Sales Analysis of a coffee shop

STEPS IN PROJECT

✓ Requirement Gathering/ Business Requirements

✓ Data Walkthrough

✓ Data Connection

✓ Data Cleaning / Quality Check

✓ Data Modelling

✓ Data Processing

✓ DAX Calculations

✓ Dashboard Lay outing

✓ Charts Development and Formatting

✓ Dashboard / Report Development

✓ Insights Generation

BUSINESS REQUIREMENT

To conduct a comprehensive analysis of coffee shop's sales performance, customer satisfaction, and inventory distribution to identify key insights and opportunities for optimization using various KPIs and visualizations in Power BI.

KPI'S REQUIREMENTS

1. Total Sales Analysis:

- Calculate the total sales for each respective month.
- Determine the month-on-month increase or decrease in sales.
- Calculate the difference in sales between the selected month and the previous month.

2. Total Orders Analysis:

- Calculate the total number of orders for each respective month.
- Determine the month-on-month increase or decrease in the number of orders.
- Calculate the difference in the number of orders between the selected month and the previous month.

3. Total Quantity Sold Analysis:

- Calculate the total quantity sold for each respective month.
- Determine the month-on-month increase or decrease in the total quantity sold.
- Calculate the difference in the total quantity sold between the selected month and the previous month.

CHARTS REQUIREMENTS

1. Calendar Heat Map:

- Implement a calendar heat map that dynamically adjusts based on the selected month from a slicer.
- Each day on the calendar will be color-coded to represent sales volume, with darker shades indicating higher sales.
- Implement tooltips to display detailed metrics (Sales, Orders, Quantity) when hovering over a specific day.

2. Sales Analysis by Weekdays and Weekends:

- Segment sales data into weekdays and weekends to analyze performance variations.
- Provide insights into whether sales patterns differ significantly between weekdays and weekends.

3. Sales Analysis by Store Location:

- Visualize sales data by different store locations.
- Include month-over-month (MoM) difference metrics based on the selected month in the slicer.
- Highlight MoM sales increase or decrease for each store location to identify trends.

4. Daily Sales Analysis with Average Line:

- Display daily sales for the selected month with a line chart.
- Incorporate an average line on the chart to represent the average daily sales.
- Highlight bars exceeding or falling below the average sales to identify exceptional sales days.

5. Sales Analysis by Product Category:

- Analyze sales performance across different product categories.
- Provide insights into which product categories contribute the most to overall sales.

6. Top 10 Products by Sales:

- Identify and display the top 10 products based on sales volume.
- Allow users to quickly visualize the best-performing products in terms of sales.

7. Sales Analysis by Days and Hours:

- Utilize a heat map to visualize sales patterns by days and hours.
- Implement tooltips to display detailed metrics (Sales, Orders, Quantity) when hovering over a specific day-hour

DAX Calculations:

Measures:

```
1.CM Orders = var selected_month = SELECTEDVALUE('Date Table'[Month])
        RETURN
        TOTALMTD(CALCULATE([Total Orders], 'Date Table'[Month] = selected_month), 'Date Table'[Date])
```

```
2. CM Quantity = var selected_month = SELECTEDVALUE('Date Table'[Month])
        RETURN
        TOTALMTD(CALCULATE([Total Quantity Sold], 'Date Table'[Month] = selected_month), 'Date Table'[Date])
```

```
3. CM Sales = var selected_month = SELECTEDVALUE('Date Table'[Month])
        RETURN
        TOTALMTD(CALCULATE([Total Sales], 'Date Table'[Month] = selected_month), 'Date Table'[Date])
```

```
4. Color for Bars = IF([Total Sales]>[Daily Avg Sales], "Above Average", "Below Average")
```

```
5. Daily Avg Sales = AVERAGEX(ALLSELECTED(Transactions[transaction_date]), [Total Sales])
```

```
6. Label for Product Category = SELECTEDVALUE(Transactions[product_category]) & " | " & FORMAT([Total Sales]/1000, "$0.00K")
```

```
7. Label for Product Type = SELECTEDVALUE(Transactions[product_type]) & " | " & FORMAT([Total Sales]/1000, "$0.00K")
```

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

9. MoM Growth & Diff Orders =

```
var month_diff = [CM Orders] - [PM Orders]
var mom = ([CM Orders] - [PM Orders]) / [PM Orders]
var _sign = IF(month_diff > 0, "+", "")
var _sign_trend = IF(month_diff > 0, "▲", "▼")
RETURN
_sign_trend & " " & _sign & FORMAT(mom, "#0.0%" & " | " & _sign & FORMAT(month_diff/1000, "0.0K")) & " " & "vs LM"
```

10. MoM Growth & Diff Quantity =

```
var month_diff = [CM Quantity] - [PM Quantity]
var mom = ([CM Quantity] - [PM Quantity]) / [PM Quantity]
var _sign = IF(month_diff > 0, "+", "")
var _sign_trend = IF(month_diff > 0, "▲", "▼")
RETURN
_sign_trend & " " & _sign & FORMAT(mom, "#0.0%" & " | " & _sign & FORMAT(month_diff/1000, "0.0K")) & " " & "vs LM"
```

11. MoM Growth & Diff sales =

```
var month_diff = [CM Sales] - [PM Sales]
var mom = ([CM Sales] - [PM Sales]) / [PM Sales]
var _sign = IF(month_diff > 0, "+", "")
var _sign_trend = IF(month_diff > 0, "▲", "▼")
RETURN
_sign_trend & " " & _sign & FORMAT(mom, "#0.0%" & " | " & _sign & FORMAT(month_diff/1000, "0.0K")) & " " & "vs LM"
```

12. New MoM Label =

```
var month_diff = [CM Sales] - [PM Sales]
var mom = ([CM Sales] - [PM Sales]) / [PM Sales]
var _sign = IF(month_diff > 0, "+", "")
var _sign_trend = IF(month_diff > 0, "▲", "▼")
RETURN
_sign_trend & " " & _sign & FORMAT(mom, "#0.0%")
```

13. PM Orders = CALCULATE([CM Orders], DATEADD('Date Table'[Date], -1, MONTH))

14. PM Quantity = CALCULATE([CM Quantity], DATEADD('Date Table'[Date], -1, MONTH))

15. PM Sales = CALCULATE([CM Sales], DATEADD('Date Table'[Date], -1, MONTH))

16. Total Orders = DISTINCTCOUNT(Transactions[transaction_id])

17. Total Quantity Sold = SUM(Transactions[transaction_qty])

18. Total Sales = SUM(Transactions[Sales])

19. TT FOR HOURS = "Hour No:" & " " & FORMAT(AVERAGE(Transactions[Hour]), 0)

Calculated Columns:

1. Day Name = FORMAT('Date Table'[Date], "DDD")

2. Day Number = FORMAT('Date Table'[Date], "D")

3. Month = FORMAT('Date Table'[Date], "mmm")

4. Month = FORMAT('Date Table'[Date], "mmm")

5. Month Year = FORMAT('Date Table'[Date], "mmm yyyy")

6. Week Day Number = WEEKDAY('Date Table'[Date], 2)

7. Week Number = WEEKNUM('Date Table'[Date], 2)

8. Weekday / Weekend = If('Date Table'[Day Name] = "Sat" || 'Date Table'[Day Name] = "Sun", "Weekend", "Weekday")

9. Hour = HOUR(Transactions[transaction_time])

10.Sales = Transactions[unit_price] * Transactions[transaction_qty]