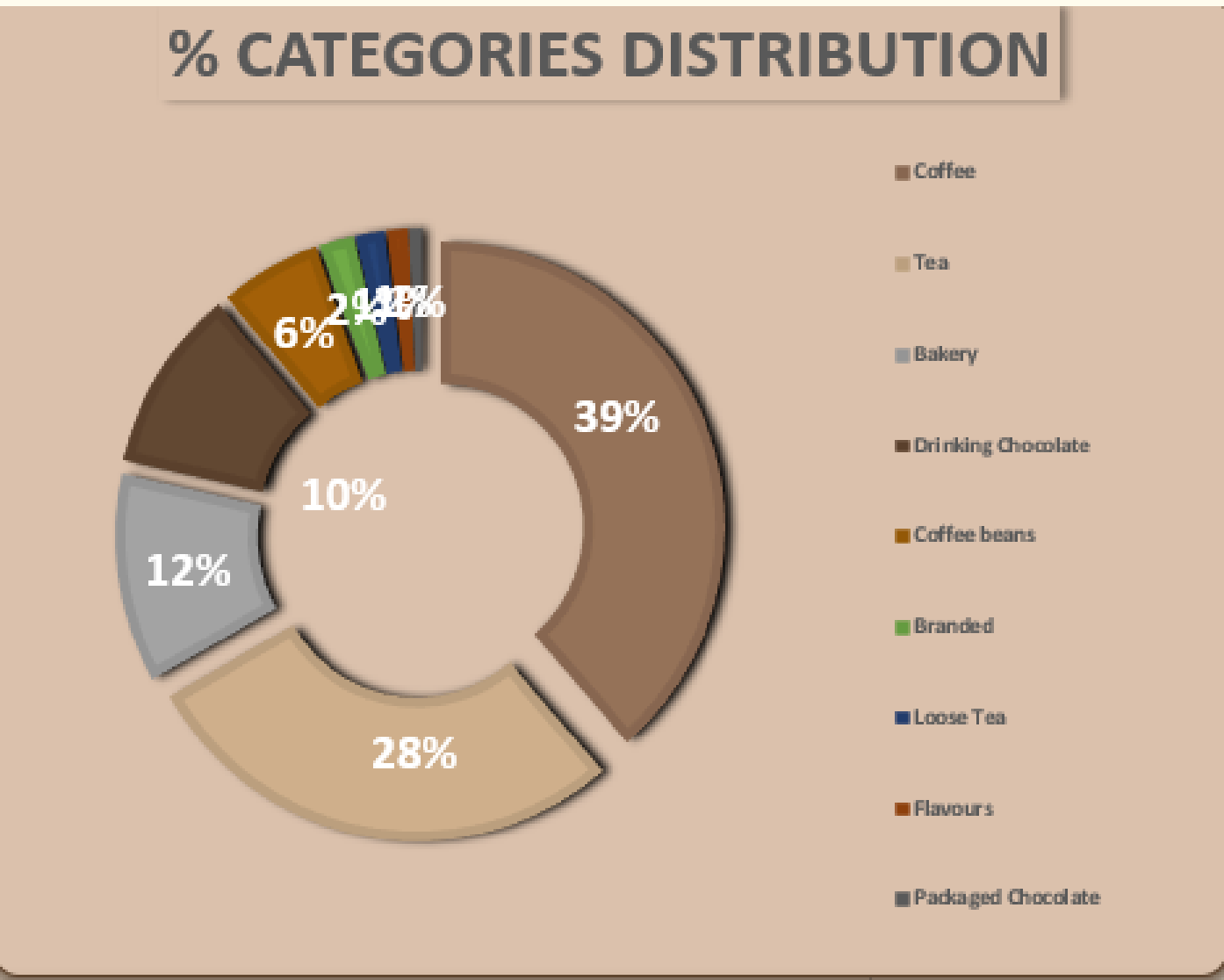
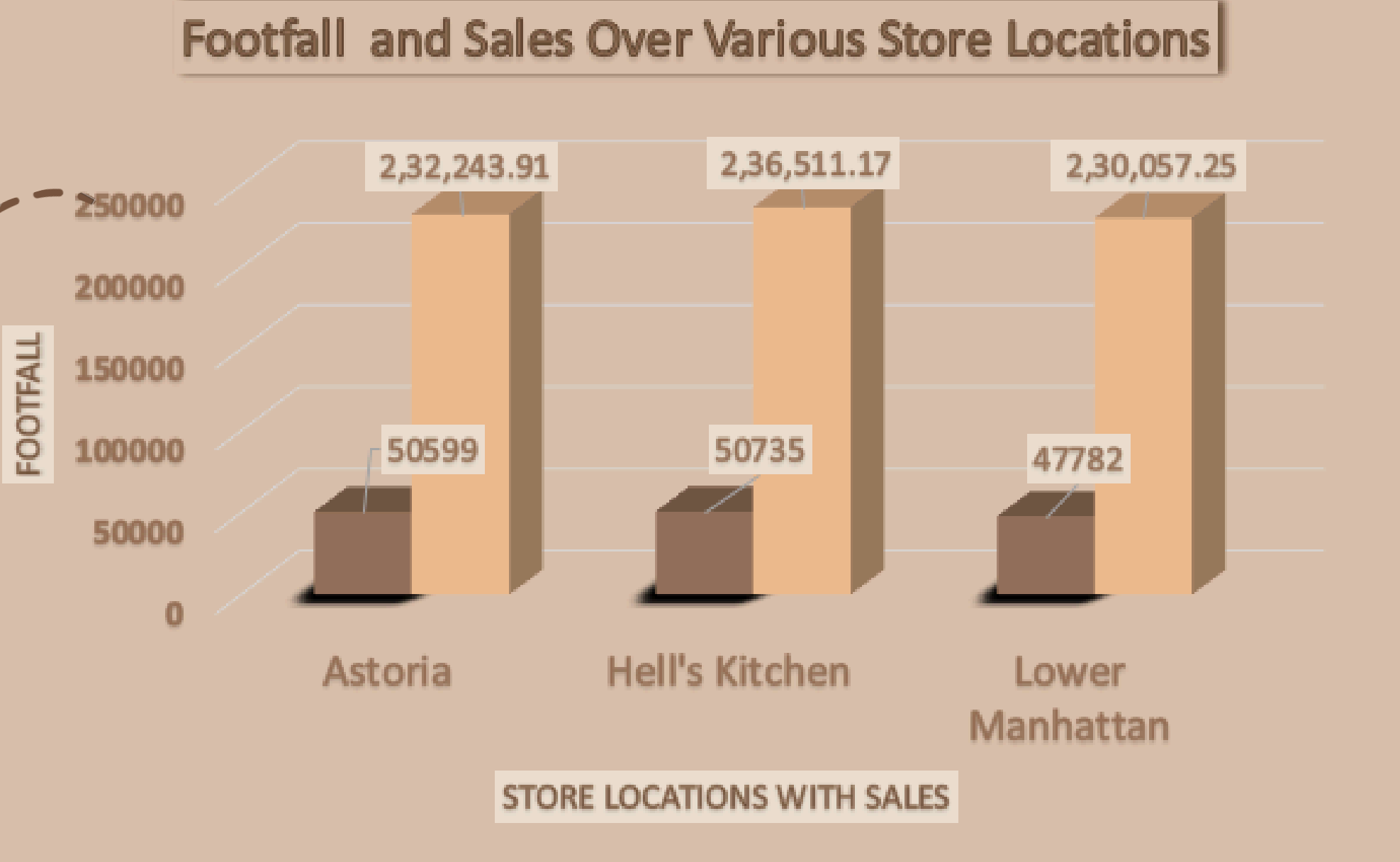
From the distribution of coffee sizes, we can see that the least sold size is "small," while the most sold size is "regular," followed by "large."

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

Orders Quantity Based on Hours

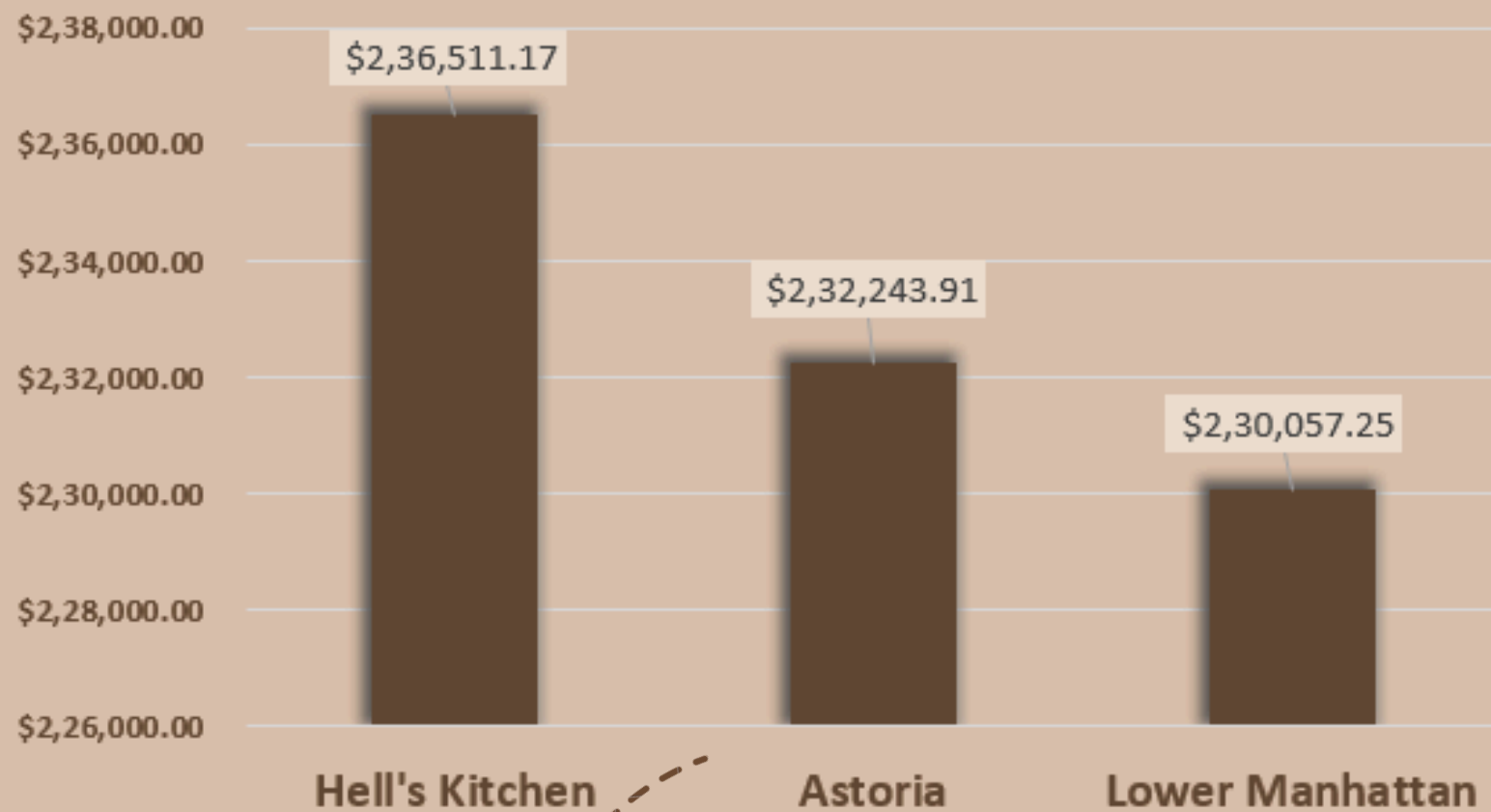


The sales across the three stores are quite similar, but "Hell's Kitchen" has the highest sales based on footfall among them



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

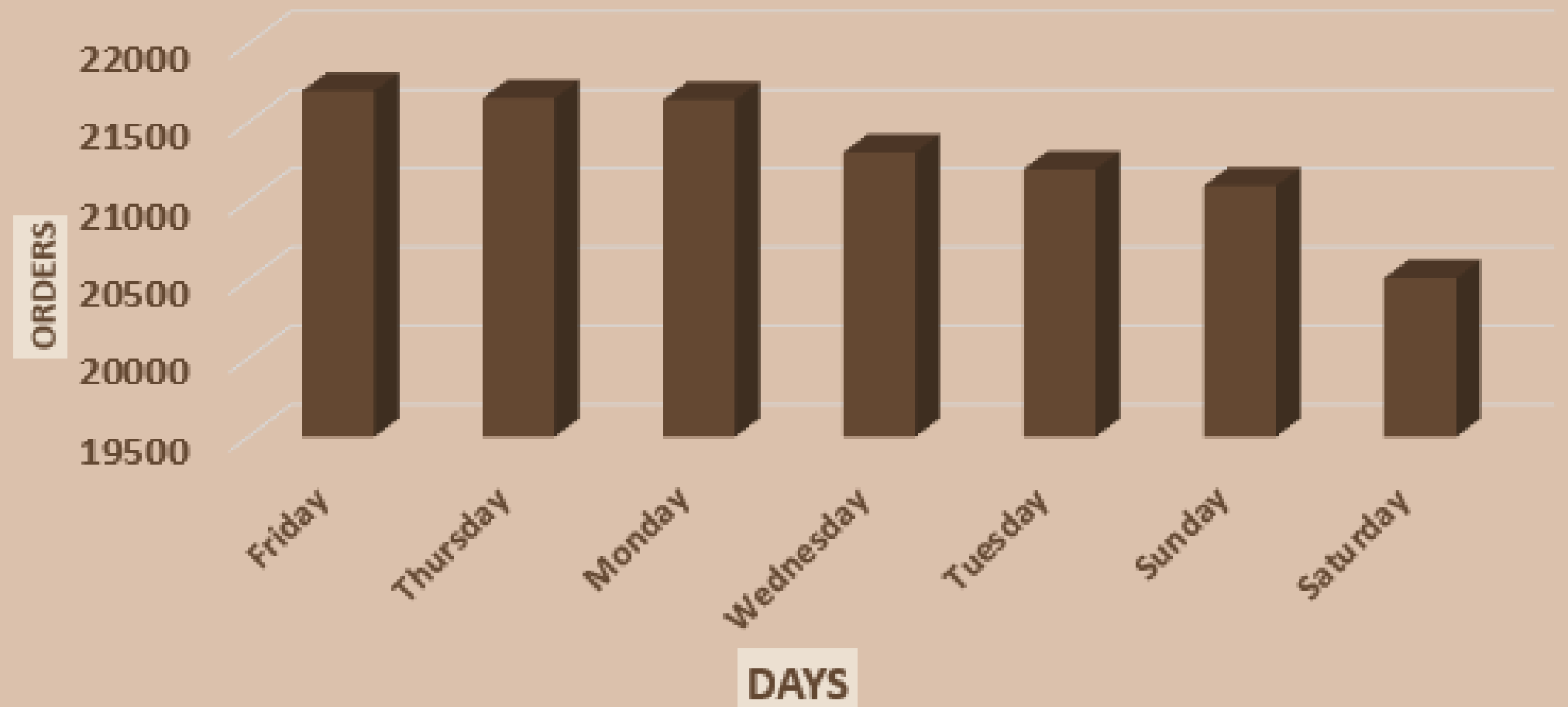
Sales Based On Location



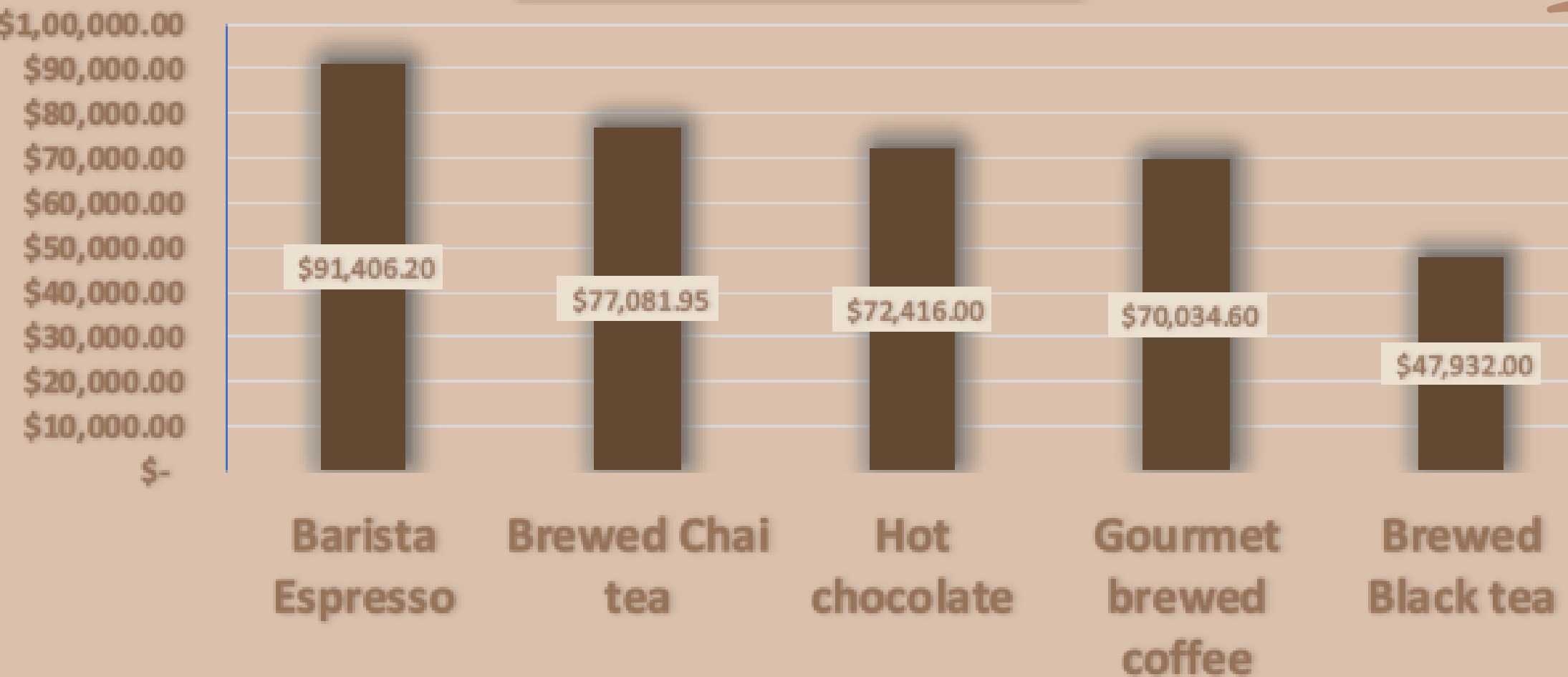
Hell's Kitchen has the highest sales among them based on location

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

ORDERS BASED ON DAYS



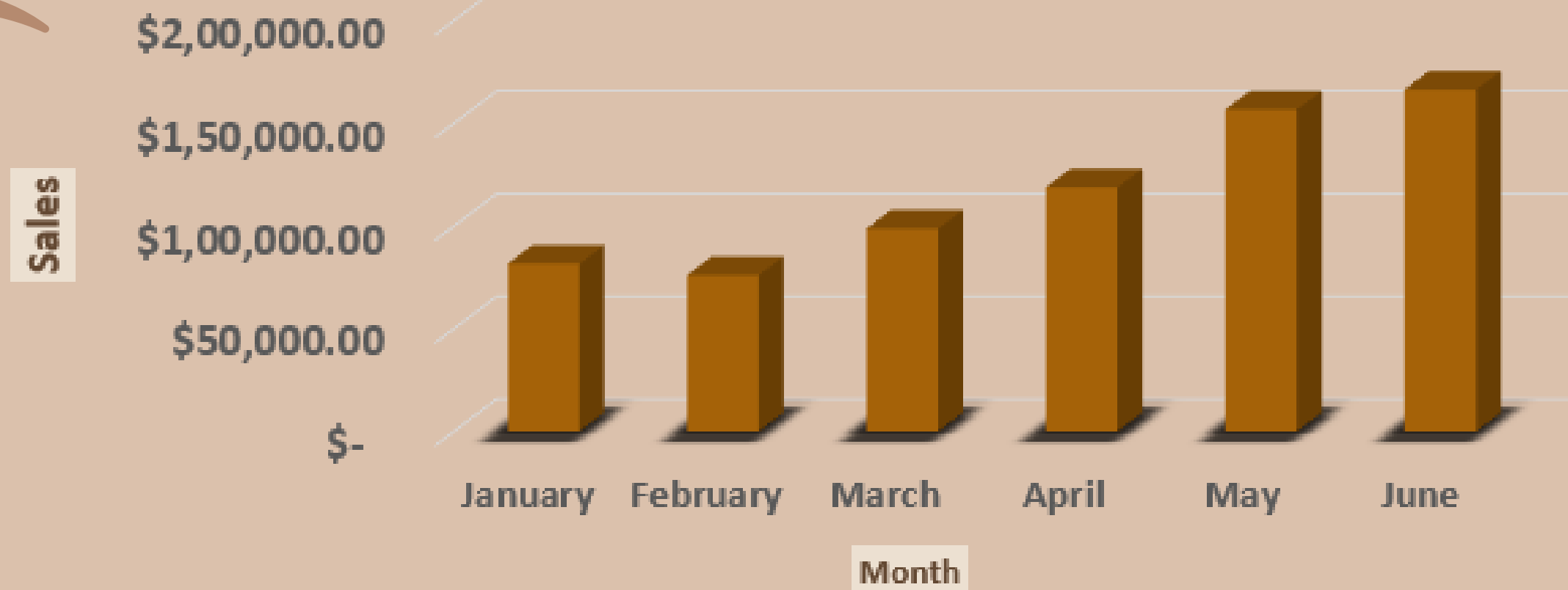
TOP-5 Selling Products

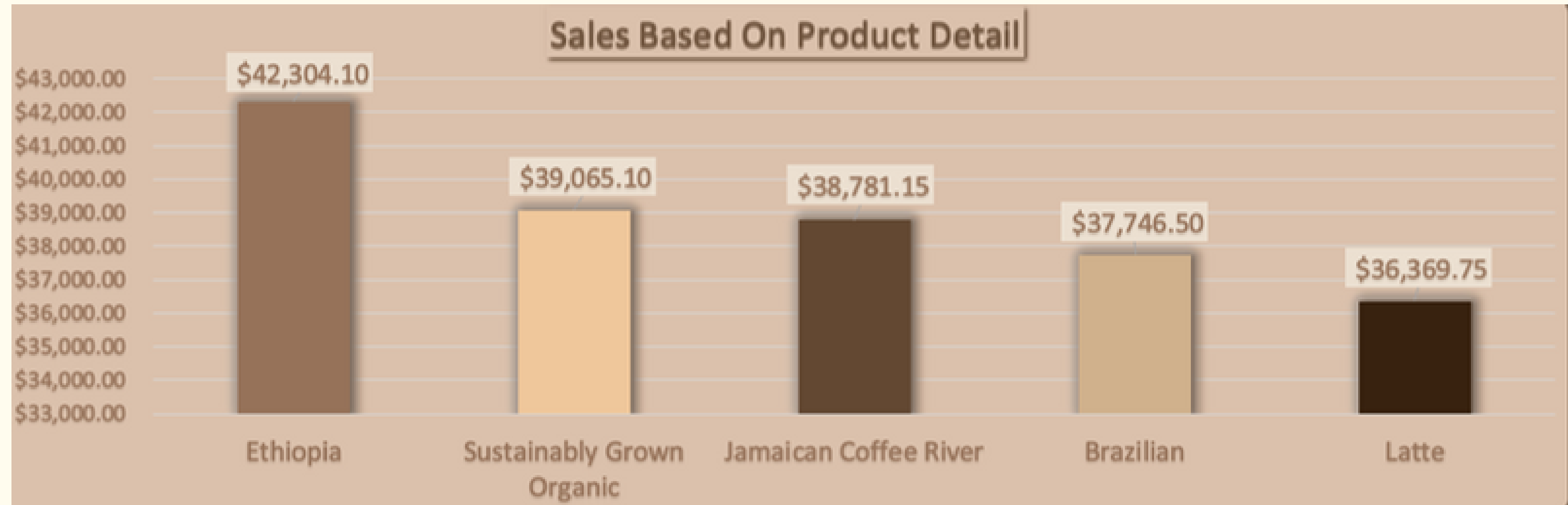


As we can see that "Barista Espresso",
"Brewed Chai Tea" is the highest selling product

Sales are increasing as the
month passes

Monthly Sales





“Ethiopia”, “Sustainably Grown Organic”
are highest revenue generating
Products based on product detail”



ANALYSIS...

START



Q n A



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



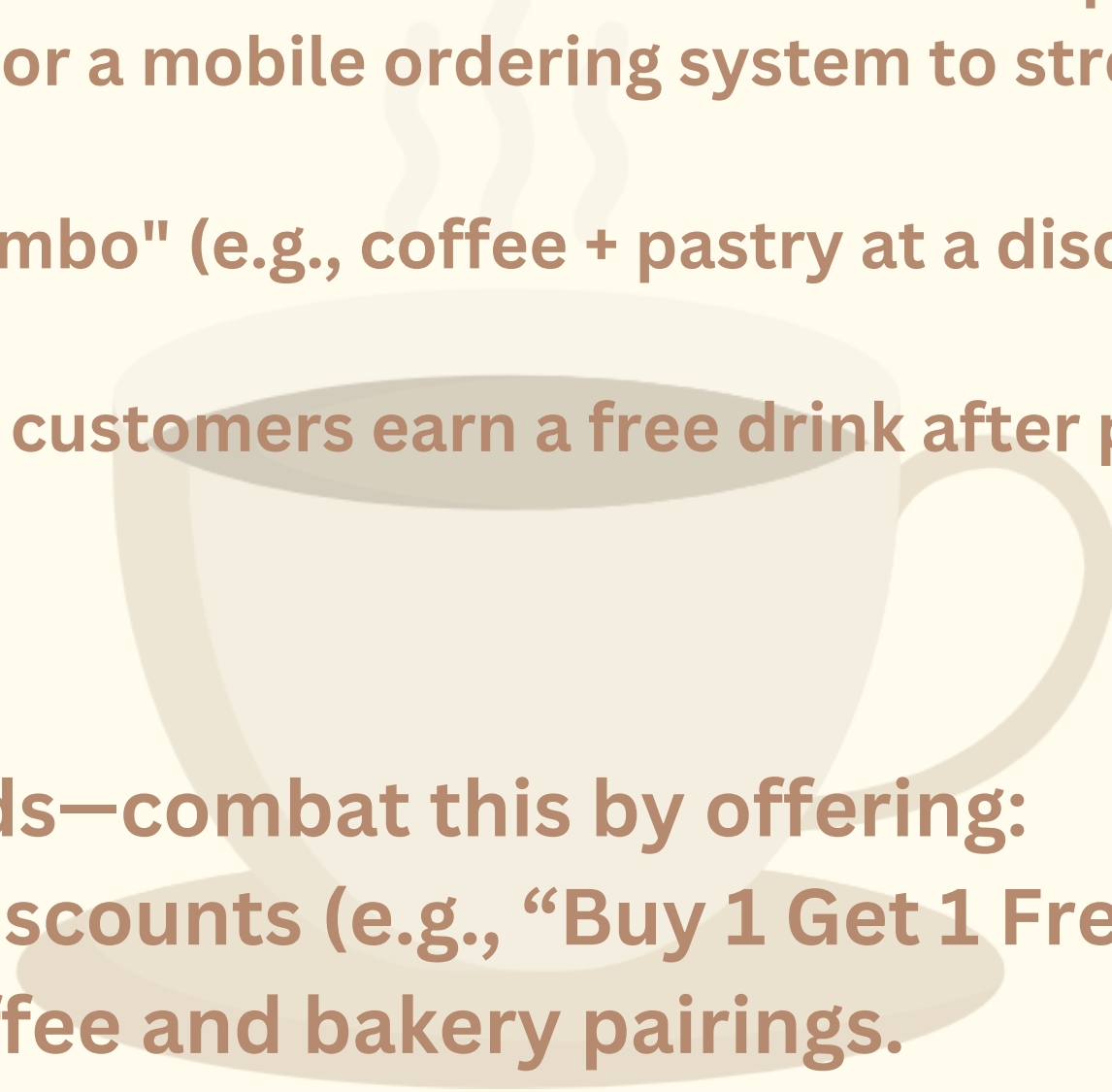


Optimize Peak Hour Efficiency (7:00 - 10:00 A.M.)

- 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.



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

