PROJECT ON CAR SALES REPORT

Aim: - The Aim of this Project is to provide insights into a dataset containing information about car sales and to design and develop a dynamic and interactive Car Sales Dashboard using Power BI. The dashboard will visualize critical KPIs related to our car sales, helping us understand our sales performance over time and make data-driven decisions.

Problem Statement: - A leading automotive dealership is seeking insights into its car sales performance to optimize sales strategies, enhance customer satisfaction, and drive business growth. The dealership operates across multiple locations and offers a wide range of car models from various manufacturers.

Dataset Description: - In this Project we have used "Car Sales Dataset" to perform our Analysis. The dataset encompasses various attributes related to car sales transactions, including vehicle details, sales figures, and customer information.

This Dataset contains following Fields: -

- **Car ID:** Unique identifier for each car in the dataset.

- **Date:** Date of the car sale transaction.

- **Customer Name:** Name of the customer purchasing the car.

- **Gender:** Gender of the customer.

- **Annual Income:** Annual income of the customer.

- **Dealer Name:** Name of the car dealer involved in the transaction.

- **Company:** Manufacturer or brand of the car.

- **Model:** Specific model of the car.

- **Engine:** Engine specifications of the car .

- **Transmission:** Transmission type of the car (e.g., automatic, manual).

- **Colour:** Colour of the car.

- **Price:** Selling price of the car.

- **Body Style:** Body style of the car (e.g., sedan, SUV, hatchback).

- **Dealer Region:** Region or location of the car dealer.

- **Dealer Number:** Contact number of the car dealer.

Methodology:

1. **Data Preprocessing:** Cleaned and prepare the dataset for analysis, handle missing values (if any).

2. **Exploratory Data Analysis (EDA):** Explore the dataset to understand its distribution, relationships between variables, and detect patterns.

3. **Visualization:** Created visualizations such as line chart, pie chart, and bar charts to present key findings and insights.

4. **Dashboard Creation:** Developed interactive dashboards using Power BI or to provide stakeholders with a comprehensive view of car sales metrics and trends.

Tools Used:

- Excel (Handling Blanks, Summarizing)
- SQL (for data retrieval and manipulation)
- Power BI (for visualization and dashboard creation)

Important KPI'S and their analysis: -

1. Sales Overview:

- Year-to-Date (YTD) Total Sales
- Year-over-Year (YOY) Growth in Total Sales

Year	Total Sales ($)	Growth in Total Sales YOY%
2020	$300.340345M	
2021	$371.18512M	23.59%
Total	$671.525465M	123.59%

Inference: - It is clear from the above data that there is significant growth of almost 24% in sales in year 2021 as we move from 2020.

2. Average Price Analysis:

- YTD Average Price
- YOY Growth in Average Price

Year	Average of Price ($) ▼	Growth In Avg. Price ($) YoY%
2020	$28.21421747299K	
2021	$27.99073373049K	-0.79%
Total	$28.09024784573K	-0.44%

Inference: - A negative growth in average price shows that demand in market slowly shifted towards low budget car as compared to previous year.
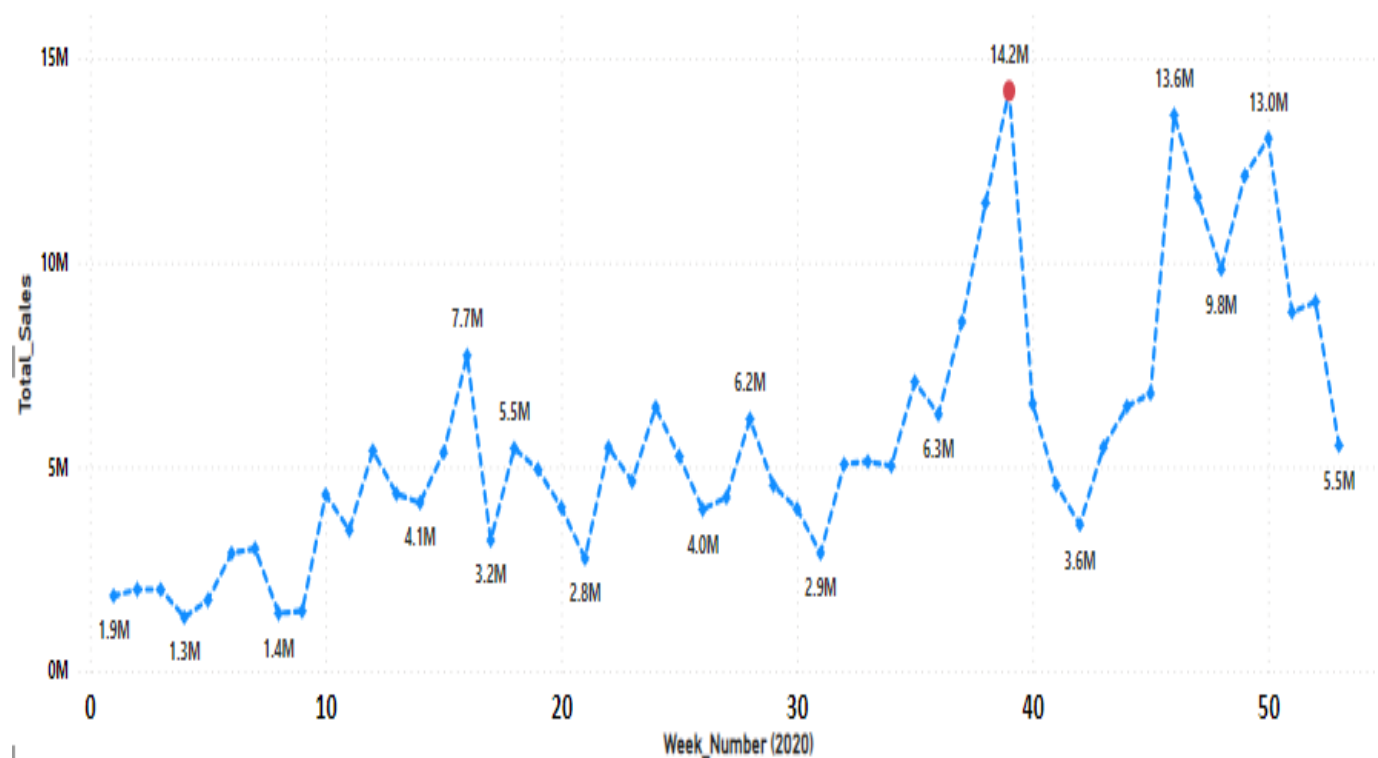
3. Cars Sold Metrics:

- YTD Cars Sold
- YOY Growth in Cars Sold

Year	Cars Sold	Growth In Car Sales YoY%
2020	10645	
2021	13261	24.57%
Total	23906	124.57%

Inference: - **A total of 23906 cars were sold from 2020 to 2021 with a positive growth of almost 25% showing good performance in 2021.**

4.Weekly Trends:

For Year 2020

For Year 2021

Inference: - It is clear from the above charts there is increase in the sales as we proceed the year.

- ❖ However weekly high point sales in year 2020 occurs at 39th week in September with a total of 14.2 million (indicating high jump may be due to festival season).
- ❖ While in year 2021 it touches the 15.5 million in 50th week in December (which may be due to the Year-end Discounts Schemes).

5.Sales by Body Style:
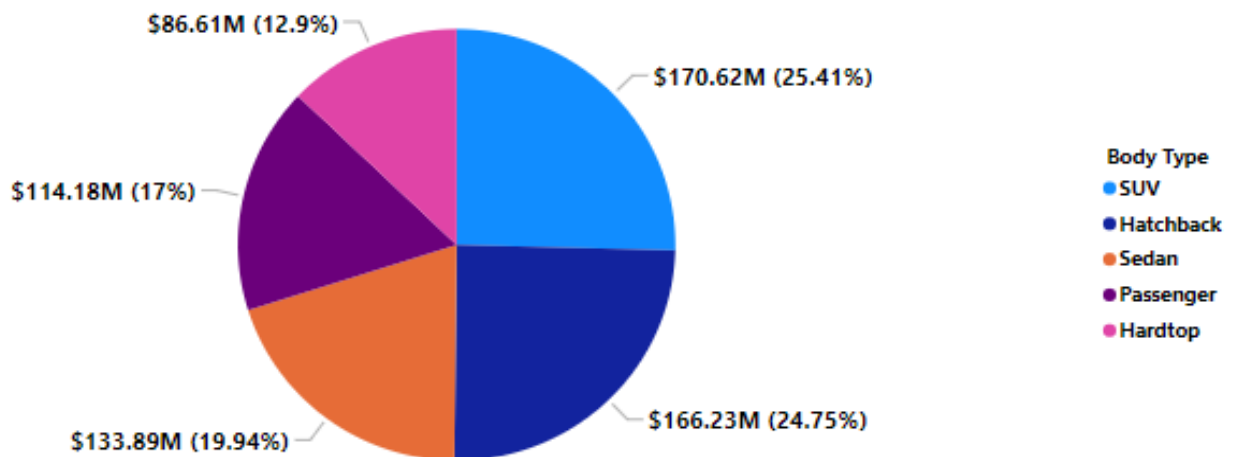
Inference: - 'SUV's' and 'Hatchbacks' contributes almost 50% of the total sales.

6.Sales by Body Colour:
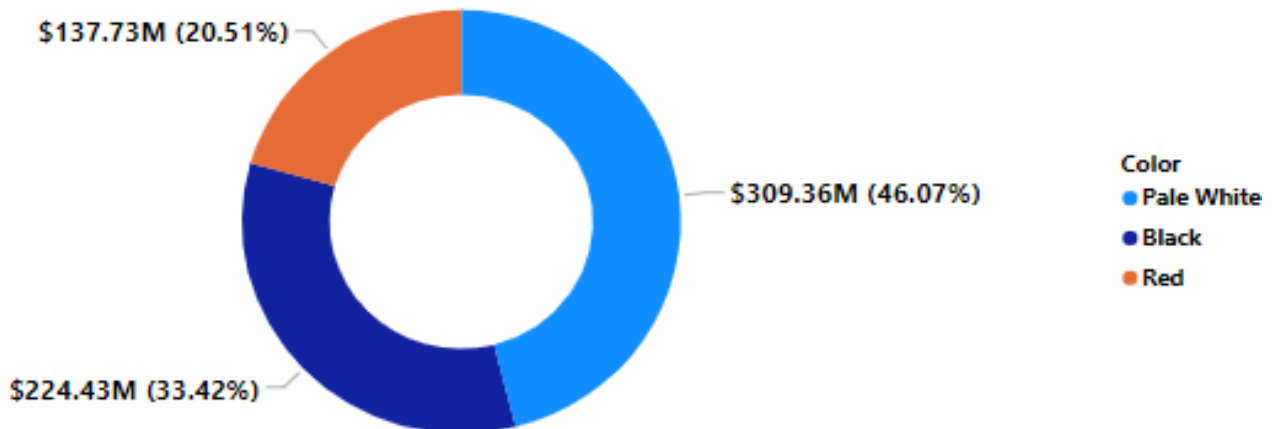
Inference: - Pale white is the first choice of Consumer followed by Black and Red colour.

7.Sales by Dealer Region:

Inference: -Dealers in Austin and Janesville region are performing well while others remaining have almost same sales figure.

8. Gender-Wise Car count: -

Male	18.8K
Female	5.1K

Annual Salary

Male	0.85M
Female	0.76M

Inference: - It is clear from the above plot that participation of male in car purchasing is much more than that of female, however their annual salary has not very high gap, demanding better discount schemes for females to increase the sales.

9. Company Wise Sales Trends: -

Company	2020	2021	Total
Chevrolet	20542772	27112493	47655265
Ford	21802343	25429240	47231583
Dodge	19107555	25017441	44124996
Oldsmobile	15807240	19627272	35434512
Mercedes-B	15593259	19030864	34624123
Volkswagen	15848524	18234357	34082881
Mitsubishi	15339474	18722992	34062466
Toyota	15256889	17502675	32759564
Chrysler	13128621	16013252	29141873
Lexus	12135134	15152569	27287703
Total	164561811	201843155	366404966

(Top 10 Companies)

Inference: - Chevrolet and Ford are the top performing Companies.

CONCLUSION: -

- Total Sales (up to 2021) is $ 671 million having 24% Growth from 2020 to 2021.
- Average price of the cars decreased with 0.79% from 2020 to 2021 indicating the shift of market towards low budget cars.
- Good sales in September and December demands better preparedness and full Stock during those periods specially.
- SUV's and Hatchbacks of White colour are in high demand, competitive new product in the same price range can be added.
- Less participation of Female in buying Cars demand attractive discount Schemes and strategy for specially females.

THANK YOU