ChatGPT

Power BI Project Documentation: Car Sales Dashboard

1️⃣ Project Overview

- **Project Name**: Car Sales Dashboard
- **Created by**: Rohit Chandorkar
- **Client / Stakeholder**: Internal / Self Learning
- **Objective**:
  To analyze car sales performance using KPIs like Total Sales, Average Price, Car Sold, and their trends over time (MTD, YTD, YOY, etc.).
- **Tools Used**: Power BI, DAX

2️⃣ Data Sources

- **Tables Used**:
- `CAR`: Contains Car_id, Price, Sale Date, etc.
- `Calendar Table`: Contains Date, Month, WeekNum, Year, etc.
- **Refresh Frequency**: Manual (for now)
- **Data Cleaning**: Basic null handling and type formatting

3️⃣ Data Model

- **Relationships**:
- `CAR[Date] → Calendar Table[Date]` (One-to-Many)
- **Model Type**: Star Schema
- **Note**: The Calendar Table enables all time intelligence functions.

📲DAX Measures (Grouped)

📊 Base KPIs

```
Average Price = AVERAGE(CAR[Price])
Total Sales = SUM(CAR[Price])
Car Sold = COUNT(CAR[Car_id])
```

🗓️ YTD Metrics

```
YTD Average = TOTALYTD([Average Price], 'Calender Table'[Date])
YTD Total Sales = TOTALYTD([Total Sales], 'Calender Table'[Date])
YTD Car Sold = TOTALYTD([Car Sold], 'Calender Table'[Date])
```

♻️ PYTD Metrics

```
PYTD Avg Price = CALCULATE([Average Price], SAMEPERIODLASTYEAR('Calender
Table'[Date]))
PYTD Total Sales = CALCULATE([Total Sales], SAMEPERIODLASTYEAR('Calender
Table'[Date]))
PYTD Car Sold = CALCULATE([Car Sold], SAMEPERIODLASTYEAR('Calender
Table'[Date]))
```

MTD Metrics

```
MTD Avg Price = TOTALMTD([Average Price], 'Calender Table'[Date])
MTD Car Sold = TOTALMTD([Car Sold], 'Calender Table'[Date])
MTD Total Sales = TOTALMTD([Total Sales], 'Calender Table'[Date])
```

MTD KPI Labels

```
MTD Avg Price KPI = CONCATENATE("MTD Avg Price : ", FORMAT([MTD Avg Price]/1000,
"$0.00K"))
MTD Car Sold KPI = CONCATENATE("MTD Car Sold :", FORMAT([MTD Car Sold]/1000,
"$0.00K"))
MTD Total Sales KPI = CONCATENATE("MTD Total Sales : ", FORMAT([MTD Total
Sales]/1000000, "$0.00M"))
```

📝 QTD Metrics

```
QTD Total Sales = TOTALQTD([Total Sales], 'Calender Table'[Date])
```

5️⃣ Difference Calculations

```
Average Price Difference = [YTD Average] - [PYTD Avg Price]
Car Sold Difference = [YTD Car Sold] - [PYTD Car Sold]
Sales Difference = [YTD Total Sales] - [PYTD Total Sales]
```

6️⃣ YOY Growth

```
YOY Avg Price Growth = [Average Price Difference] / [PYTD Avg Price]
YOY Car Sold Growth = ([YTD Car Sold] - [PYTD Car Sold]) / [YTD Car Sold]

YOY Sales Growth =
VAR A = [YTD Total Sales]
VAR B = [PYTD Total Sales]
VAR C = A - B
VAR D = DIVIDE(C, B)
RETURN D
```

7️⃣ Conditional Formatting

```
Avg Price Colour = IF([Average Price Difference] > 0, "Green", "Red")
Car Sold Colour = IF([Car Sold Difference] > 0, "Green", "Red")
Sale Condition = IF([Sales Difference] > 0, "Green", "Red")
```

8️⃣ Max Value Detection

```
Max Point =
IF(
    MAXX(ALLSELECTED('Calender Table'[WeekNum]), [Total Sales]) = [Total Sales],
    MAXX(ALLSELECTED('Calender Table'[WeekNum]), [Total Sales]),
```

```
    BLANK()
)
```

📊 Visuals Used

Visual	KPI / Purpose
Card	Total Sales (YTD, MTD)
Card	Average Price
Card	Car Sold
Line Chart	YTD Sales Trends
Bar Chart	Car Sold by Week
KPI Card	YOY Growth with color

Insights

- Week 7 has the highest total sales
- MTD and YOY KPIs enable fast performance tracking
- Sales, Car Sold, and Avg Price all show consistent seasonal trends

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Filters & Slicers

- Year
- Month
- Week Number

⚠ Challenges

- Using SAMEPERIODLASTYEAR without a complete date table causes blank values
- Visualizing KPI color cards based on DAX comparisons

Future Scope

- Add brand/category level drilldowns
- Include forecasting using time series

- Automate refresh with Power BI Gateway

Deliverables

- PBIX file
- Notion doc (this)
- PDF export (pending)