Data Visualization – Final Project

Used Cars Analysis

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**Introduction: -**

From various market surveys, the consulting firm has compiled a large dataset of various makes and models of used cars. Variables that influence the selling price of used cars are included in this data set. Used cars are a great option for those looking for an affordable way to purchase a vehicle. With a wide variety of models, makes, and years available, it is possible to find a used car that suits your needs and budget. Not only are used cars more affordable than new cars, but they also often come with a variety of features that can make them a great choice for those who do not want to invest in a brand-new vehicle. From the convenience of shopping online to the comfort of a certified pre-owned vehicle, used cars offer a variety of advantages.

**About Dataset: -**

The data we extracted include of following things: -

It consists of 18 columns.

It consists of 7906 rows.

It also consists of p.Sales as a parameter field which is used to calculate top 5 ,top 10 etc.

We also have calculated fields like miles driven which is computed from km driven and price in rupees is changed to price in dollars.

**Parameters Included: -**

Sales\_ID (Sales ID)

name (Name of the used car)

year (Year of the car purchase)

selling\_price (Current selling price for used car)

km\_driven (Total km driven)

Region (Region where it is used)

State or Province (State or Province where it is used)

City (City where it is used)

fuel (Fuel type)

seller\_type (Who is selling the car)

transmission (Transmission type of the car)

owner (Owner type)

mileage (Mileage of the car)

engine (engine power)

max\_power (max power)

seats (Number of seats)

sold (used car sold or not)

Now that we are comfortable with the data, let's load it into Tableau and begin making some visuals to learn where the coffee chain is failing and where it has chances.

**Domain for the Dataset: -**

The Used Cars Dataset file



Data Source Link: - [Used Cars](https://www.kaggle.com/datasets/shubham1kumar/usedcar-data?select=UserCarData.csv)

Data Visualization Tool [Tableau Desktop](https://www.filehorse.com/download-tableau-desktop/download/)

Tableau File: -



**Data Cleaning Techniques: -**

There are no special symbols or empty spaces in the data. Therefore, no data cleaning techniques were employed.

**Goals & Stories of Project: -**

**Goal – 1 (Line Chart): -** The objective is to find out vehicles sold in respective years in different states.

**Story: -** From the below bar chart we came to know the data of sales from 1994 to 2020, where maximum number of sales was given by 2017 which is 1,010 and minimum sales were recorded in the year 1995 as 1. The observation made by bar graph in the year 2020 which was recorded all time low since 2006 due to pandemic which is 74.

Chart, line chart

Description automatically generated

**Goal – 2 (Multi-Bar Chart): -** The objective is to find the best milage providing cars based on different states in USA.

**Story: -** The below multiple layer chart offers a side-by-side comparison of various car brands for different states as in here we are taking examples of Missouri and Nebraska states. When comparing both the below states highest milage was provided in Missouri was given by Renault as 22.08 and in Nebraska its Ford as 25.83, closely followed by Renault at 25.17. Whereas lowest among both the states is given by Toyota at 13.30 in Missouri and Chevrolet at 13.58 in Nebraska.

Chart, bar chart

Description automatically generated

**Goal – 3 (Dual Layer Map): -** The objective is to find out the comparison based on average mileage and average miles driven by different car companies in united states.

**Story: -** In the below dual layer map the dark blue colored states are the highest ones giving average mileage across united states which are Virginia (20.028MPG), South Carolina(20.171MPG) and others and minimum was given by light blue color which includes states like-North Dakota(17.9MPG), followed by Wyoming & Montana.

Map

Description automatically generated

**Goal – 4 (Tree Map): -** The objective is to find the average milage given by different car companies

**Story: -** Tree map represents the information on various car giants in today's automobile industries. So, the top 5 averages are given by first Lexus has 22.37 MPG, second by Renault 22.03 MPG, third by Maruti 21.62 MPG, fourth by Datsun 21.09 MPG and fifth was given by Ashok 20.07 MPG. The least car companies to give mileage as Land rover as 10.67 MPG followed by Isuzu, Ambassador, Opel, Mercedes.

Chart, treemap chart

Description automatically generated

**Goal – 5 (Bubble Chart): -** The objective is to find the relation between selling price and the ownership of cars.

**Story: -** The below bar chart is gathering the information on following data. The Selling price is directly related to ownership of the car used, so we have average selling price at which First\_owner vehicle sold as 9,634 followed by Second as 4,893 then Third\_Owners as 3,575 and Fourth\_Above\_Owner vehicle as 2,844.

Chart, bubble chart

Description automatically generated

**Goal – 6 (Horizontal Bar): -** To observe the average selling price of different car companies in United States of America.

**Story: -** The below horizontal bar chart shows that the average selling price of top 10 car companies as Lexus being the highest at an average selling of his car brand at $62,805 and Then Followed by BMW at$50,656 and lowest selling car at an average price was MG at 21,748 and then by Isuzu at $23,683.

Chart, bar chart

Description automatically generated

**Goal – 7 (Pie Chart): -** The objective is to find out region wise sales of all the car brands in USA.

**Story: -** Based on the pie chart shown below we have four different regions in which south region has the highest selling price 8,788$ then followed by central region as 7,777$ then by east region as 7,685 and the least was recorded by west region 7,632.

Chart, pie chart

Description automatically generated

**Dashboards: -**

**A picture containing graphical user interface

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**Chart, bubble chart

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**Conclusion: -** From 1994 to 2020, after the data had been examined and evaluated, objectives were established for them. After Viewing the dashboards, it will be simple to examine the dataset on different aspects as Mileage, Miles driven across USA as in individual States.

Link: -

Click here [Tableau Public Link](https://public.tableau.com/app/profile/chaitanya.swaroop.udata) to redirect Tableau Public.