

IMPACT OF CAR FEATURES

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PROJECT DESCRIPTION

- This project is about features of car's where there will be lot about the car's and their features and by understanding the features of car's we will be understanding the automotive industries trend's.
- As data analyst our job is to understand the relation between the car's MSRP and their features and deep dive into many unknown facts hidden in the data.
- The dataset consists of various details like the whether vehicle is electric (or) hybrid it's fuel source type like whether it is an natural gas (or) hydrogen (or) petrol...etc.
- Identify the problems in the car's pricing and their feature's and help the industries to design a better car which satisfy the consumer and regarding the product performance.

APPROACH

- My approach for this project is to understand the data given by the company like any presence of error's in data.
- After going through the data the next step is to clean the data by using excel.
- Checking the questions provided by the company and how I can give accurate , proper answer to that particular question in a efficient way.
- Sorting the data according the need to remove any unwanted columns present in them.

TECH-STACK USED

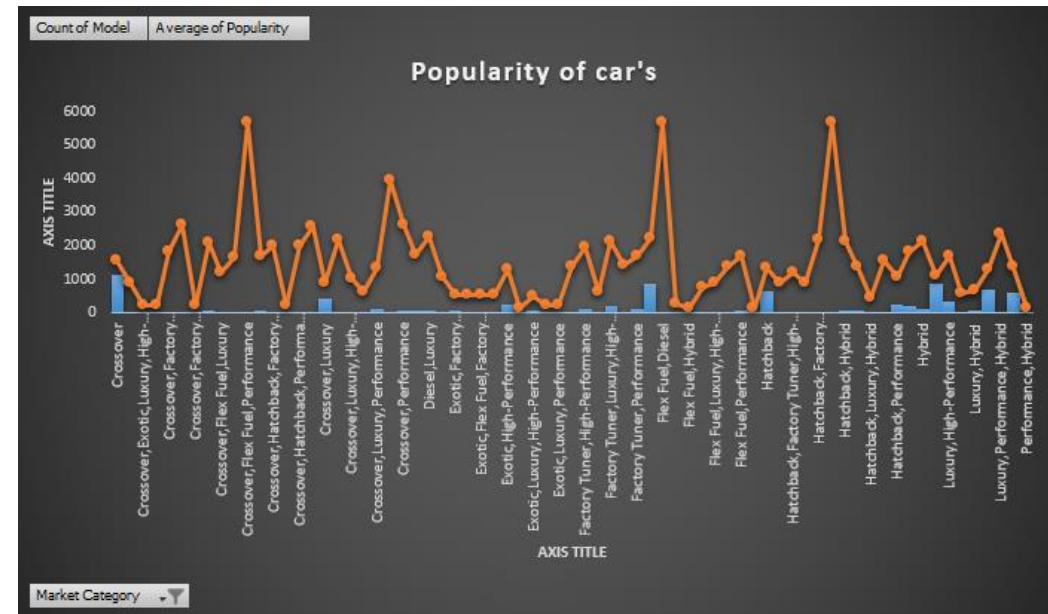
- . To Analyze and extract meaningful insights from the data I have used Microsoft excel 2022

INSIGHTS

- By analyzing the data of features of car we gain various useful insights from that data like correlation between the MSRP and car's fuel efficiency and various insights regarding the data.
- Data cleaning using the pivot table feature in the excel.
- Regression analysis on the data to find the coefficients between the single variable with respective the two (or) more variables.

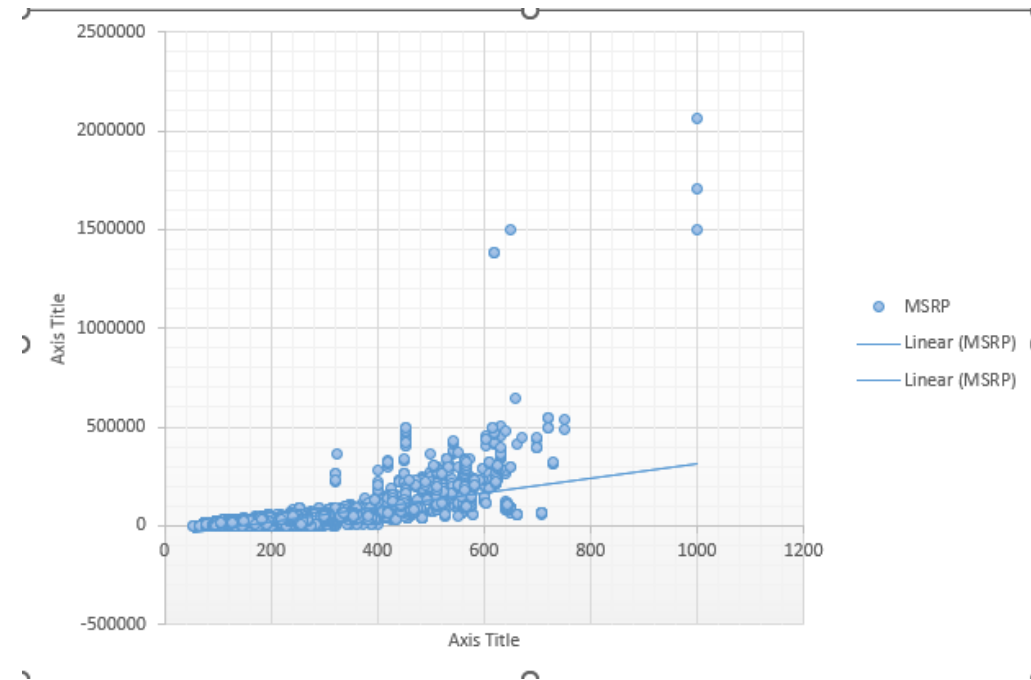
POPULARITY OF CAR'S

- The right side chart clearly shows the popularity of car's according to the car model type.
- To find this relation we have used the pivot table.
- The popular car model's are crossover , Flex fuel , performance , Hatchback and diesel.



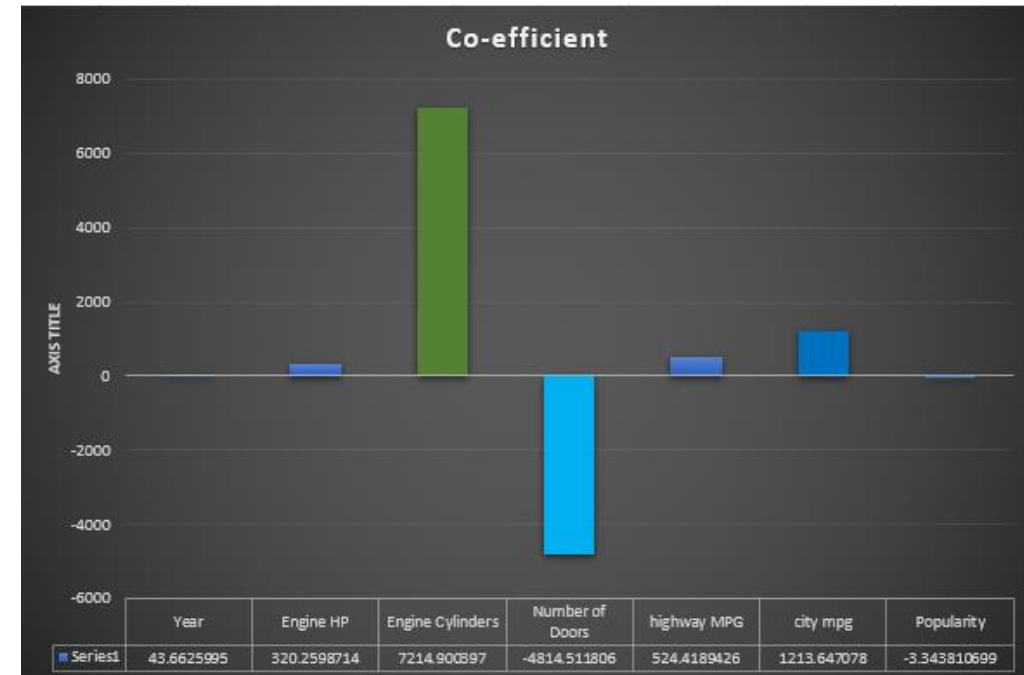
CAR ENGINE AND PRICE

- The right side chart clearly shows the relation between the engine HP and car MSRP.
- To find the relation between the car engine and it's MSRP we have plot the both data in scatter plot.
- As we can see that car's engine hp and it's MSRP have direct relation we can see that the car's having engine hp higher are having the higher MSRP.



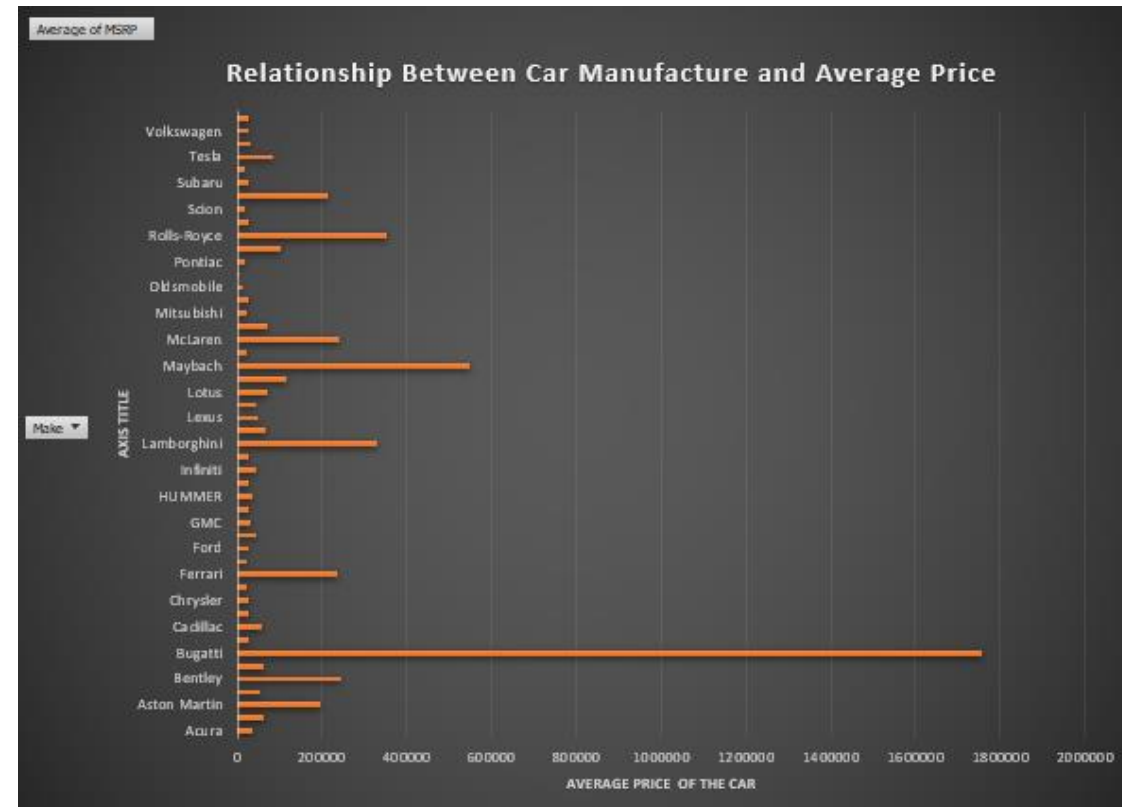
REGRESSION ANALYSIS ON CAR'S PRICE

- The right side chart clearly shows the co-efficient between different variables and car's price variable.
- To perform the regression analysis on the data we have used the data analysis tool on the MS excel.
- We can see that no. of engine cylinder's in car and car's MSRP have positive correlation and no. of doors in car and car's MSRP have negative correlation.



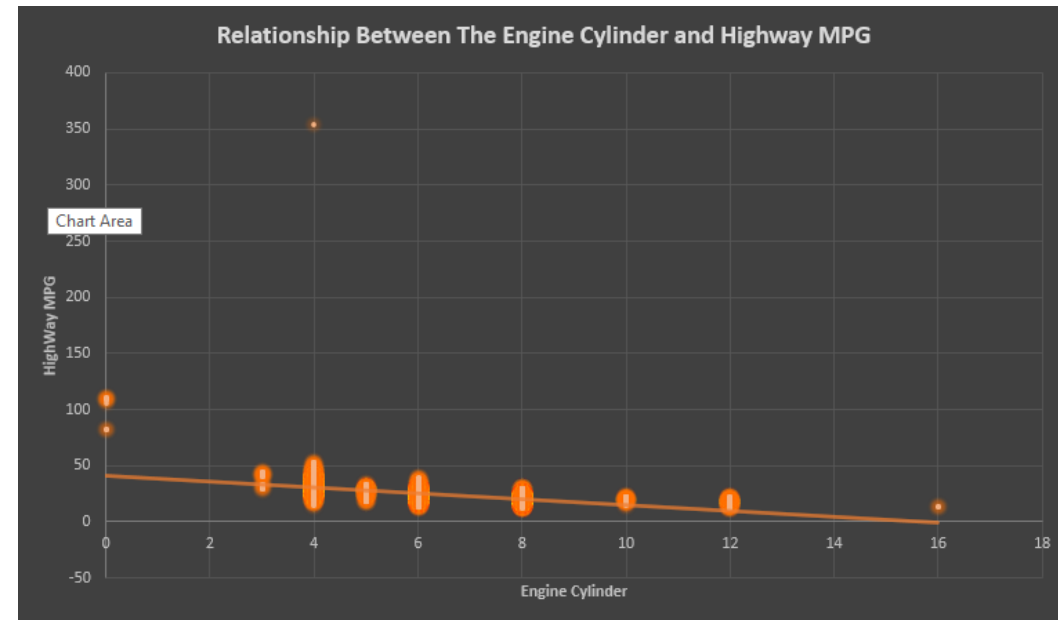
CAR MANUFACTURE AND AVERAGE MSRP

- The right side chart clearly shows the car manufacture and their average MSRP .
- To find the average MSRP for each manufacture we have used the pivot table feature and then we plotted the data using bar chart.
- From we chart we can see that Bugatti, Maybach , Lamborghini and Rolls-Royce are having highest average MSRP among the all manufacture's.



CAR ENGINE CYLINDER AND MPG

- The right side chart clearly shows the relation between the car's engine cylinder's and car's MPG.
- To find the relation between the car's engine cylinder's and it's MPG we have plot the both data in scatter plot.
- As we can see that car's engine cylinder's and it's MPG have negative correlation when no . of cylinder's are increased the MPG of the car decreased.
- To find the correlation between the car's cylinder's and highway mpg we have **CORR** formulae where we need to give two variable's to find the correlation between them.



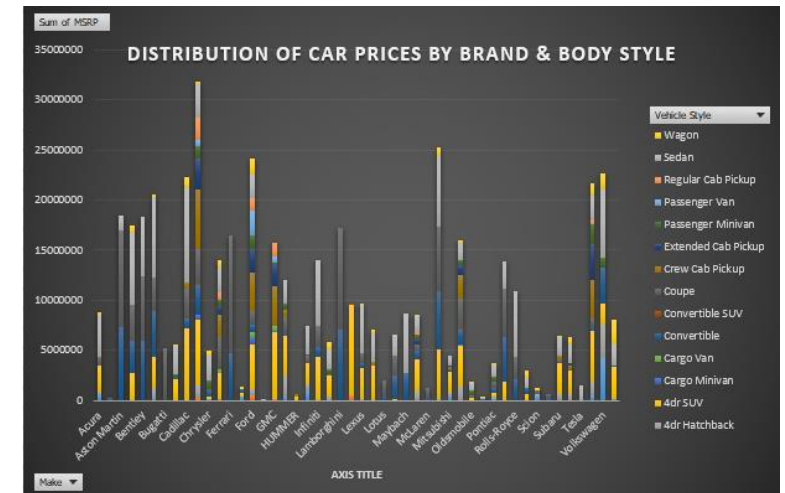
Correlation Between The Engine Cyclinder's and HighWay MPG

-0.621605733

DASHBOARD - 1

[DISTRIBUTION OF CAR'S PRICES BY BRAND AND BODY STYLE]

- The right side chart and below thing is the slicer to sort the data according to our selection.
- We can see that the distribution of car's price by brand and body style in right stacked column chart.
- The below there are two slicer's to sort the data according to the brand and body style.



Brand

- Acura
- Alfa Romeo
- Aston Martin
- Audi
- Bentley
- BMW
- Bugatti
- Buick

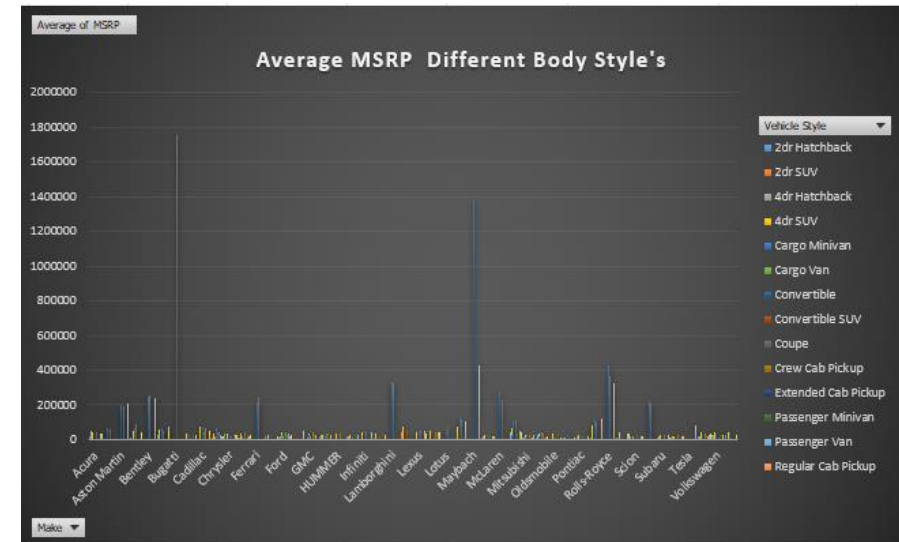
Body Style

- 2dr Hatchback
- 2dr SUV
- 4dr Hatchback
- 4dr SUV
- Cargo Minivan
- Cargo Van
- Convertible
- Convertible SUV

DASHBOARD – 2

[AVERAGE MSRP DIFFERENT BODY STYLE'S]

- The right side chart and below thing is the slicer to sort the data according to our selection.
- We can see that the average MSRP of car's according to the different body style's.
- The below there are two slicer's to sort the data according to the brand and body style.

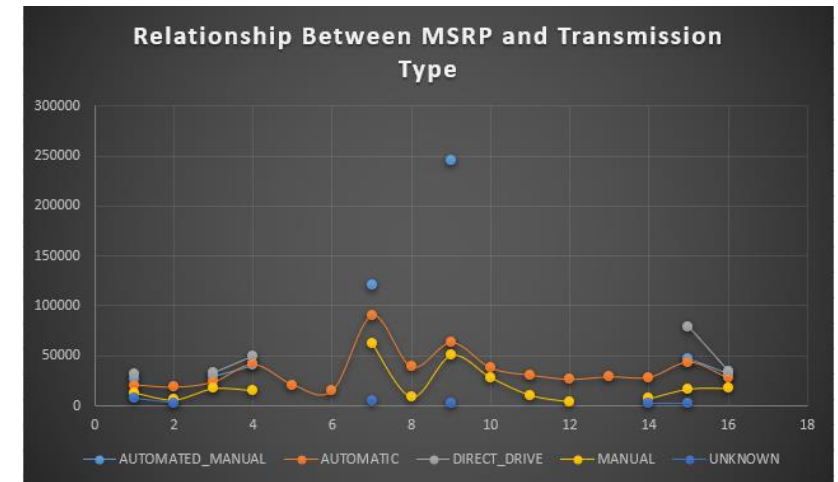


Make	Vehicle Style
Acura	Coupe
Alfa Romeo	Crew Cab Pickup
Aston Martin	Extended Cab Pick...
Audi	Passenger Minivan
Bentley	Passenger Van
BMW	Regular Cab Pickup
Bugatti	Sedan
Buick	Wagon

DASHBOARD – 3

[RELATION BETWEEN MSRP AND TRANSMISSION TYPE]

- The right side chart and below thing is the slicer to sort the data according to our selection.
- We can see that the relation between MSRP and Transmission Type plotted in scatter plot with smooth lines.
- The below this is slicer to sort the data according to the transmission type.



Transmission Type

AUTOMATED_MANUAL

AUTOMATIC

DIRECT_DRIVE

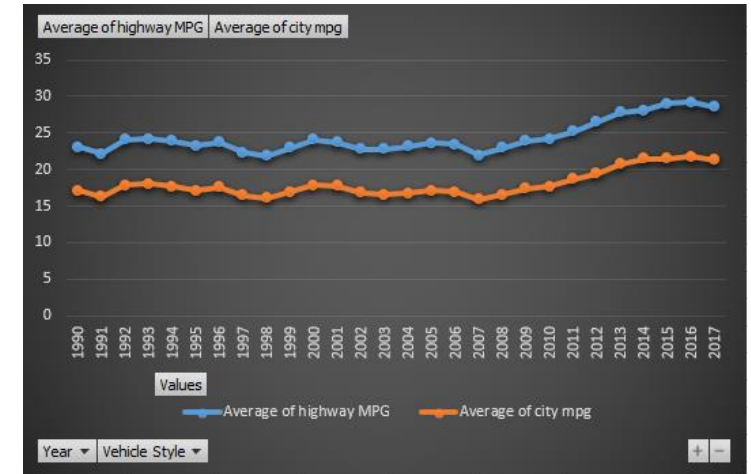
MANUAL

UNKNOWN

DASHBOARD – 4

[AVERAGE MPG AND VEHICLE STYLE]

- The right side chart and below thing is the slicer to sort the data according to our selection.
- We can see that average highway and city mpg according to the year's
- The below those are slicer's to sort the data according to the transmission type.

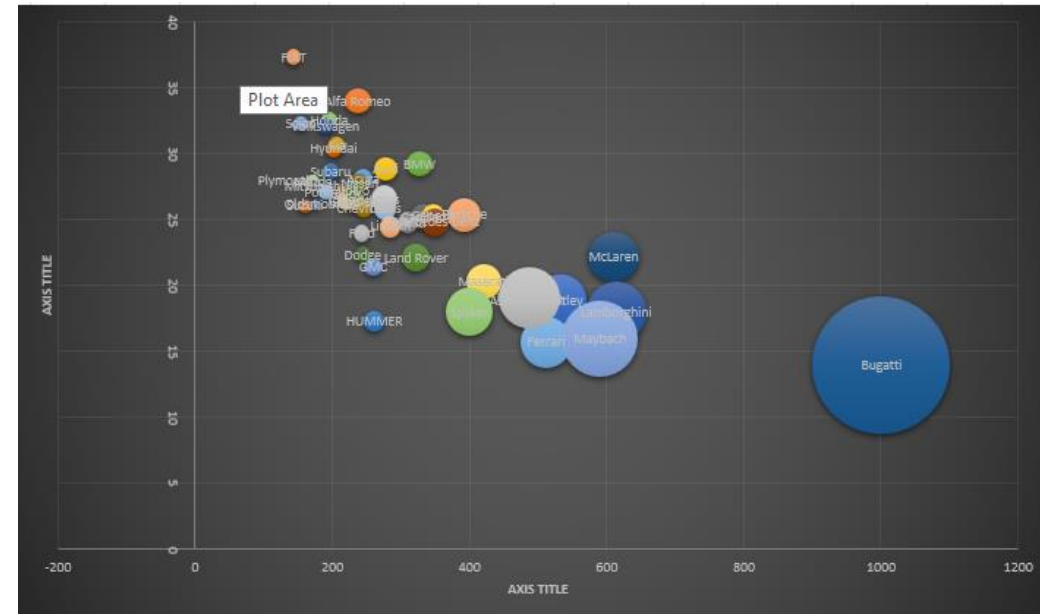


Year	Vehicle Style
1990	2dr Hatchback
1991	2dr SUV
1992	4dr Hatchback
1993	4dr SUV
1994	Cargo Minivan
1995	Cargo Van
1996	Convertible
1997	Convertible SUV

DASHBOARD – 5

[AVERAGE MPG AND VEHICLE STYLE]

- The right side bubble chart We can see that relationship between the average mpg , average engine hp , average MSRP.
- The bubble chart is plotted on the basis of those data.





THANK YOU