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

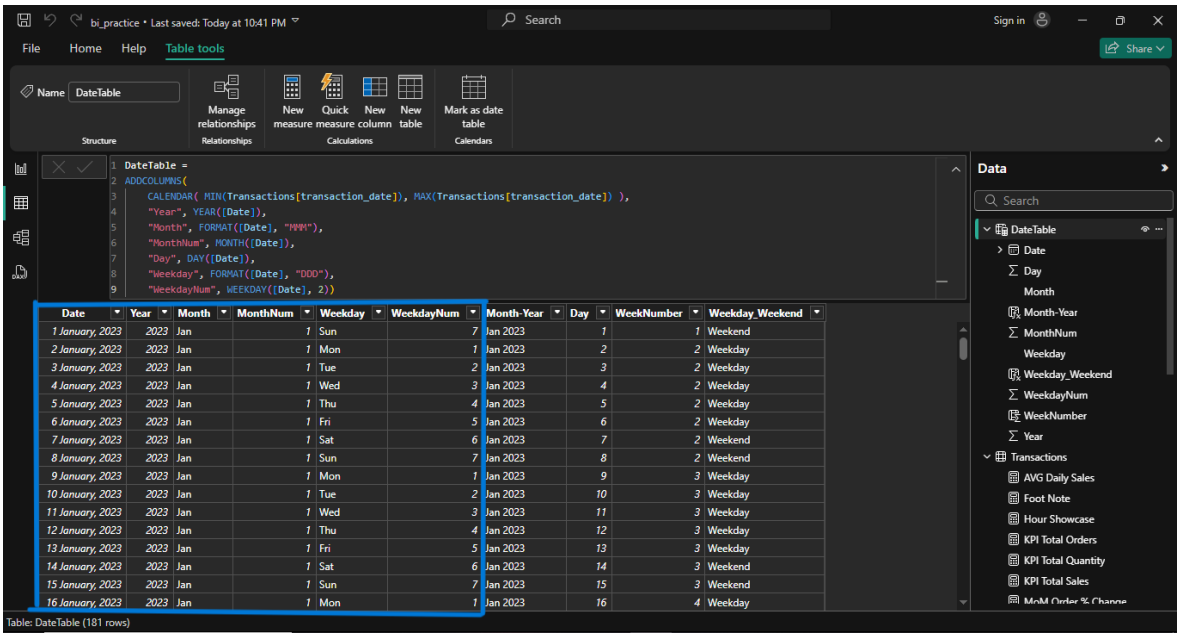
STEP 3: Create A Date Table

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"),

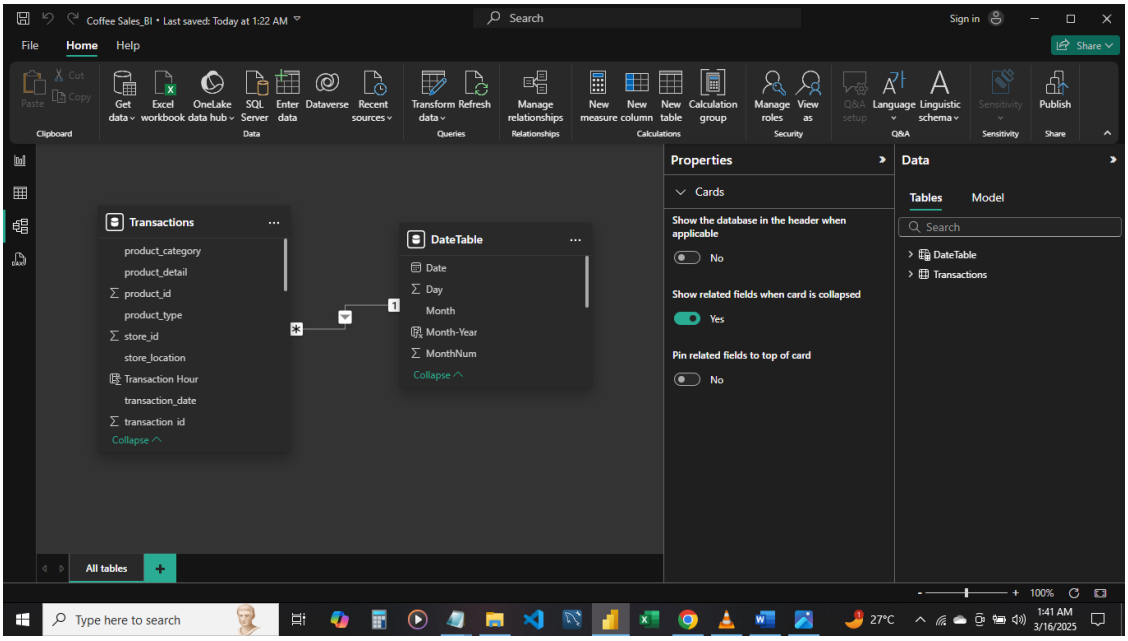
"WeekdayNum", WEEKDAY([Date], 2))



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),

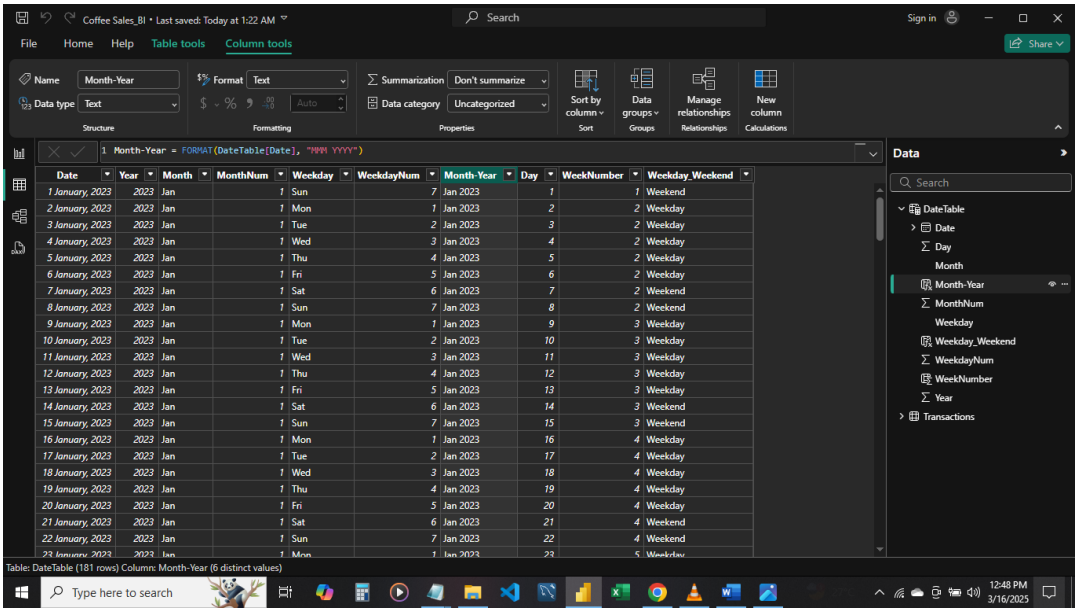
BLANK())

- 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")



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
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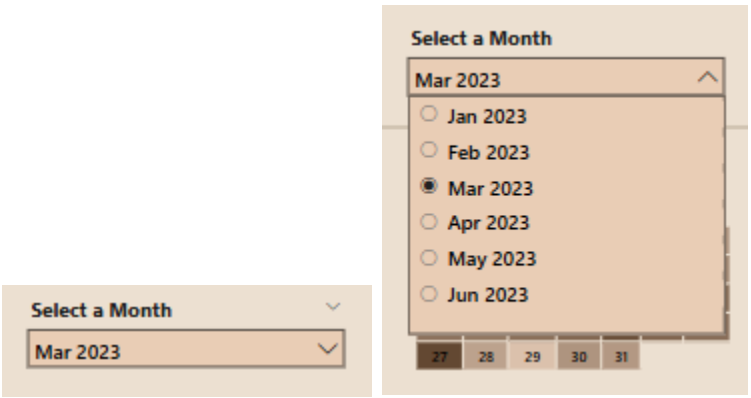
14 January, 2023	2023	Jan	1	Sat	6	Jan 2023	14	3	Weekend
15 January, 2023	2023	Jan	1	Sun	7	Jan 2023	15	3	Weekend
16 January, 2023	2023	Jan	1	Mon	1	Jan 2023	16	4	Weekday
17 January, 2023	2023	Jan	1	Tue	2	Jan 2023	17	4	Weekday
18 January, 2023	2023	Jan	1	Wed	3	Jan 2023	18	4	Weekday
19 January, 2023	2023	Jan	1	Thu	4	Jan 2023	19	4	Weekday
20 January, 2023	2023	Jan	1	Fri	5	Jan 2023	20	4	Weekday
21 January, 2023	2023	Jan	1	Sat	6	Jan 2023	21	4	Weekend
22 January, 2023	2023	Jan	1	Sun	7	Jan 2023	22	4	Weekend

- 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

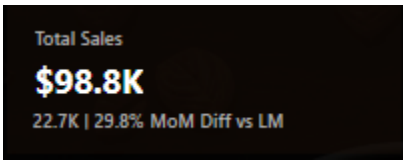


- Total Sales KPI to display the MoM diff & percentage

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]

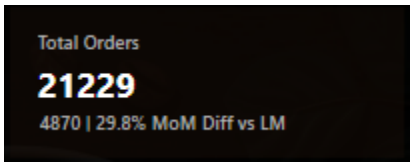
VAR CurrentMonth = SELECTEDVALUE('DateTable'[MonthNum])

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]

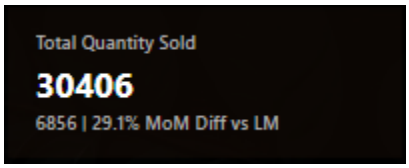
VAR CurrentMonth = SELECTEDVALUE('DateTable'[MonthNum])

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

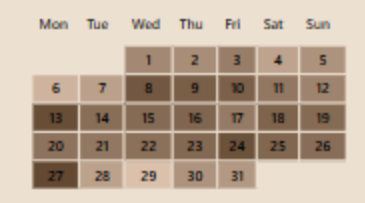
1. Calendar Heat Map

- Create a Week Number Column

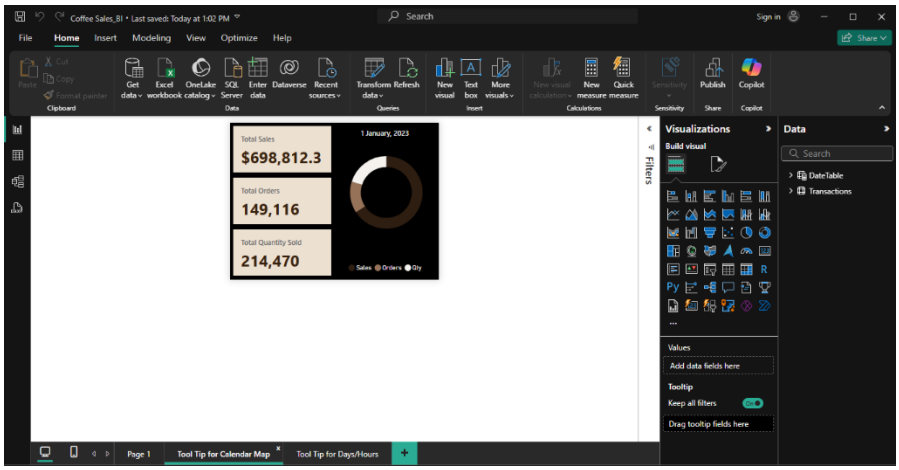
DAX:

WeekNumber = WEEKNUM(DateTable[Date],2)

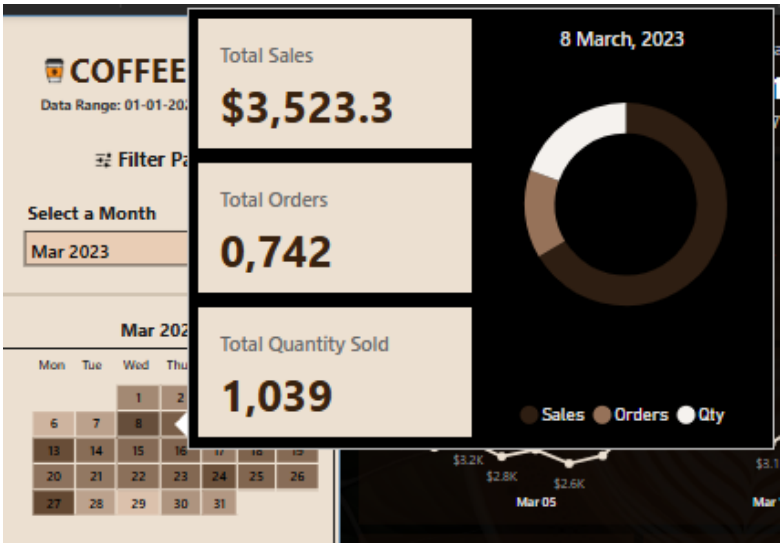
- Use a Matrix chart in the Visualization panel
- Add weeknumber to Rows, weekday to columns and Days to values
- Format the calendar map, add color-coded and Sort weekday with column weekdaynum



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



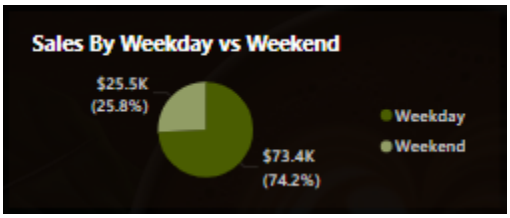
- Connect the tooltip to the calenda heat map



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



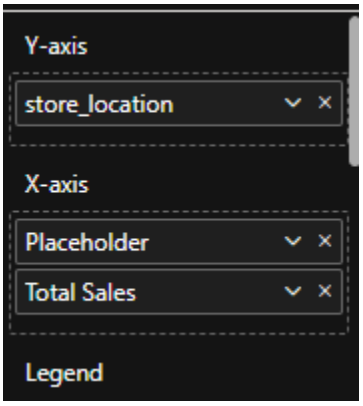
3. Sales Analysis by Store Location

- 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

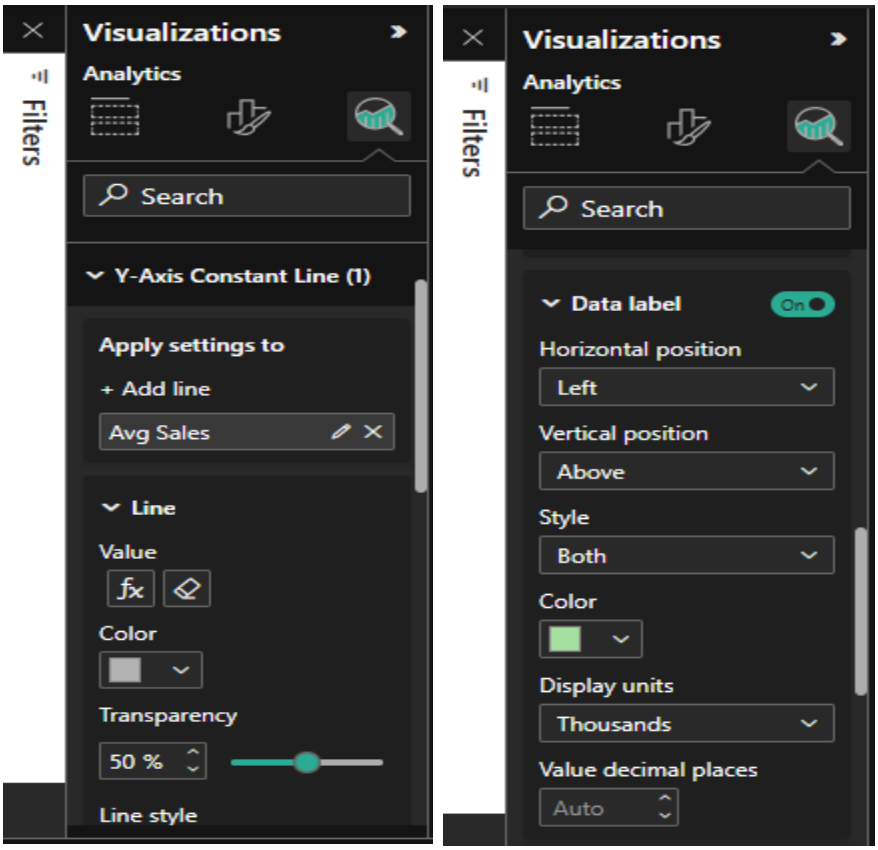
4. Daily Sales Analysis with Average Line

- 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

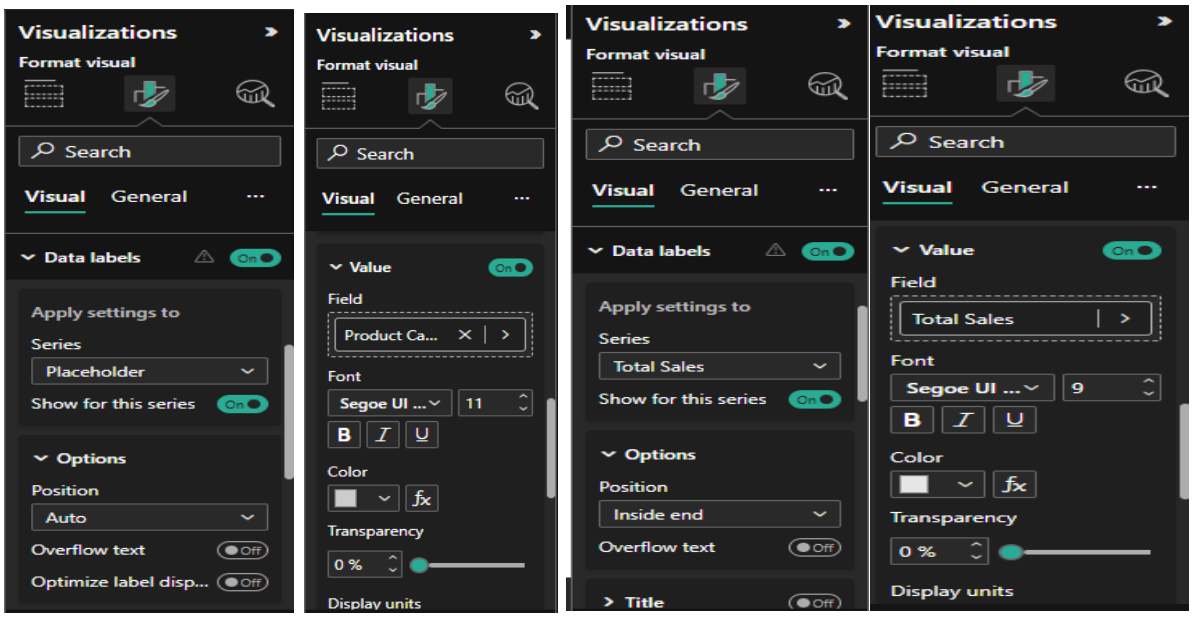
- Add clustered bar chart; product category on y-axis and total sales on x-axis
- Add the previously created measure "Placeholder" to x-axis to reflex the label
- Drag the Placeholder into x-axis, above total sales
- Format and style the chart
- create a new measure Product Category Label

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

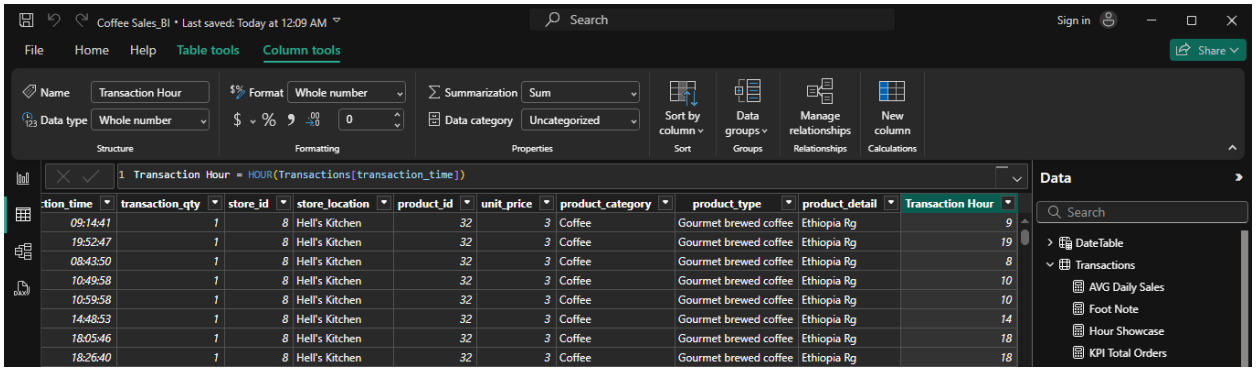
Product Type Label =

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

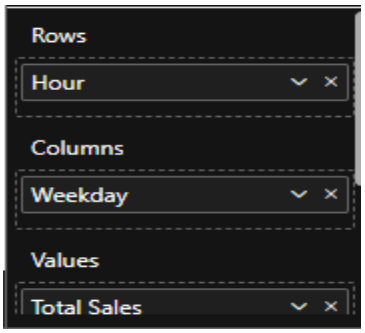
- In Data Label; under Series, select placeholder and in value field set the condition to "Product Type Label"

7. Sales Analysis by Days and Hours

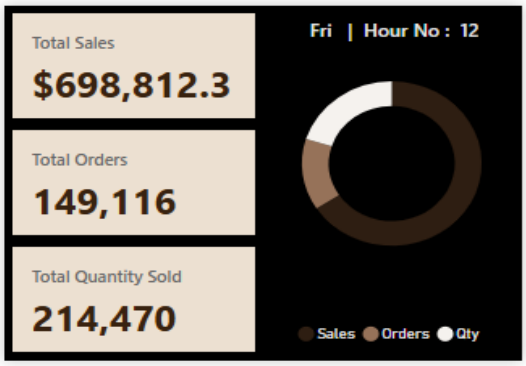
- Use a Matrix chart in the Visualization panel
- Create a new column "Transaction Hour", to extract Hours from Transaction Time



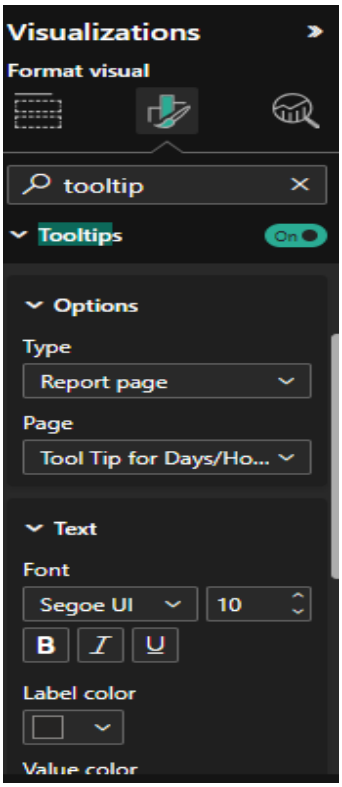
- Add Transaction Hour to Rows, Weekday to Columns and Total Sales to Values section



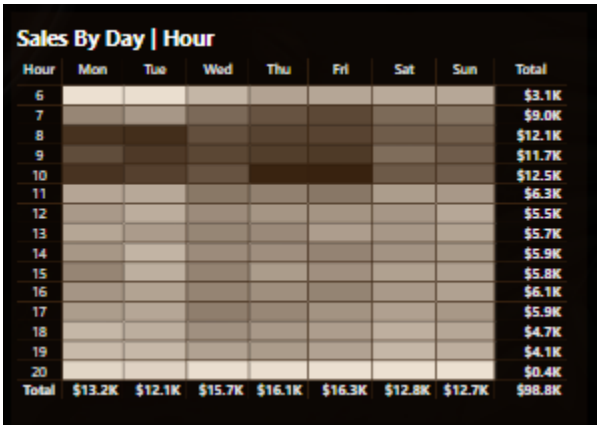
- Format the chart
- Apply a color code condition to the Background color in the Cell Element section
- Apply the same a color code condition to the Font color
- Add a new page for "Tool Tip for Days/Hours", configure the tool tip
- Add a card and format it, to show Title on the Doughnut chart



- 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


COFFEE SALES
Data Range: 01-01-2023 to 30-06-2023
Filter Panel
Select a Month
Jan 2023
Jan 2023
Mon Tue Wed Thu Fri Sat Sun
Hover on calendar to see more details
Store Location
Astoria
Hell's Kitchen
Lower Manhattan
Developed By
ABEDAVIDscript
Total Sales
$81.7K
Total Orders
17314
Total Quantity Sold
24870
Sales By Weekday vs Weekend
$23.2K
(28.4%)
$58.5K (71.6%)
Weekday
Weekend
Sales By Store Location
Hell's Kitchen | $27.82K
Astoria | $27.31K
Lower Manhattan | $26.54K
Sales Trend Per Month
Avg Sales: $2.63K
Jan 01
Jan 08
Jan 15
Jan 22
Jan 29
Sales By Product Category
Coffee | $31.26K
Tea | $22.62K
Bakery | $9.54K
Drinking Chocolate | $8.34K
Coffee beans | $5.25K
Branded | $1.89K
Loose Tea | $1.29K
Flavours | $0.97K
Packaged Chocolate | $0.52K
Top 10 Products by Sales
Barista Espresso | $10.46K
Brewed Chai tea | $8.76K
Hot chocolate | $8.34K
Gourmet brewed coffee | $8.07K
Brewed Black tea | $5.54K
Brewed herbal tea | $5.44K
Organic brewed coffee | $4.61K
Premium brewed coffee | $4.53K
Scone | $4.35K
Drip coffee | $3.58K
Sales By Day | Hour
Hour Mon Tue Wed Thu Fri Sat Sun Total
6 $2.5K
7 $7.5K
8 $10.0K
9 $10.5K
10 $10.1K
11 $5.2K
12 $4.8K
13 $4.6K
14 $4.8K
15 $4.8K
16 $4.7K
17 $4.7K
18 $4.0K
19 $3.3K
20 $0.3K
Total $13.2K $13.7K $10.4K $10.5K $10.7K $10.4K $12.7K $81.7K