CAR SALES DASHBOARD

AIM: To design and develop a dynamic and interactive Car Sales Dashboard using Power BI or Tableau. . The dashboard will visualize critical KPIs related to our car sales.

PROBLEM STATEMENT: The dashboard should provide real-time insights into key performance indicators (KPIs) related to our sales data. This will enable us to make informed decisions, monitor our progress, and identify trends and opportunities for growth.

APPROACH IN SOLVING THE PROBLEM: The project leverages Tableau for its robust data visualization capabilities, allowing for an interactive and user-friendly interface. The focus is on three main KPIs to track and analyze the performance of car sales.

Key Performance Indicators (KPIs)

1. Sales Overview
2. Average Price Analysis
3. Cars Sold Metrics

DATA:

Data columns: 17 entries

Data Rows: 23906 entries

The project is sub-divided into following sections:

Step 1: Data Preparation

1. **Import Data**:
    - Load the data from the Excel file into Tableau.
    - Ensure all relevant columns are correctly recognized and formatted (dates, numbers, categories).
2. Create Calculated Fields in order to work on the given KPI's.
3. **KPI Calculations**:
    - **YTD Total Sales**: Sum of sales for the current year.
    - **YOY Growth in Total Sales**: Percentage change in YTD sales compared to the previous year.
    - **YTD Average Price**: Average price of cars sold in the current year.

- **YOY Growth in Average Price**: Percentage change in average price compared to the previous year.
- **YTD Cars Sold**: Count of cars sold in the current year.
- **YOY Growth in Cars Sold**: Percentage change in the number of cars sold compared to the previous year.

Step 2: Dashboard Creation

1. **Sales Overview Dashboard**:
   - **KPI Tiles**: Create tiles for each KPI (YTD Total Sales, YOY Growth in Total Sales, YTD Average Price, YOY Growth in Average Price, YTD Cars Sold, YOY Growth in Cars Sold).
2. **Charts Requirement Dashboard**:
   - **YTD Sales Weekly Trend**:
     - Create a line chart with weeks on the X-axis and total sales amount on the Y-axis.
     - Use the `Week Number` field and filter for the current year.
   - **YTD Total Sales by Body Style**:
     - Create a pie chart to show the distribution of total sales by body style.
     - Use the `Body Style` field and filter for the current year.
   - **YTD Total Sales by Color**:
     - Create a donut chart to visualize sales contribution by car color.
   - **YTD Cars Sold by Dealer Region**:
     - Create a bar chart to display the distribution of cars sold by dealer region.
     - Use the `Dealer Region` field and filter for the current year.
   - **Company-Wise Sales Trend in Grid Form**:
     - Create a table with company names and their corresponding YTD sales figures.
     - Use the `Company` field and filter for the current year.

Data visualization:

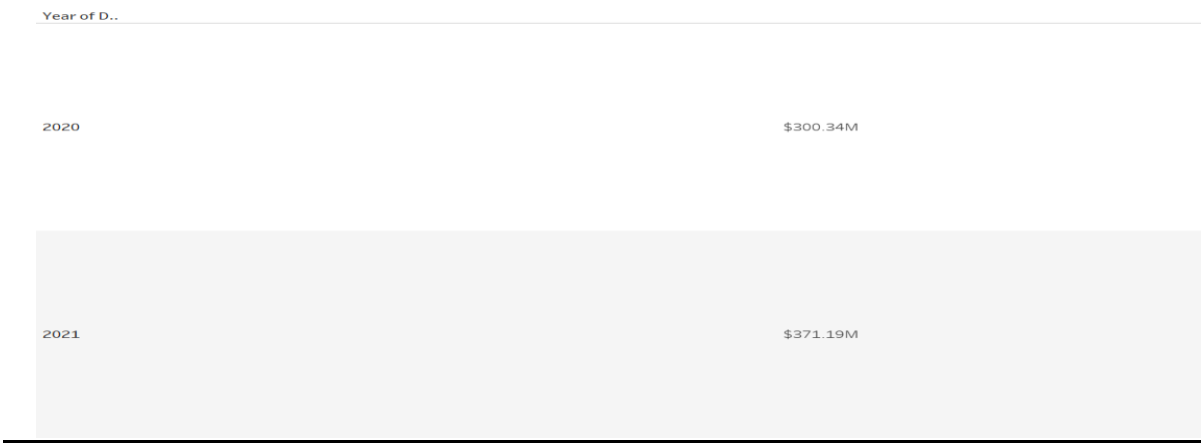

Fig. Total sales in year 2021 and 2020

Inference: This figure shows the total sales in the year 2020 and 2020 simultaneously. In which we can see the in 2020 there are total sales of 300.34M dollars while in 2021 we have total sales of 371.19 million dollars.

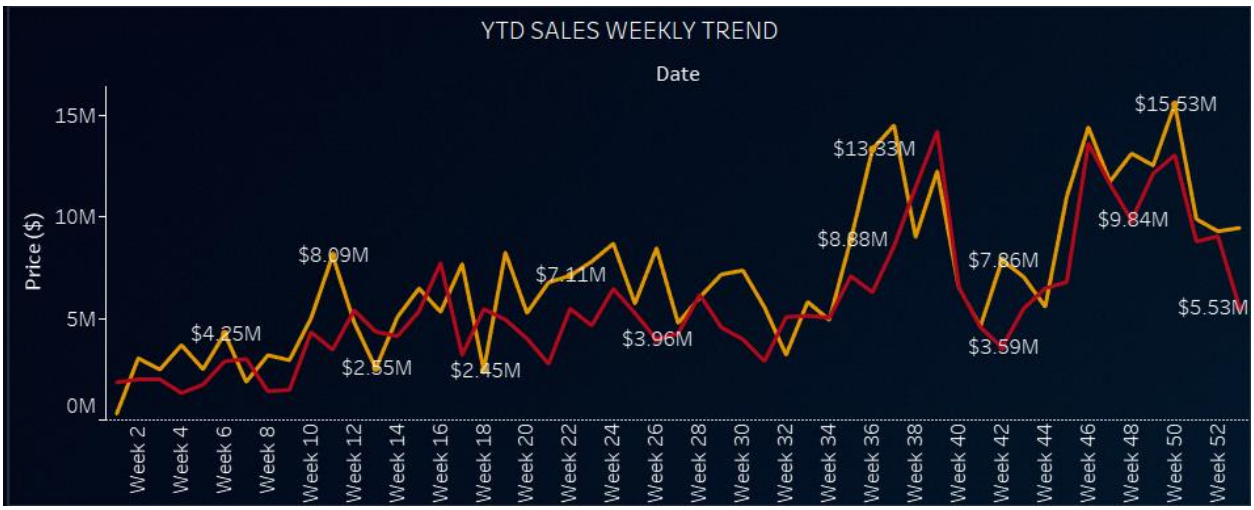

Fig2. Sales weekly Trend

Inference: This graph shows the weekly trend of sales of car in 2021 and 2022. In which we can observe that There is a steady increase in sales price from week 2 to week 52. The highest sales is at week 52 at $15.53 million in year 2021.

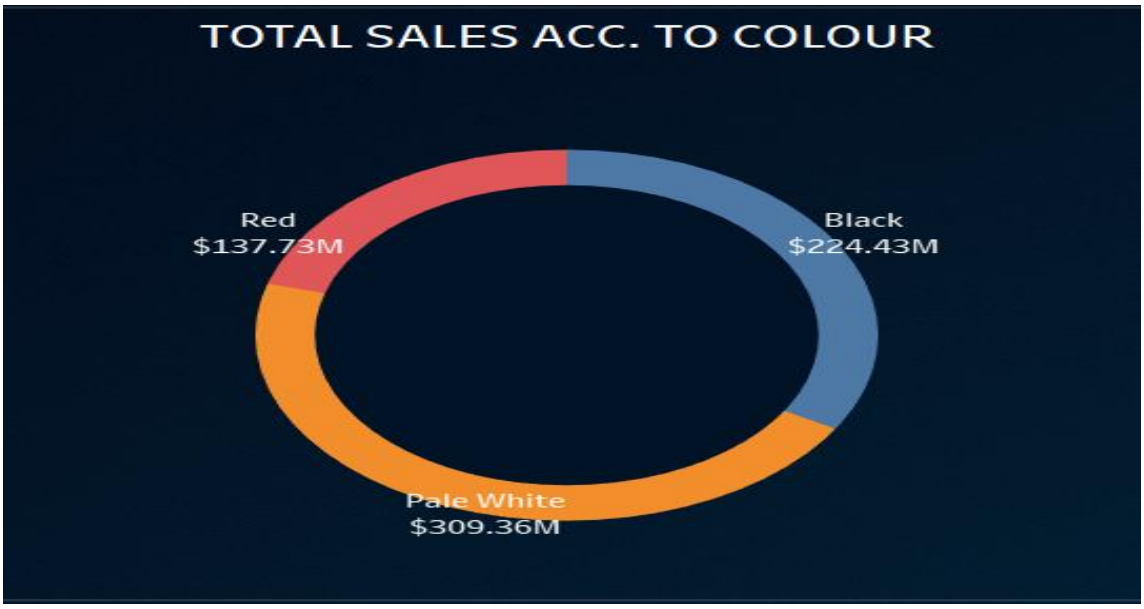

Fig3. Donut chart of total sales according to car color

Inference: This donut chart shows that pale white is the most popular color, accounting for 46.07% of total sales. Black is in second place at 33.42% and red is in third at 20.51%.

Fig. 4. Total sales acc. To region

Inference: This bar graph shows the total sales in 2020 and 2021 to the dealer region. So here we can see that there is the most sales in AUSTIN at $117.19million whereas MIDDLETOWN has $87.13million which is at lowest.

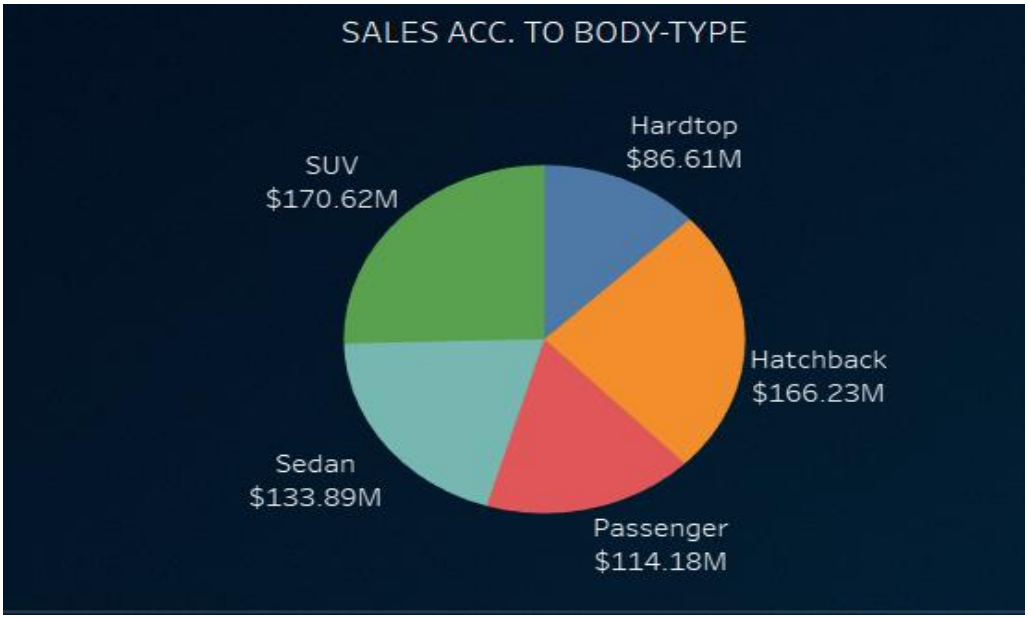

Fig. 5 pie chart of total sales to the body type of car

Inference: this graph shows the total sales acc. To body type of color. In which we can see that SUVs are the most popular body type according to sales, accounting for 25.41% of total sales. Following SUVs are Hatchbacks (24.76%) and Sedans (19.94%). Hardtops and Passenger Cars make up a much smaller portion of sales at 12.90% and 17% respectively.

Conclusion: Car sales appear to be on an upward trend based on year-to-date (YTD) total sales and YTD total car sales figures. YTD total sales for 2021 is at $371.19 million which is a 23.59% increase from 2020's YTD total sales of $300.34 million. YTD total car sales for 2021 are at 13,261 which is a 24.57% increase from 2020's YTD total car sales of 10,645.

The weekly sales trend appears to be increasing as well. Week 52 has the highest total sales at $15.63 million. Mercedes-Benz has the highest overall sales increase of $3.44 million from 2020 to 2021.