Coffee Shop Sales Project

Nehal Ansari

17th December, 2022

Index

Objective

The main objective of this project is to analyze retail sales to gain actionable insights that will enhance the performance of the Coffee Shop.

Questions

We will analyze the data and try to extract some useful insights by answering some questions.

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

Data Cleaning

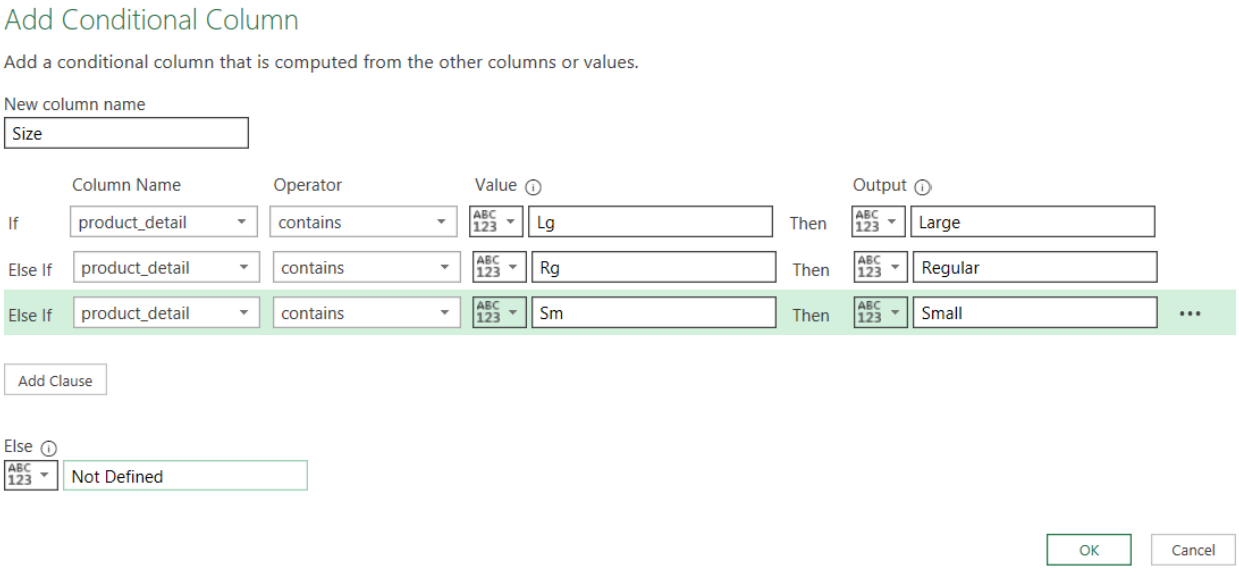
We will check for any error in data using filters

Data Analysis

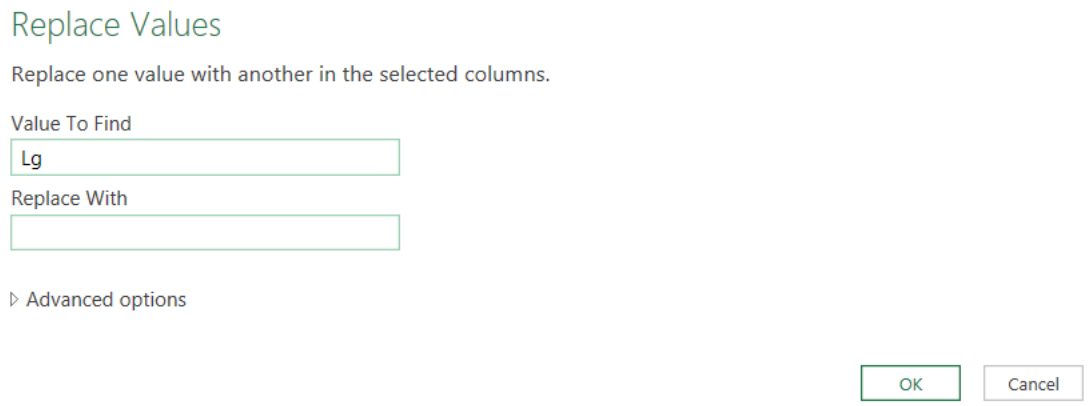
We will analyze data, we will add some more columns into our data which will help us to extract insights easily.

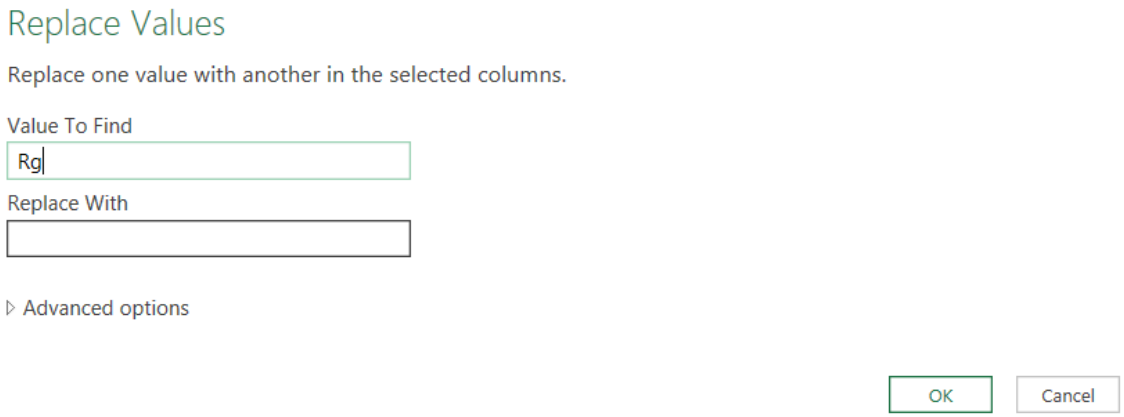
So we use Power Query Terminal to Clean and Analyse data.

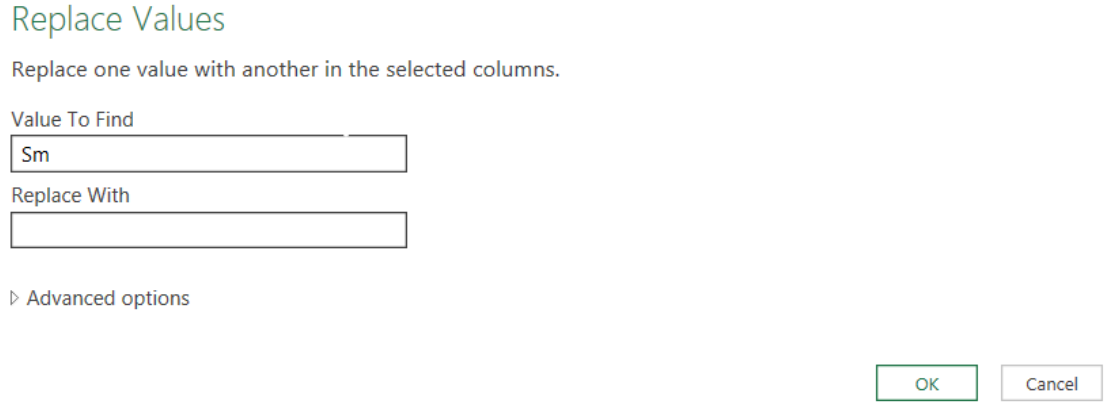
From the product_details column we will insert a column having Size Lg, Rg and Sm. Which will make more sense.



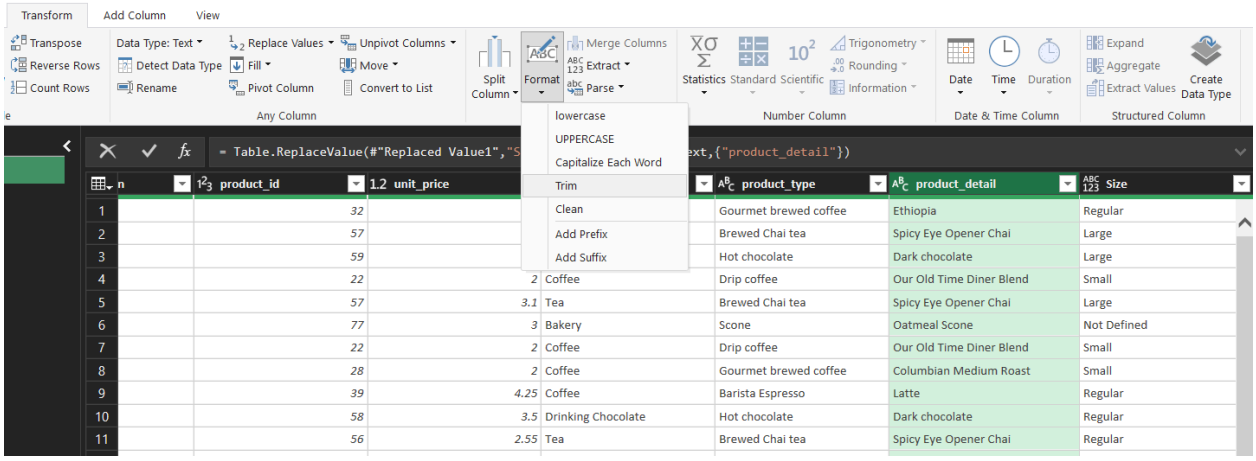
Now we will remove Lg,Rg and Sm from the product_detail column because we want a clean product_detail column. So, to remove this we will transform the column product_detail.





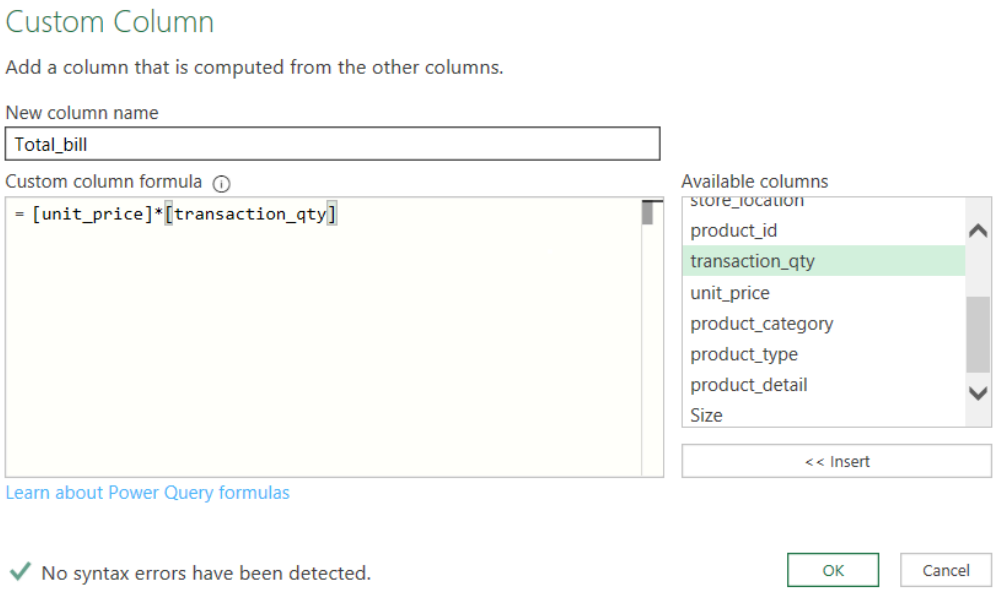


Now we will remove white spaces from the product_detail column by using ‘Trim’ functionality.

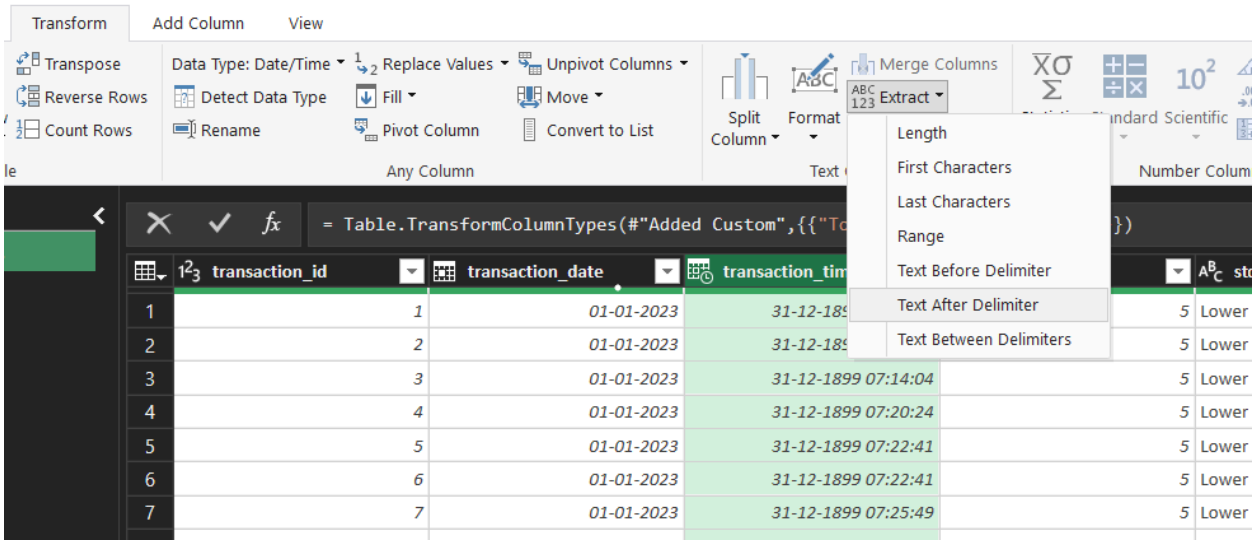


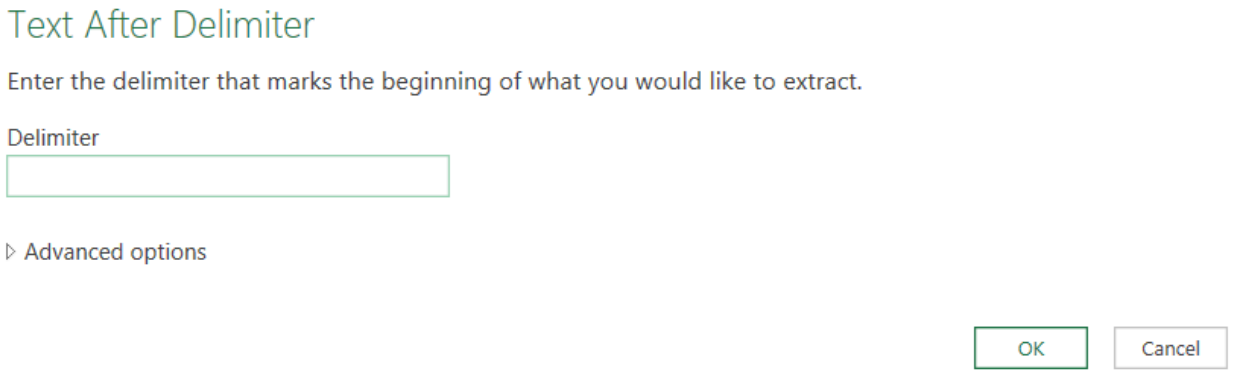
n	product_id	unit_price		product_type	product_detail	Size
1	32			Gourmet brewed coffee	Ethiopia	Regular
2	57			Brewed Chai tea	Spicy Eye Opener Chai	Large
3	59			Hot chocolate	Dark chocolate	Large
4	22	2	Coffee	Drip coffee	Our Old Time Diner Blend	Small
5	57	3.1	Tea	Brewed Chai tea	Spicy Eye Opener Chai	Large
6	77	3	Bakery	Scone	Oatmeal Scone	Not Defined
7	22	2	Coffee	Drip coffee	Our Old Time Diner Blend	Small
8	28	2	Coffee	Gourmet brewed coffee	Columbian Medium Roast	Small
9	39	4.25	Coffee	Barista Espresso	Latte	Regular
10	58	3.5	Drinking Chocolate	Hot chocolate	Dark chocolate	Regular
11	56	2.55	Tea	Brewed Chai tea	Spicy Eye Opener Chai	Regular

Now we have column transaction_qty and unit_price, so we will insert a column for ‘ total_bill’ which will multiply both the columns and then we will change the datatype to currency of total_bill column.

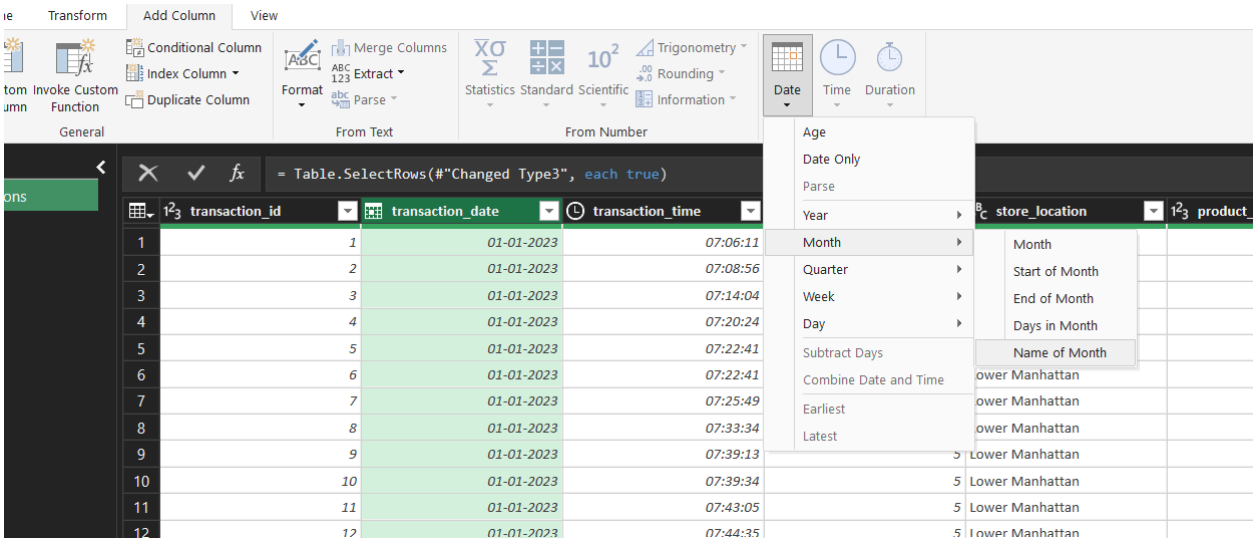


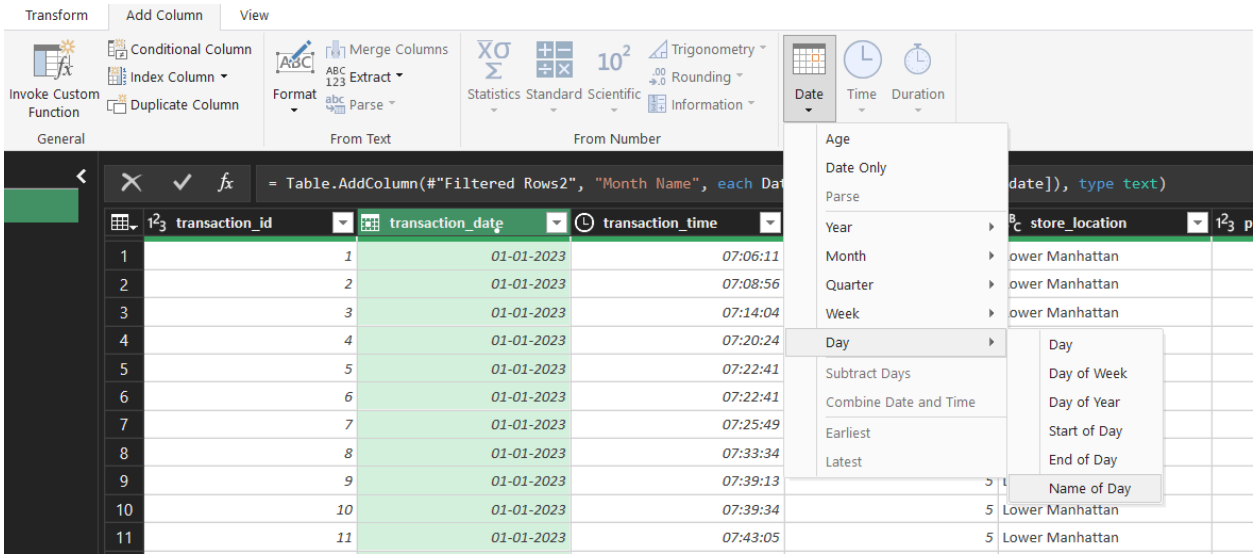
Now we will transform the transaction_time column by removing date and having only time value, so to do that we will use “Text After Delimiter” functionality. We will pass white space in the Delimiter Box.



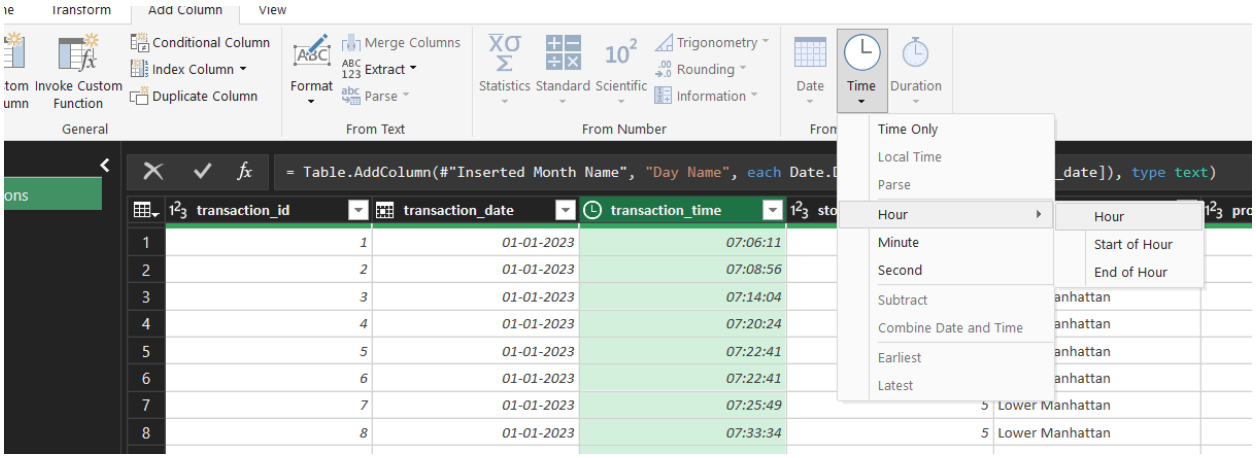


Now we will add some more columns from the transaction_date column. We will extract Name of the Month and Name of the day from transaction_date.





Also we will extract Hours from the transaction_time column.

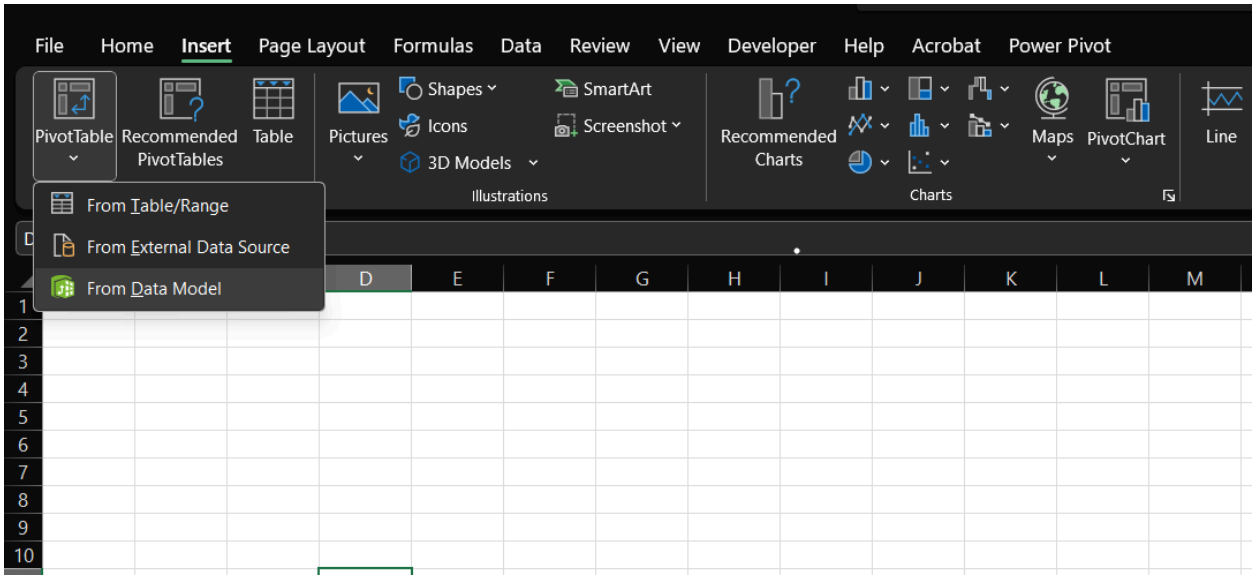


After Adding 3 columns, Month Name, Day Name and Hour.

	product_detail	Size	Total_bill	Month Name	Day Name	Hour
	Ethiopia	Regular	6.00	January	Sunday	7
	Spicy Eye Opener Chai	Large	6.20	January	Sunday	7
	Dark chocolate	Large	9.00	January	Sunday	7
	Our Old Time Diner Blend	Small	2.00	January	Sunday	7
	Spicy Eye Opener Chai	Large	6.20	January	Sunday	7
	Oatmeal Scone	Not Defined	3.00	January	Sunday	7
	Our Old Time Diner Blend	Small	2.00	January	Sunday	7
	Columbian Medium Roast	Small	4.00	January	Sunday	7
	Latte	Regular	4.25	January	Sunday	7
	Dark chocolate	Regular	7.00	January	Sunday	7
	Spicy Eye Opener Chai	Regular	2.55	January	Sunday	7
	Ethiopia	Large	7.00	January	Sunday	7
	Earl Grey	Large	3.00	January	Sunday	7
	Spicy Eye Opener Chai	Large	3.10	January	Sunday	7
	Ouro Brasileiro shot	Not Defined	6.00	January	Sunday	7
	Serenity Green Tea	Large	6.00	January	Sunday	7
	Jumbo Savory Scone	Not Defined	3.75	January	Sunday	7
	Lemon Grass	Regular	2.50	January	Sunday	8
	Dark chocolate	Large	9.00	January	Sunday	8
	Sustainably Grown Organic	Large	4.75	January	Sunday	8
	Ethiopia	Large	7.00	January	Sunday	8
	Spicy Eye Opener Chai	Regular	5.10	January	Sunday	8
	Hazelnut Biscotti	Not Defined	3.25	January	Sunday	8
	Spicy Eye Opener Chai	Regular	2.55	January	Sunday	8
	Cappuccino	Not Defined	3.75	January	Sunday	8
	Lemon Grass	Large	3.00	January	Sunday	8
	Chocolate Chip Biscotti	Not Defined	3.50	January	Sunday	8
	Peppermint	Large	6.00	January	Sunday	8

Now we will Load our data to the Worksheet and we are done with data cleaning and analysing.

We have loaded data in the worksheet as a ‘data model’, so when we create pivot tables from our data set we have to select ‘From Data Model’.

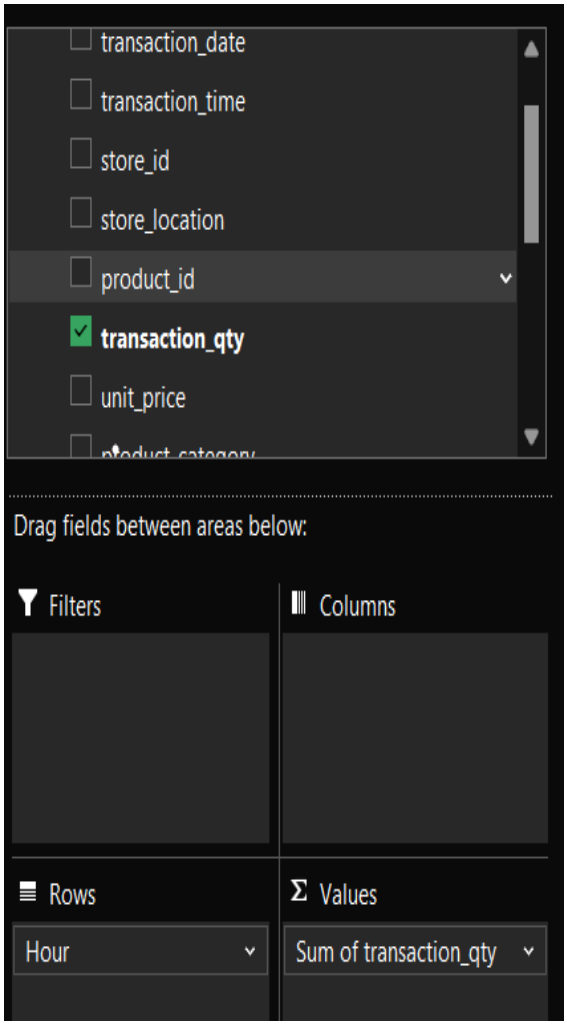


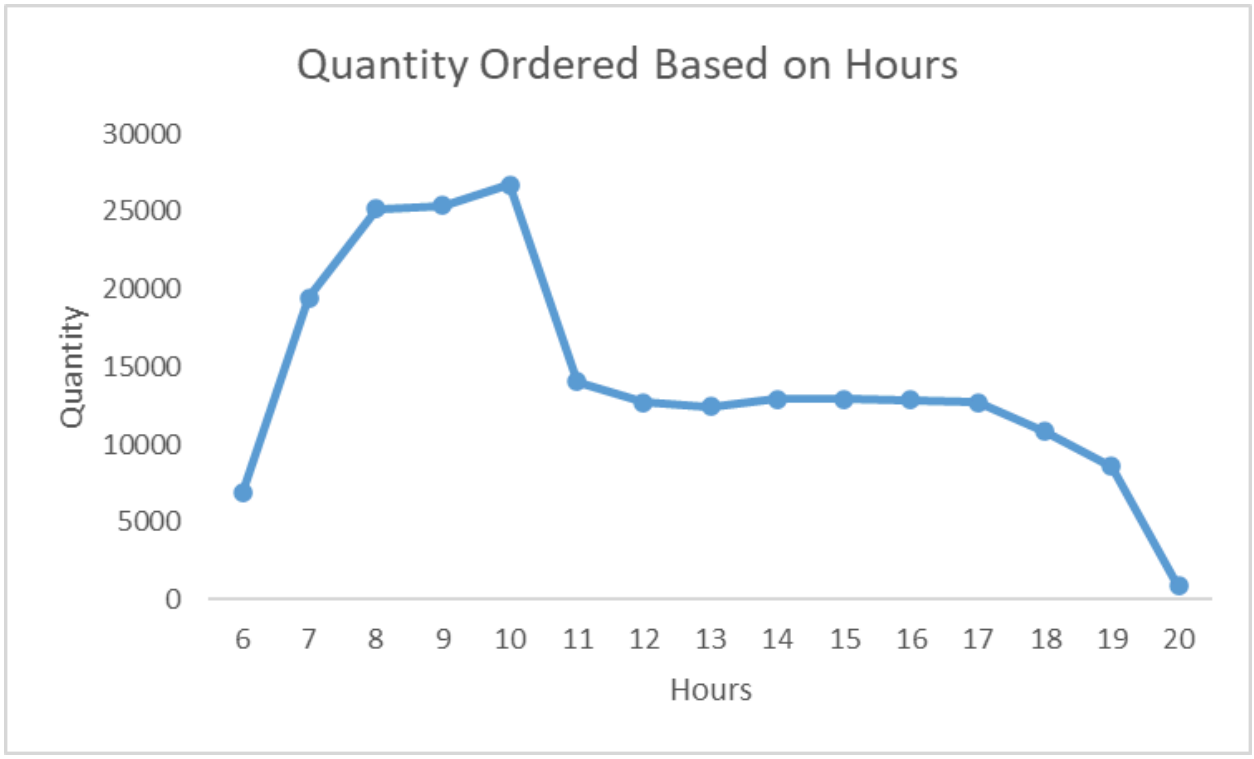
Answering Questions

Now let's jump into data visualisation and insight extraction.

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

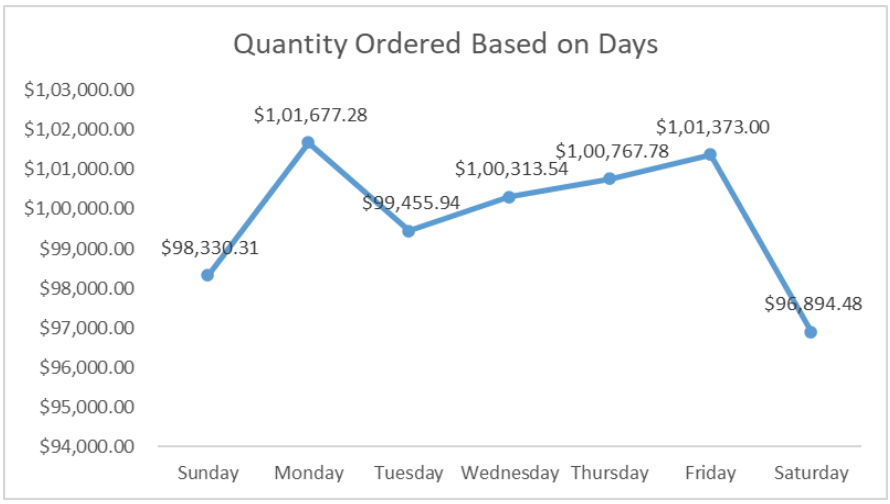
Row Labels	Sum of transaction_qty
6	6865
7	19449
8	25197
9	25370
10	26713
11	14035
12	12690
13	12439
14	12907
15	12923
16	12881
17	12700
18	10826
19	8595
20	880
Grand Total	214470





Here is the - sales ordered based on days

Row Labels	Sum of Total_bill
Sunday	$ 98,330.31
Monday	$ 1,01,677.28
Tuesday	$ 99,455.94
Wednesday	$ 1,00,313.54
Thursday	$ 1,00,767.78
Friday	$ 1,01,373.00
Saturday	$ 96,894.48
Grand Total	**698812.33**

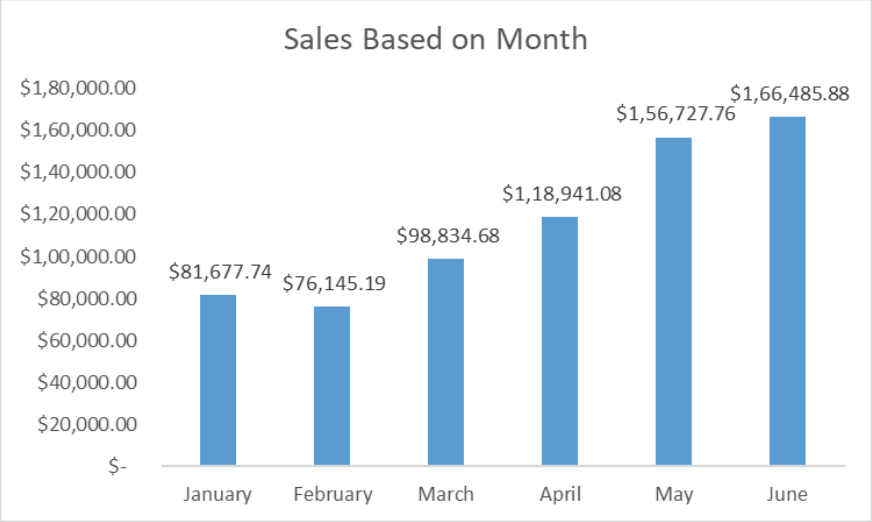


Question 2) Are there any peak times for sales activity?

So, in the chart ‘quantity ordered based on Hours’ , we can say that peak time for sales are from 9:00 AM to 10:00 AM in the morning.

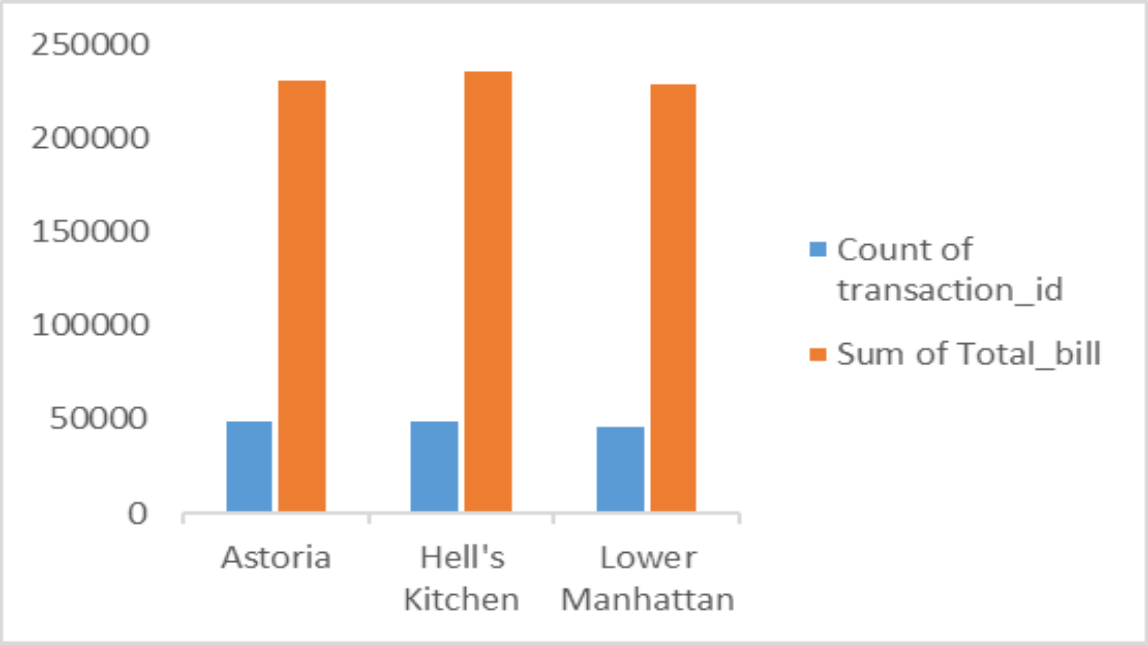
Question 3) What is the total sales revenue for each month?

Month	Sum of Total_bill
January	$ 81,677.74
February	$ 76,145.19
March	$ 98,834.68
April	$ 1,18,941.08
May	$ 1,56,727.76
June	$ 1,66,485.88
Grand Total	**698812.33**



Question 4) How do sales vary across different store locations?

Location	Count of transaction_id	Sum of Total_bill
Astoria	50599	$ 2,32,243.91
Hell's Kitchen	50735	$ 2,36,511.17
Lower Manhattan	47782	$ 2,30,057.25
Grand Total	**149116**	**$6,98,812.33**

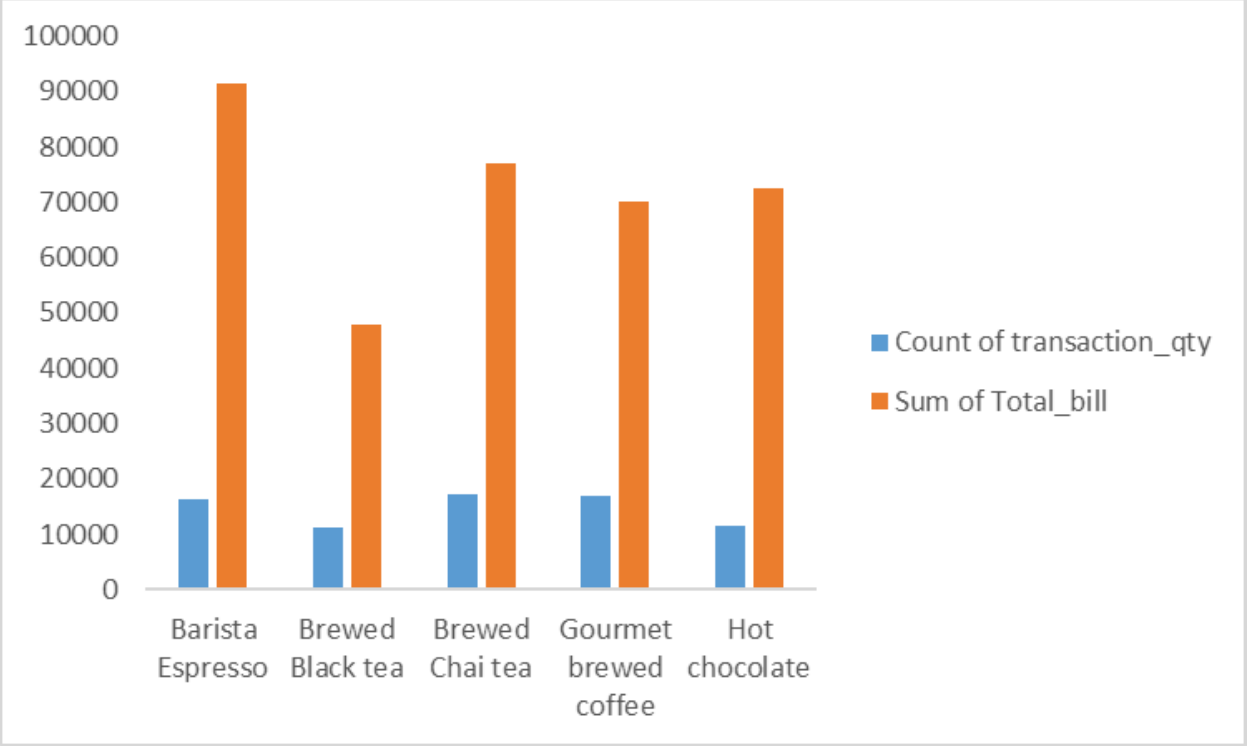


Question 5) What is the average price/order per person?

It will be done by Measures and displayed on the dashboard.

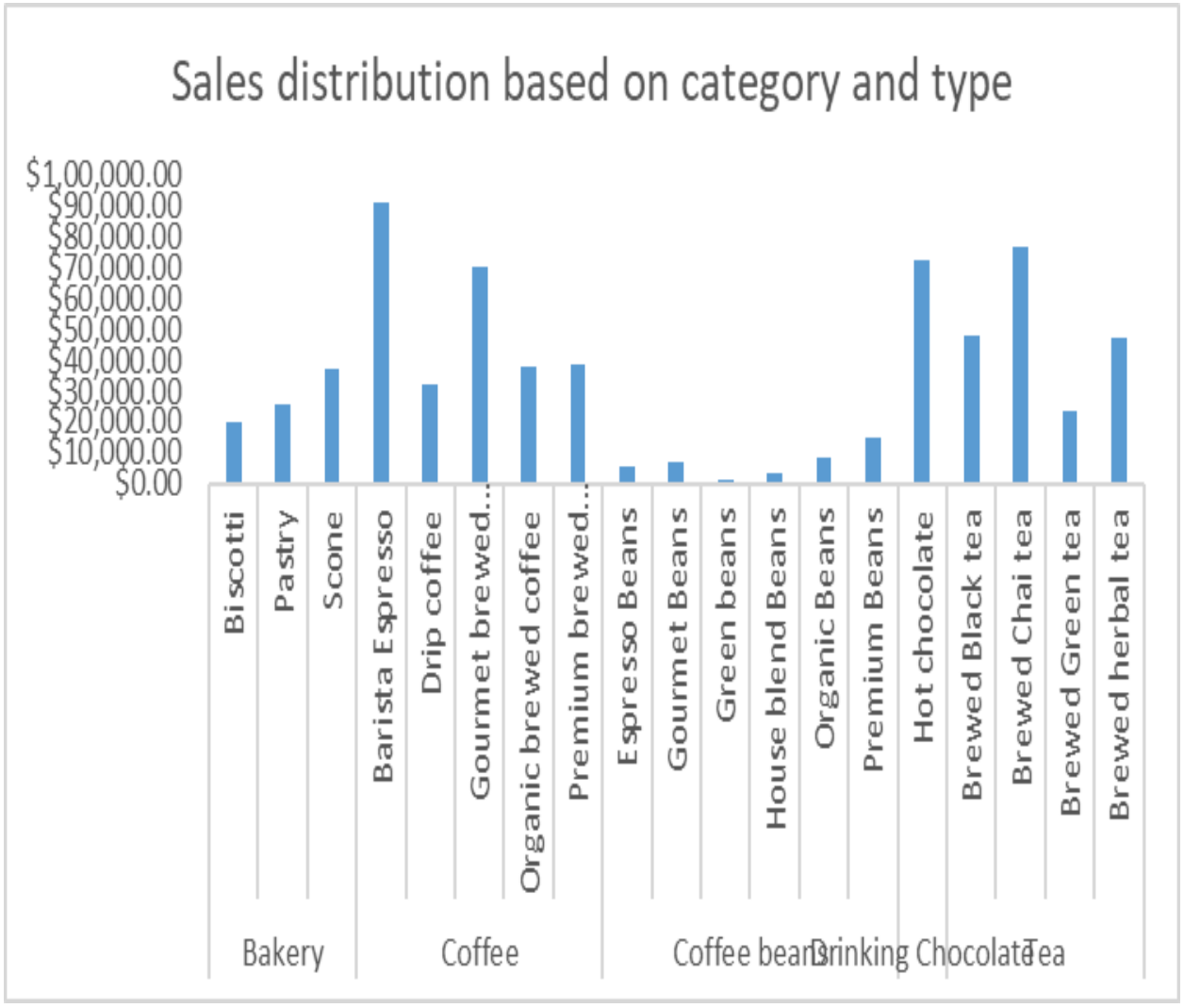
Question 6) Which products are best selling in terms of quantity and revenue? (Top 5)

Top 5 Product	Count of transaction_qty	Sum of Total_bill
Barista Espresso	16403	$ 91,406.20
Brewed Black tea	11350	$ 47,932.00
Brewed Chai tea	17183	$ 77,081.95
Gourmet brewed coffee	16912	$ 70,034.60
Hot chocolate	11468	$ 72,416.00
Grand Total	**73316**	**$3,58,870.75**



Question 7) How do sales vary by product category and type?

product_category(Top 5)	product_type	Sum of Total_bill
Bakery		
	Biscotti	$19,793.53
	Pastry	$25,655.99
	Scone	$36,866.12
Coffee		
	Barista Espresso	$91,406.20
	Drip coffee	$31,984.00
	Gourmet brewed coffee	$70,034.60
	Organic brewed coffee	$37,746.50
	Premium brewed coffee	$38,781.15
Coffee beans		
	Espresso Beans	$5,560.25
	Gourmet Beans	$6,798.00
	Green beans	$1,340.00
	House blend Beans	$3,294.00
	Organic Beans	$8,509.50
	Premium Beans	$14,583.50
Drinking Chocolate		
	Hot chocolate	$72,416.00
Tea		
	Brewed Black tea	$47,932.00
	Brewed Chai tea	$77,081.95
	Brewed Green tea	$23,852.50
	Brewed herbal tea	$47,539.50
Grand Total		**$6,61,175.29**

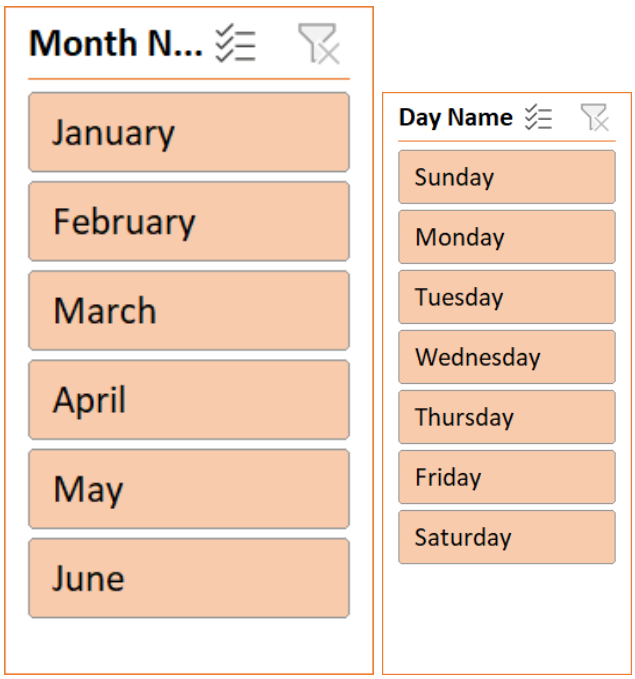

Sales distribution based on category and type
$1,00,000.00
$90,000.00
$80,000.00
$70,000.00
$60,000.00
$50,000.00
$40,000.00
$30,000.00
$20,000.00
$10,000.00
$0.00
Biscotti
Pastry
Scone
Barista Espresso
Drip coffee
Gourmet brewed...
Organic brewed coffee
Premium brewed...
Espresso Beans
Gourmet Beans
Green beans
House blend Beans
Organic Beans
Premium Beans
Hot chocolate
Brewed Black tea
Brewed Chai tea
Brewed Green tea
Brewed herbal tea
Bakery
Coffee
Coffee beans
Drinking Chocolate
Tea

Measures

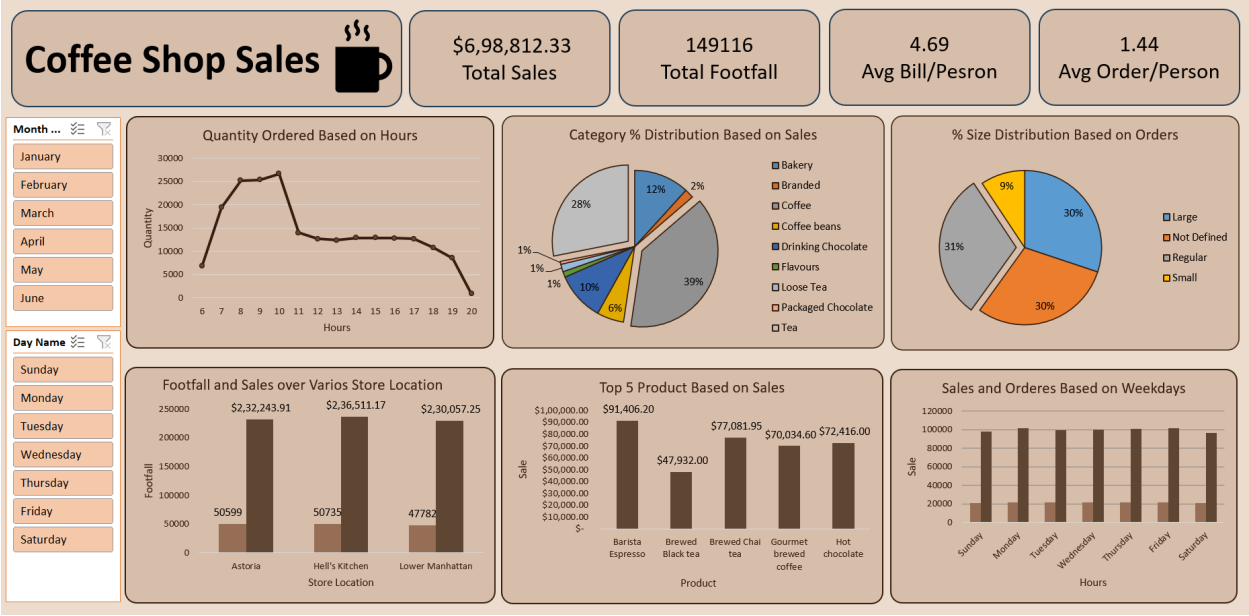
We need to display total sales, total footfall etc in the dashboard. So, to do it we will create ‘measures’.

Slicers

We will add some slicers to make our dashboard more interactive, we can sort the charts based on Months and Days.



Final Dashboard



Insights

So we are done with the final report, we have cleaned, analysed and visualised the data, now we are ready to extract some useful insights and answer to our questions.

1) There are more sales from 9:00 AM to 10:00 AM. So we can focus more at this time in terms of product quality and service.

2) In terms of category, we have more sales of Coffee followed by Tea.

3) If we talk about size of product, then Regular size is sold more and Small size is Less.

4) Store, Hell's Kitchen, has generated the highest revenue.

5) Barista Espresso is the highest selling product among all the products.

6) Monday and Friday are the top two days for high selling.