POWER BI COFFEE SALES VISUAL PRESENTATION

Data Importation and Canvas Configuration

STEP 1: Import and transform data

- In Transform Data, check for data quality under View Tab: using column quality and distribution
- Close and apply
- Set the transaction_time datatype to hh:nn:ss on the column tools tab

STEP 2: Canvas Configuration

- Add canvas background
- In canvas setting, set Type to custom: (H: 850, W: 1400)
- Vertical alignment: middle
- Canvas background - image fit: select fit

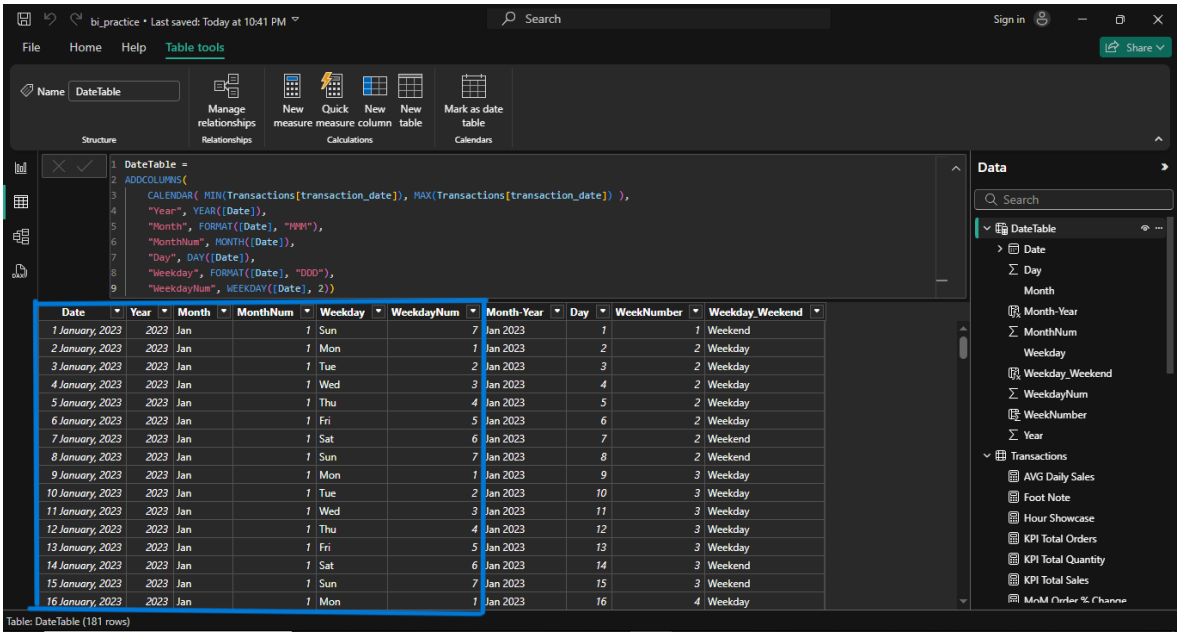
STEP 3: Create A Date Table

DAX:

```
DateTable = ADDCOLUMNS (
        CALENDAR ( MIN('YourDataTable'[Date]), MAX('YourDataTable'[Date]) ),
        "Year", YEAR([Date]),
        "Month", FORMAT([Date], "MMMM"),
        "MonthNum", MONTH([Date]),
        "Quarter", "Q" & FORMAT([Date], "Q"),
```

"Weekday", FORMAT([Date], "dddd"),

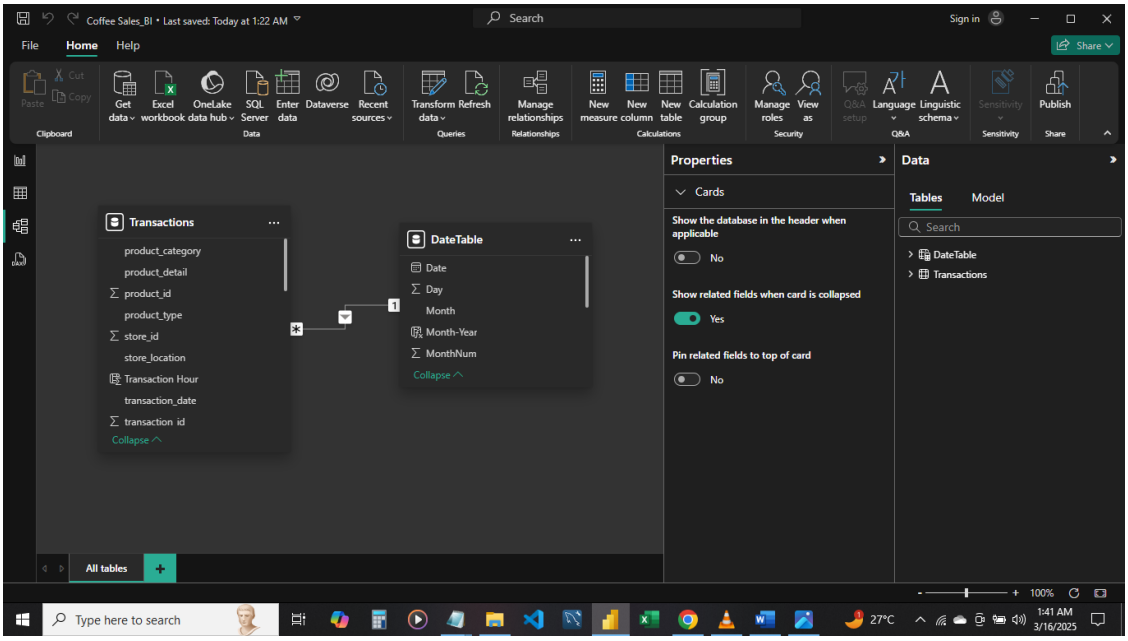
"WeekdayNum", WEEKDAY([Date], 2))



Date	Year	Month	MonthNum	Weekday	WeekdayNum	Month-Year	Day	WeekNumber	Weekday_Weekend
1 January, 2023	2023	Jan	1	Sun	7	Jan 2023	1	1	Weekend
2 January, 2023	2023	Jan	1	Mon	1	Jan 2023	2	2	Weekday
3 January, 2023	2023	Jan	1	Tue	2	Jan 2023	3	2	Weekday
4 January, 2023	2023	Jan	1	Wed	3	Jan 2023	4	2	Weekday
5 January, 2023	2023	Jan	1	Thu	4	Jan 2023	5	2	Weekday
6 January, 2023	2023	Jan	1	Fri	5	Jan 2023	6	2	Weekday
7 January, 2023	2023	Jan	1	Sat	6	Jan 2023	7	2	Weekend
8 January, 2023	2023	Jan	1	Sun	7	Jan 2023	8	2	Weekend
9 January, 2023	2023	Jan	1	Mon	1	Jan 2023	9	3	Weekday
10 January, 2023	2023	Jan	1	Tue	2	Jan 2023	10	3	Weekday
11 January, 2023	2023	Jan	1	Wed	3	Jan 2023	11	3	Weekday
12 January, 2023	2023	Jan	1	Thu	4	Jan 2023	12	3	Weekday
13 January, 2023	2023	Jan	1	Fri	5	Jan 2023	13	3	Weekday
14 January, 2023	2023	Jan	1	Sat	6	Jan 2023	14	3	Weekend
15 January, 2023	2023	Jan	1	Sun	7	Jan 2023	15	3	Weekend
16 January, 2023	2023	Jan	1	Mon	1	Jan 2023	16	4	Weekday

STEP 4: Data Modeling

- Add a relationship between Date Table and Transactions table
- Under Model View, connect the 2 tables
- Drag the date in the Date Table on the transaction_date in Transactions Table
- The relationship is Many to One.



Business Questions: KPI Requirements

1. Total Sales Analysis

- create total sales measure

DAX:

*Total Sales = SUMX(Transactions, Transactions[unit_price] * Transactions[transaction_qty])*

- Create "Previous Month Sales" Measure

DAX:

Previous Month Sales = CALCULATE([Total Sales], PREVIOUSMONTH(DateTable[Date]))

- Create "MoM Sales Difference" Measure

DAX:

MoM Sales Difference = [Total Sales] - [Previous Month Sales]

- Create "MoM Sales % Change" Measure

DAX :

MoM Sales % Change =

IF(NOT(ISBLANK([Previous Month Sales])),

DIVIDE([MoM Sales Difference], [Previous Month Sales], 0),

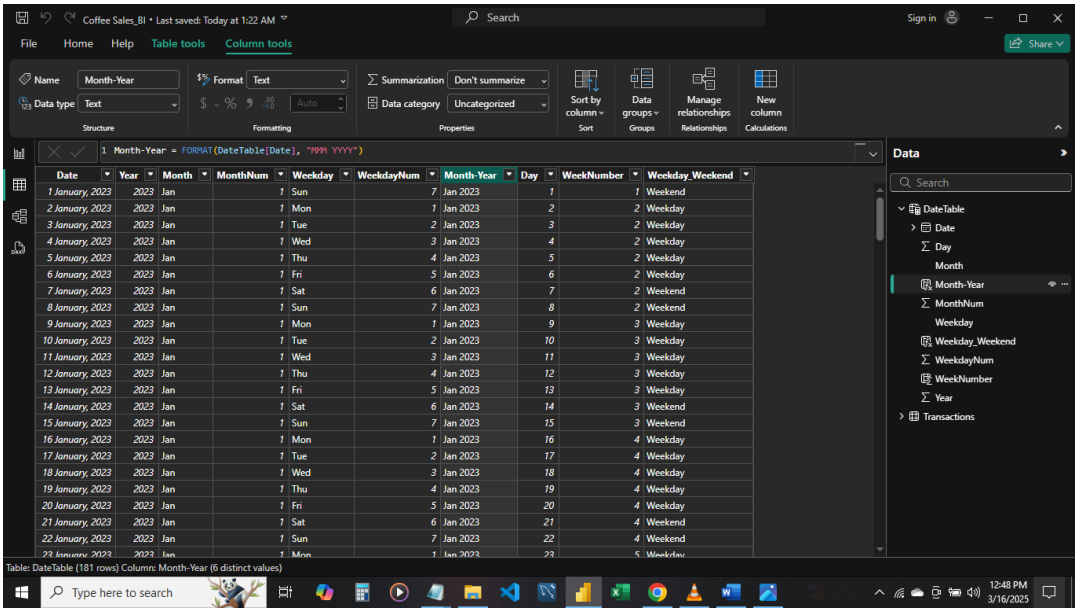
BLANK())

- Add visualization card, Add Total Sales on it. Format the card

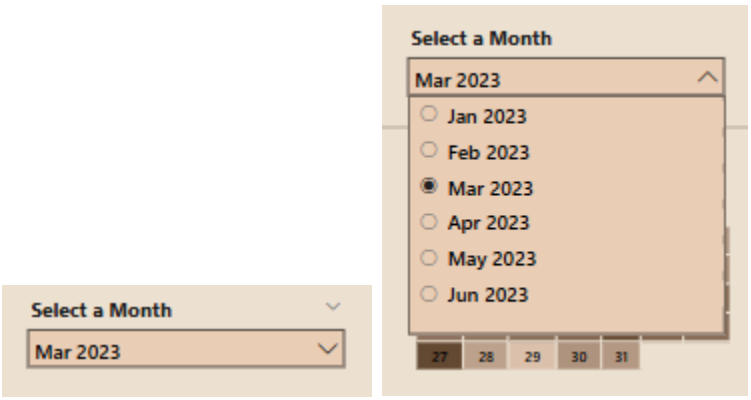
- Create a new column for Month-Year:

DAX

Month-Year = FORMAT(DateTable[Date], "MMM YYYY")



- Add slicer, Add Month-Year column to the slicer.
- Format and sort the slicer: select “Month Year” and sort by “Month number” on tool bar



- Total Sales KPI to display the MoM diff & percentage

DAX:

KPI Total Sales =

VAR MoM_Diff = [MoM Sales Difference]

VAR Mom_Percent = [MoM Sales % Change]

VAR CurrentMonth = SELECTEDVALUE('DateTable'[MonthNumb])

RETURN

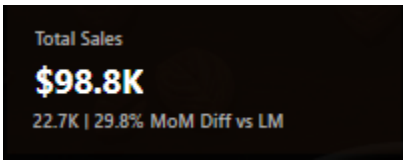
IF(

CurrentMonth = 1,

BLANK(),

FORMAT(MoM_Diff/1000, "0.0K") & " | " & FORMAT(mom_percent, "#0.0%") & " " & "MoM diff" & " " & "vs LM")

- Create a card, drag on KPI Total Sales
- Format the card to merge it with Total Sales Card



2. Total Orders Analysis

- Create Total orders measure

DAX:

Total Orders = DISTINCTCOUNT(Transactions[transaction_id])

- Create the Previous Month Orders Measure

DAX:

Orders Previous Month = CALCULATE([Total Orders], DATEADD('DateTable'[Date], -1, MONTH))

- Calculate the Month-over-Month (MoM) Difference

DAX:

MoM Orders Difference = [Total Orders] - [Orders Previous Month]

- Calculate the Month-over-Month Percentage Change

DAX:

MoM Order % Change =

IF(NOT(ISBLANK([Orders Previous Month])), DIVIDE([MoM Orders Difference], [Orders Previous Month], 0), BLANK())

- Orders MoM KPI measure

DAX

KPI Total Orders =

VAR MoM_Diff = [MoM Orders Difference]

VAR Mom_Percent = [MoM Order % Change]

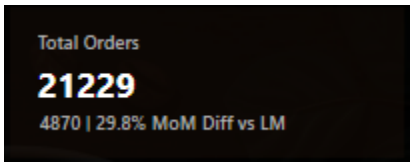
VAR CurrentMonth = SELECTEDVALUE('DateTable'[MonthNum])

RETURN

IF(CurrentMonth = 1, BLANK(),

MoM_Diff & " | " & FORMAT(mom_percent, "#0.0%") & " " & "MoM diff" & " " & "vs LM")

- Add card, Add Total Orders on it. Then format the card
- Add another card, drag on Orders MoM KPI
- Format the card to merge it with Total Orders Card



3. Total Quantity Analysis

- Create the Total Quantity Sold Measure

DAX:

Total Quantity Sold = SUM(Transactions[transaction_qty])

- Create the Previous Month Quantity Sold Measure

DAX:

Previous Month Quantity Sold = CALCULATE([Total Quantity Sold], DATEADD('DateTable'[Date], -1, MONTH))

- Calculate the Month-over-Month (MoM) Difference

DAX:

MoM Quantity Difference = [Total Quantity Sold] - [Previous Month Quantity Sold]

- Calculate the Month-over-Month Percentage Change

DAX

MoM Quantity % Change =

IF(

NOT(ISBLANK([Previous Month Quantity Sold])),

DIVIDE([MoM Quantity Difference], [Previous Month Quantity Sold], 0), BLANK())

- Total Quantity mom KPI

DAX

KPI Total Quantity =

VAR MoM_Diff = [MoM Quantity Difference]

VAR Mom_Percent = [MoM Quantity % Change]

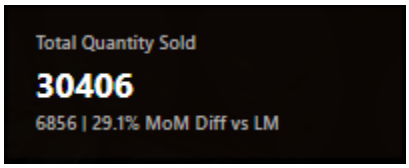
VAR CurrentMonth = SELECTEDVALUE('DateTable'[MonthNum])

RETURN

IF(CurrentMonth = 1, BLANK(),

MoM_Diff & " | " & FORMAT(mom_percent, "#0.0%") & " " & "MoM Diff" & " " & "vs LM")

- Add card, Add Total Quantity on it. Then format the card
- Add another card, drag on KPI Total Quantity
- Format the card to merge it with Total Quantity Card



SECTION B: CHARTS REQUIREMENTS

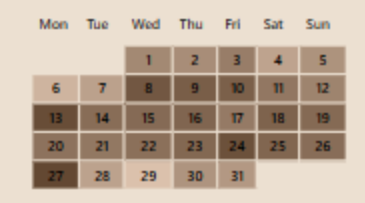
1. Calendar Heat Map

- Create a Week Number Column

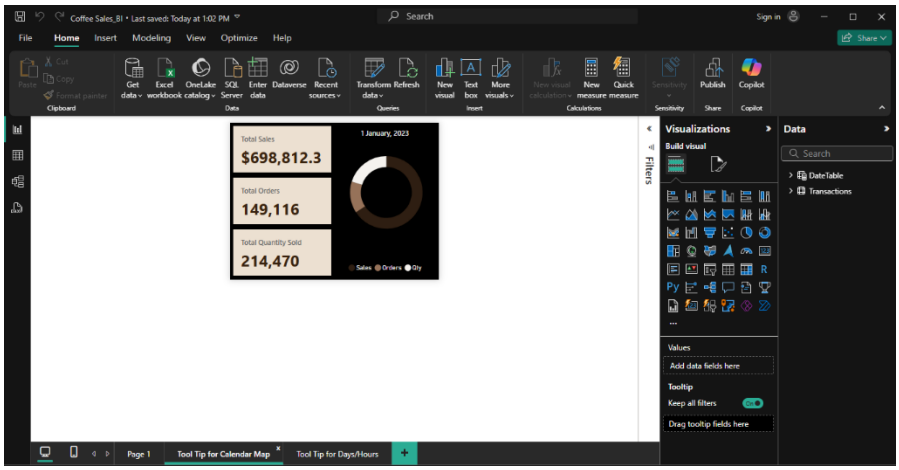
DAX:

WeekNumber = WEEKNUM(DateTable[Date],2)

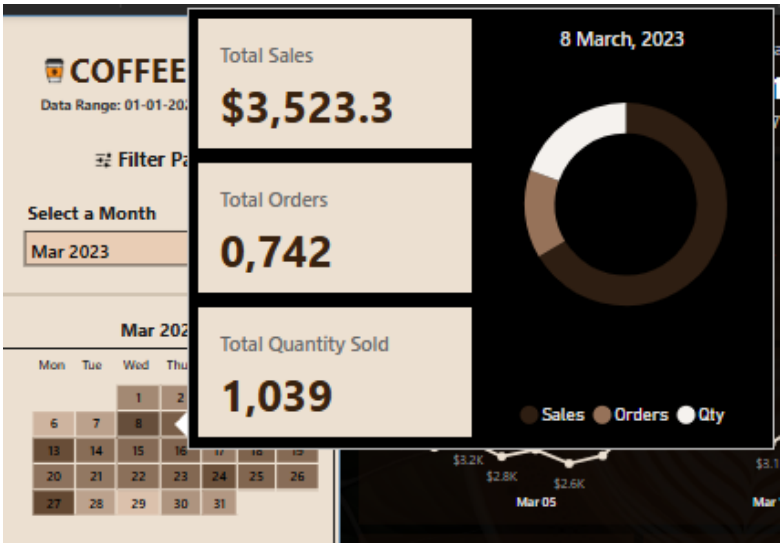
- Use a Matrix chart in the Visualization panel
- Add weeknumber to Rows, weekday to columns and Days to values
- Format the calendar map, add color-coded and Sort weekday with column weekdaynum



- Add a new page for Tool tip, configure the tool tip



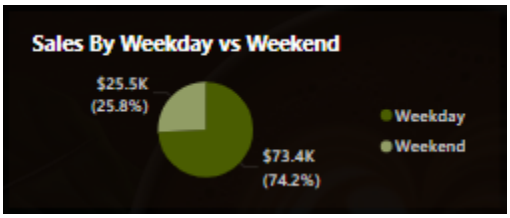
- Connect the tooltip to the calenda heat map



2. Sales Analysis by Weekdays and Weekends

- Create a weekday_weekend column:
  DAX:
  Weekday_Weekend = IF(WEEKDAY(DateTable[Date], 2) <= 5, "Weekday", "Weekend")

- Add a donut chart for visual
- Drag the Weekday_Weekend column into legend, total sales into values
- Format and Style the chart



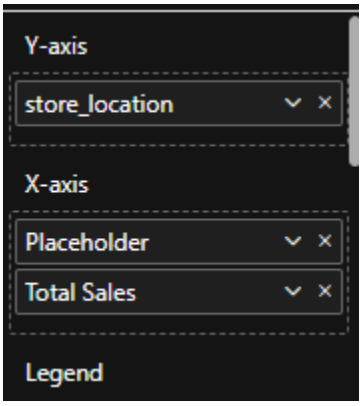
3. Sales Analysis by Store Location

- Add clustered bar chart; store_location on y-axis and total sales on x-axis
- Add a new value to x-axis to reflex the label, using new measure

DAX

Placeholder = 0

- Drag the Placeholder into x-axis, above total sales



- Format and style the chart
- create a new measure Store Location Label:

DAX

Store Location Label = SELECTEDVALUE(Transactions[store_location]) & " | " & FORMAT([Total Sales]/1000, "$0.00K")

- Add "Label for Store Location" to the Placeholder' values in the Data Label section
- Add "KPI Total Sales" to the Total Sales' values in the Data Label section to reflect MoM difference
- sort Total Sales by descending order

4. Daily Sales Analysis with Average Line

- Create a new measure to calculate the Average Daily Sales for the Selected Month

DAX:

AVG Daily Sales =

VAR TotalSales = [Total Sales]

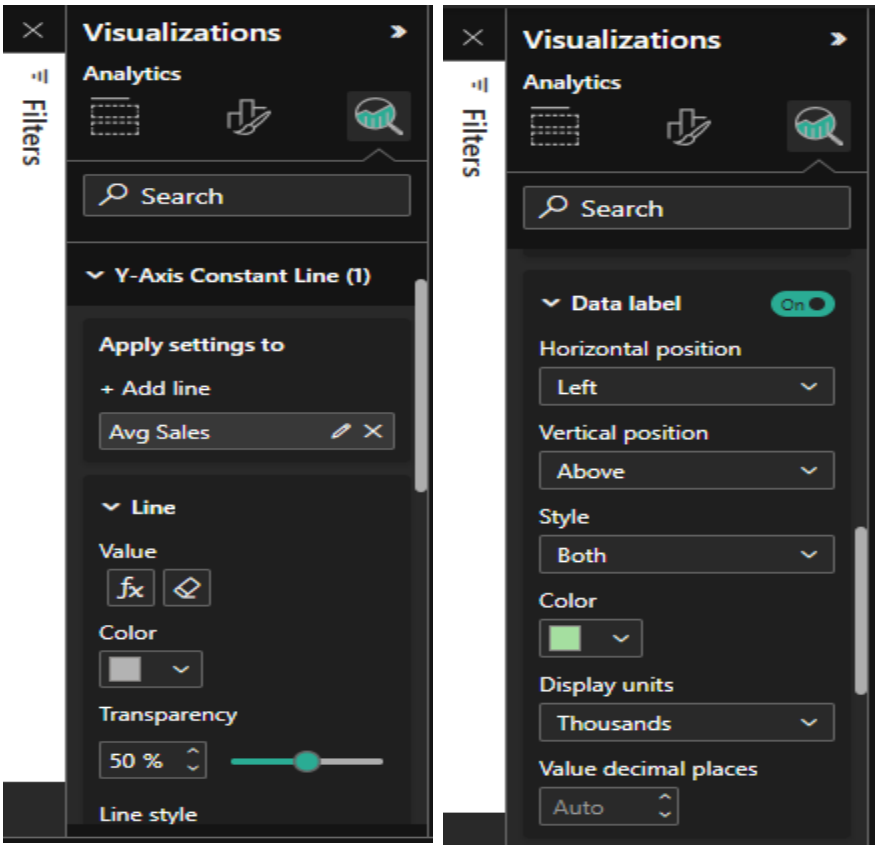
VAR TotalDays = DISTINCTCOUNT('DateTable'[Date])

RETURN

IF(TotalDays > 0, TotalSales / TotalDays, BLANK())

- Add a line chart and format it.

- "Go to Add futher analyses to your visual"; add a Y-axis consant line and name to "AVG Sales"



- Under Line; click value to add condition "avg daily sales"

5. Sales Analysis by Product Category

- Add clustered bar chart; product category on y-axis and total sales on x-axis

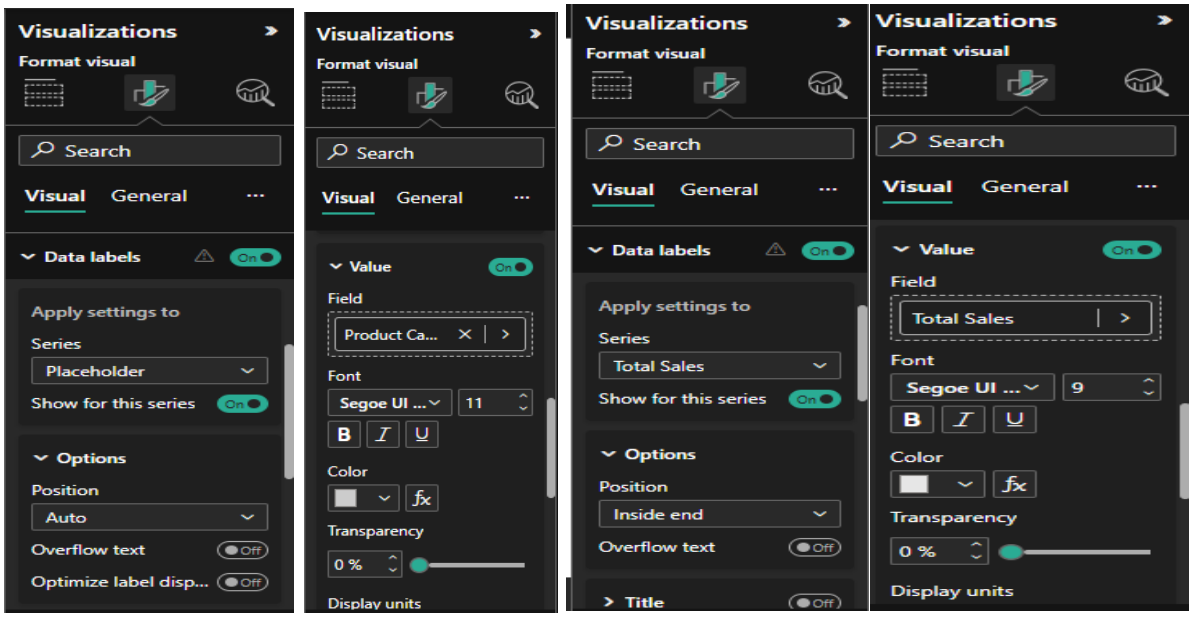
- Add the previously created measure "Placeholder" to x-axis to reflex the label
- Drag the Placeholder into x-axis, above total sales
- Format and style the chart
- create a new measure Product Category Label

DAX

Product Category Label =

SELECTEDVALUE(Transactions[product_category]) & " | " & FORMAT([Total Sales]/1000, "$0.00K")

- In Data Label; under Series select placeholder



- In value field set the condition to "Product Category Label"

6. Top 10 Products by Sales

- Just like Sales Analysis by Product Type, Add clustered bar chart
- Product Type on y-axis, Total sales and Placeholder on x-axis
- Format and style the chart

- create a new measure Product Type Label

DAX

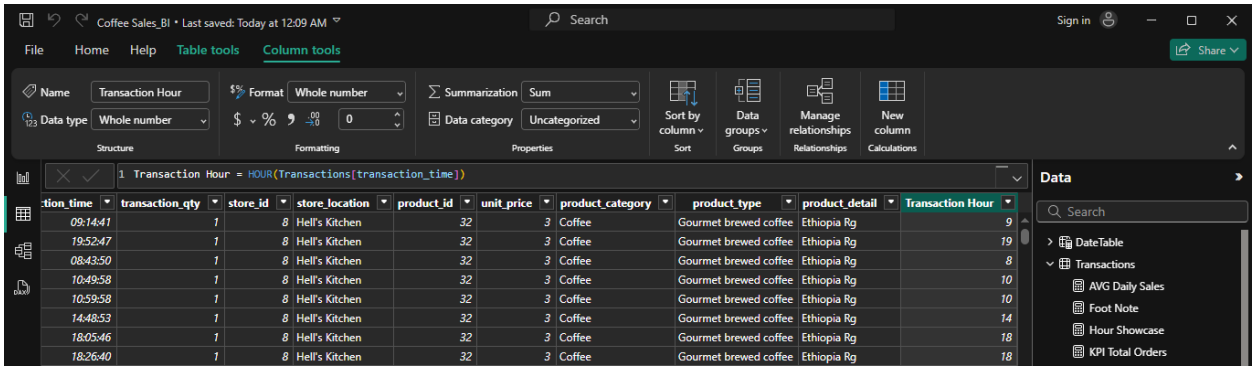
Product Type Label =

SELECTEDVALUE(Transactions[product_type]) & " | " & FORMAT([Total Sales]/1000, "$0.00K")

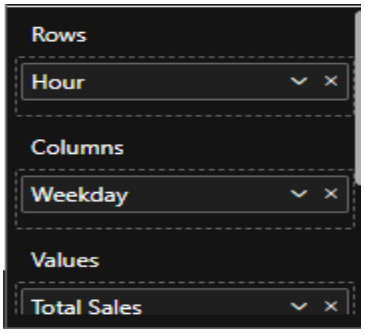
- In Data Label; under Series, select placeholder and in value field set the condition to "Product Type Label"

7. Sales Analysis by Days and Hours

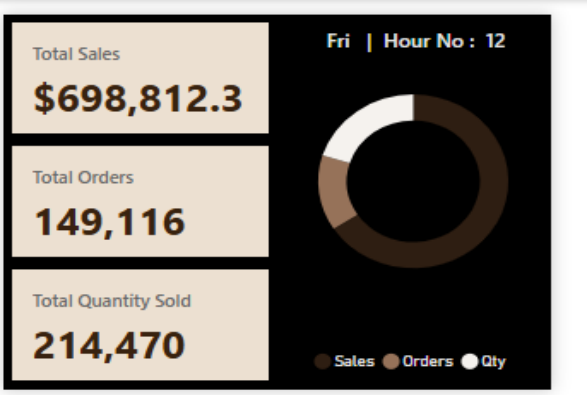
- Use a Matrix chart in the Visualization panel
- Create a new column "Transaction Hour", to extract Hours from Transaction Time



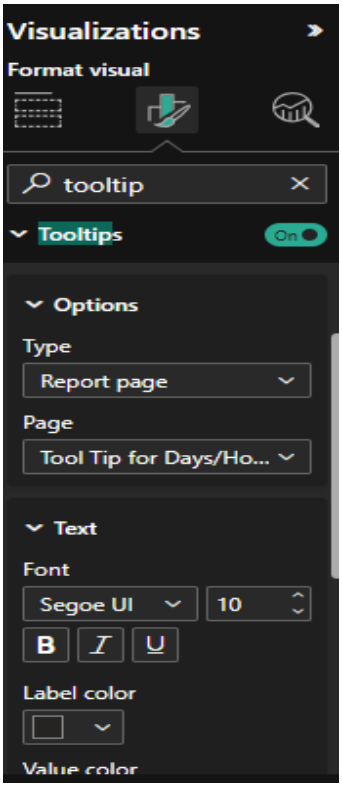
- Add Transaction Hour to Rows, Weekday to Columns and Total Sales to Values section



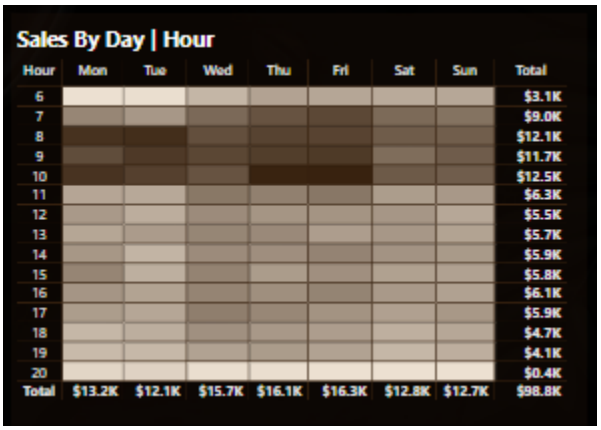
- Format the chart
- Apply a color code condition to the Background color in the Cell Element section
- Apply the same a color code condition to the Font color
- Add a new page for "Tool Tip for Days/Hours", configure the tool tip
- Add a card and format it, to show Title on the Doughnut chart



- Connect the tooltip, search for "tooltip" under Format your visual



- Turn On, go to "Page" select "Tool Tip for Days/Hours"



8. Arrange your Visuals Cards