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CAR ANALYSIS PROJECT

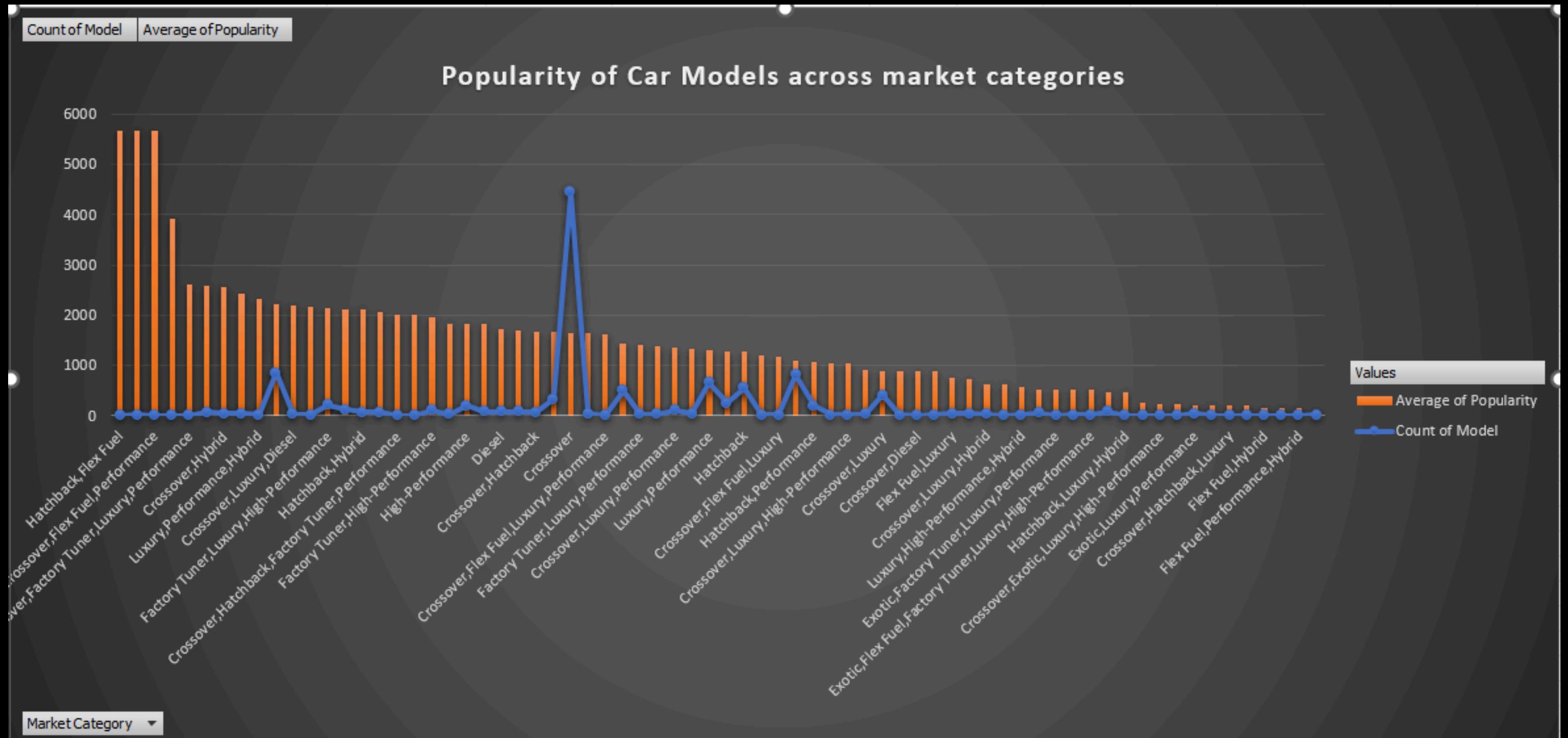
DESCRIPTION

- Observations: 11,159 entries.
- Variables: 16 features, including ‘Make’, ‘Model’, ‘Year’, ‘Horsepower’, ‘Fuel Type’, ‘MPG’, ‘Market Category’, and ‘MSRP’.



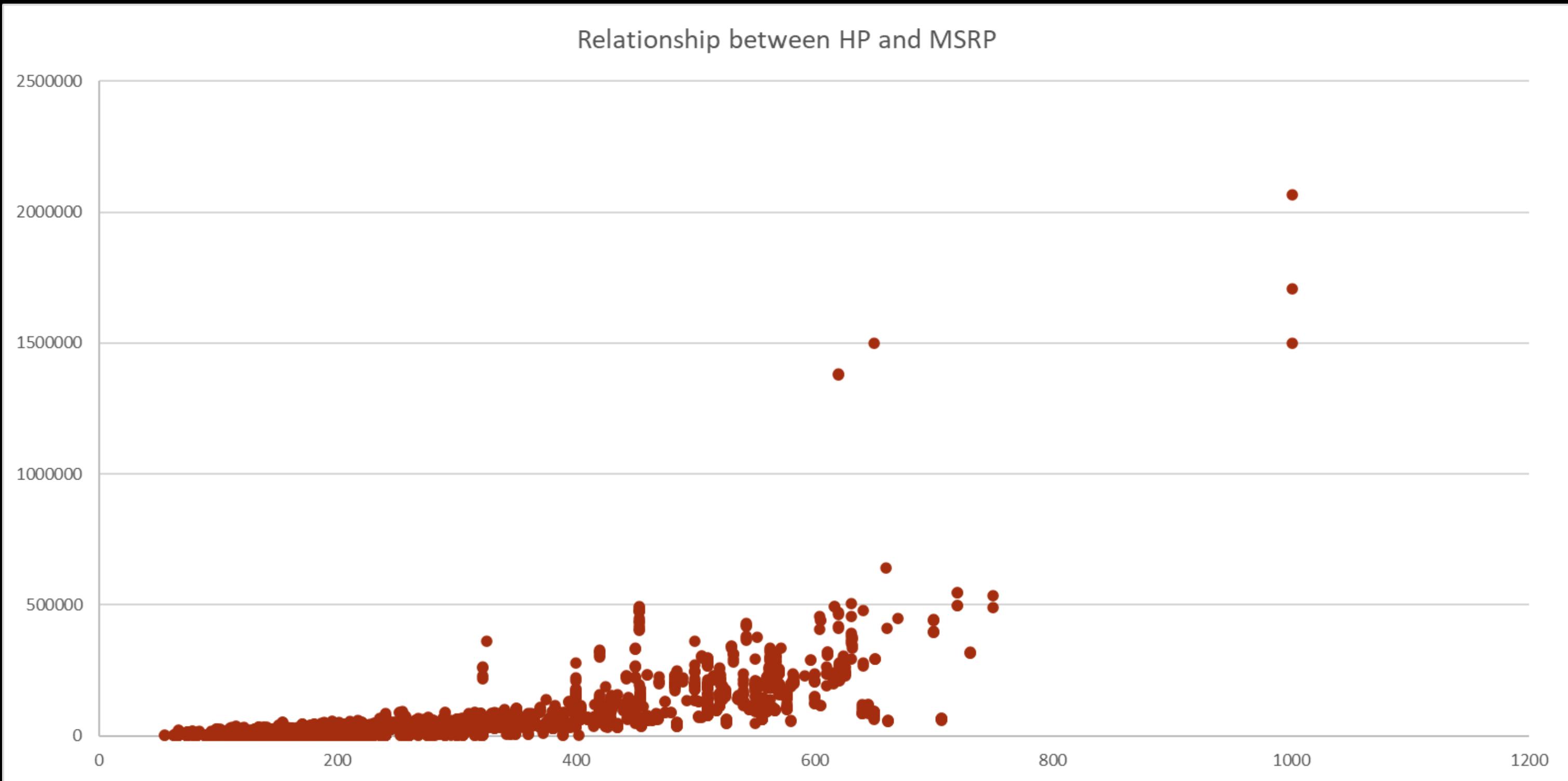
Task 1: Popularity of car models across market categories.

Combination Chart combining a clustered column and a line chart.



- Crossover has the most number of models with the value of 4440

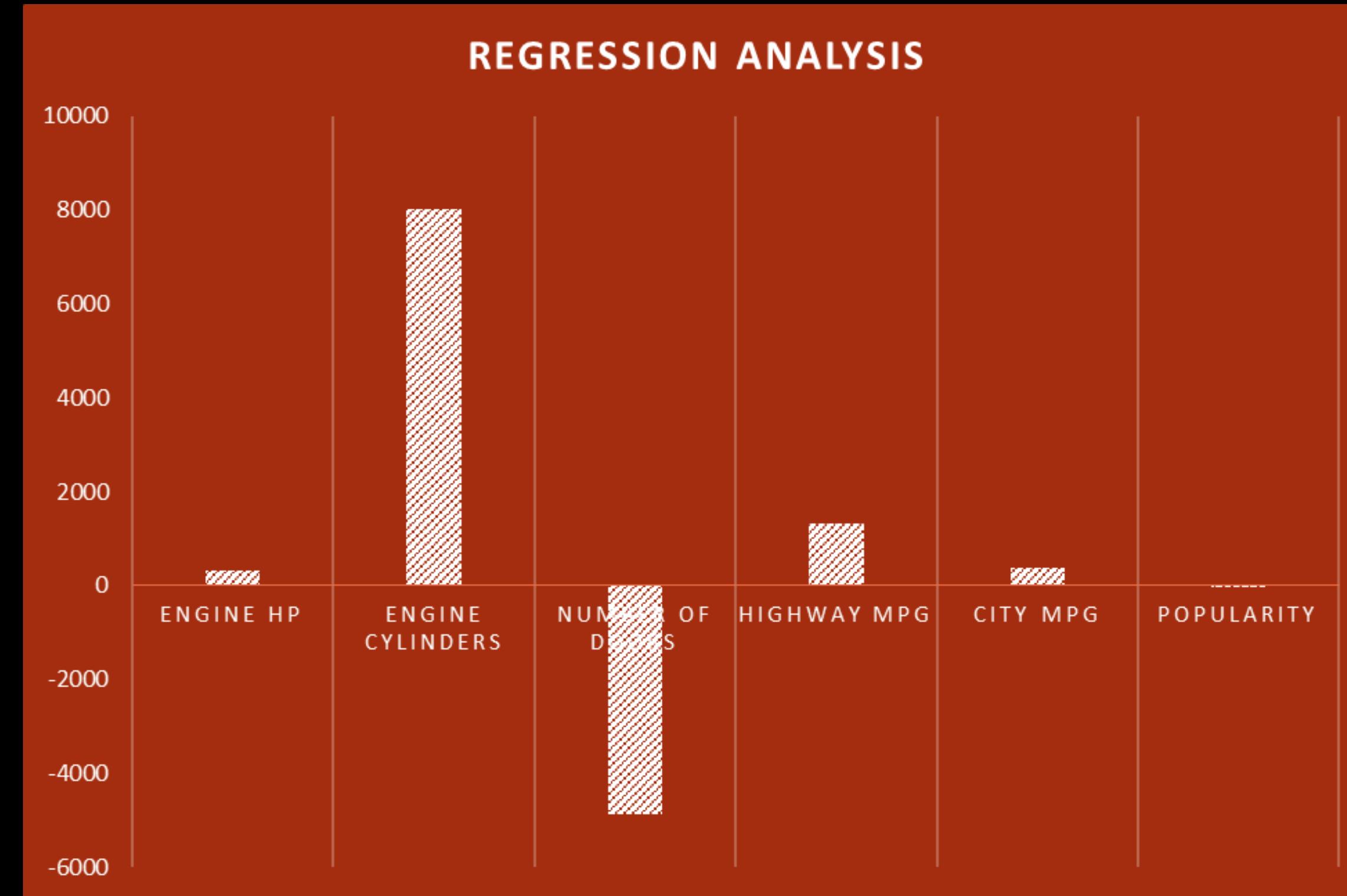
Task 2: Relationship between engine power (HP) and price (MSRP).



Scatter
Flow Chart

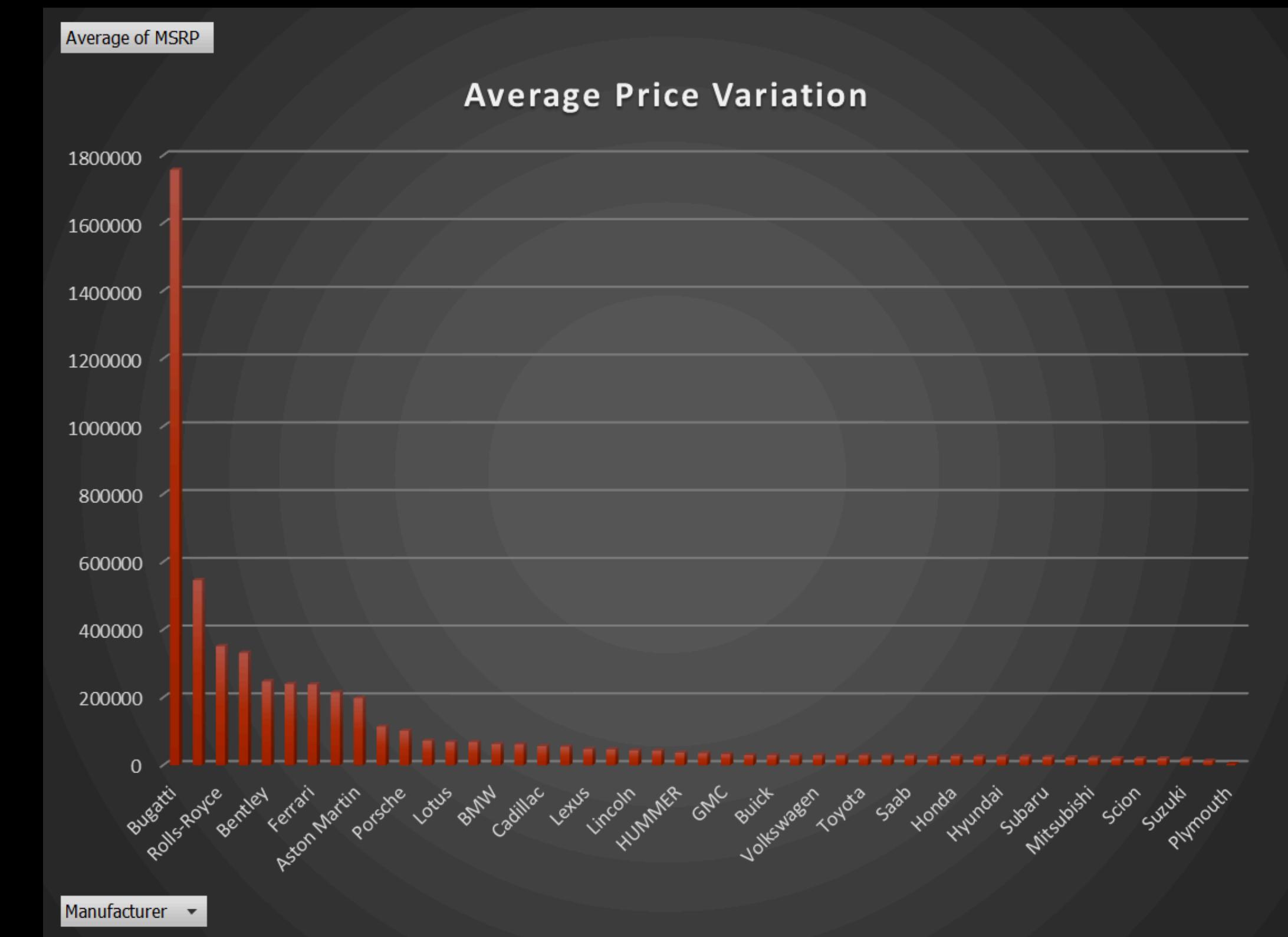
Task 3: Features affecting price.

Clustered
column chart.



- Engine Cylinders with the highest while Number of doors with the lowest regression value.

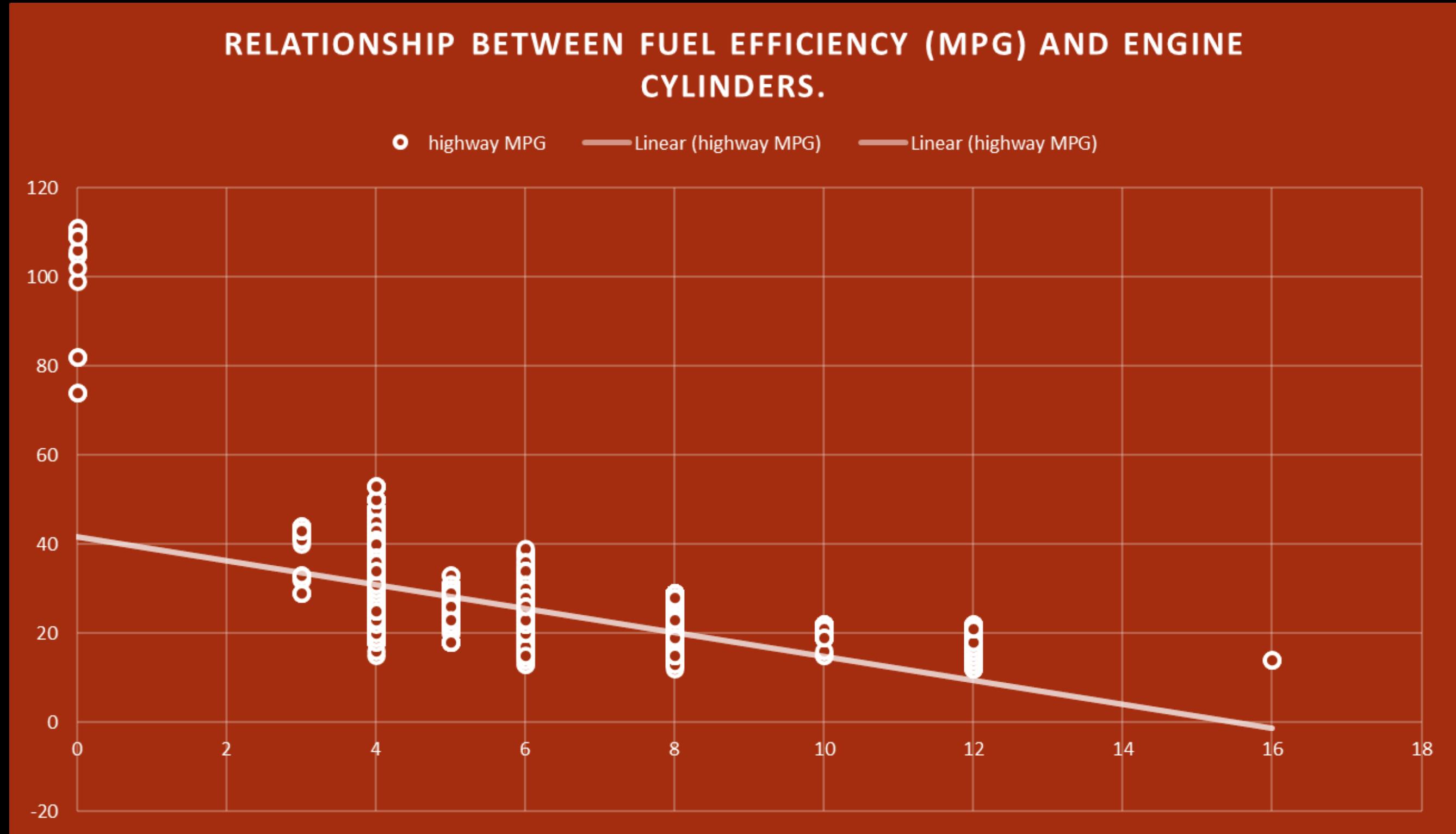
3-D Clustered column chart.



- Bugatti and Rolls-Royce lead the average pricing in the market.

Task 5: Relationship between fuel efficiency (MPG) and engine cylinders.

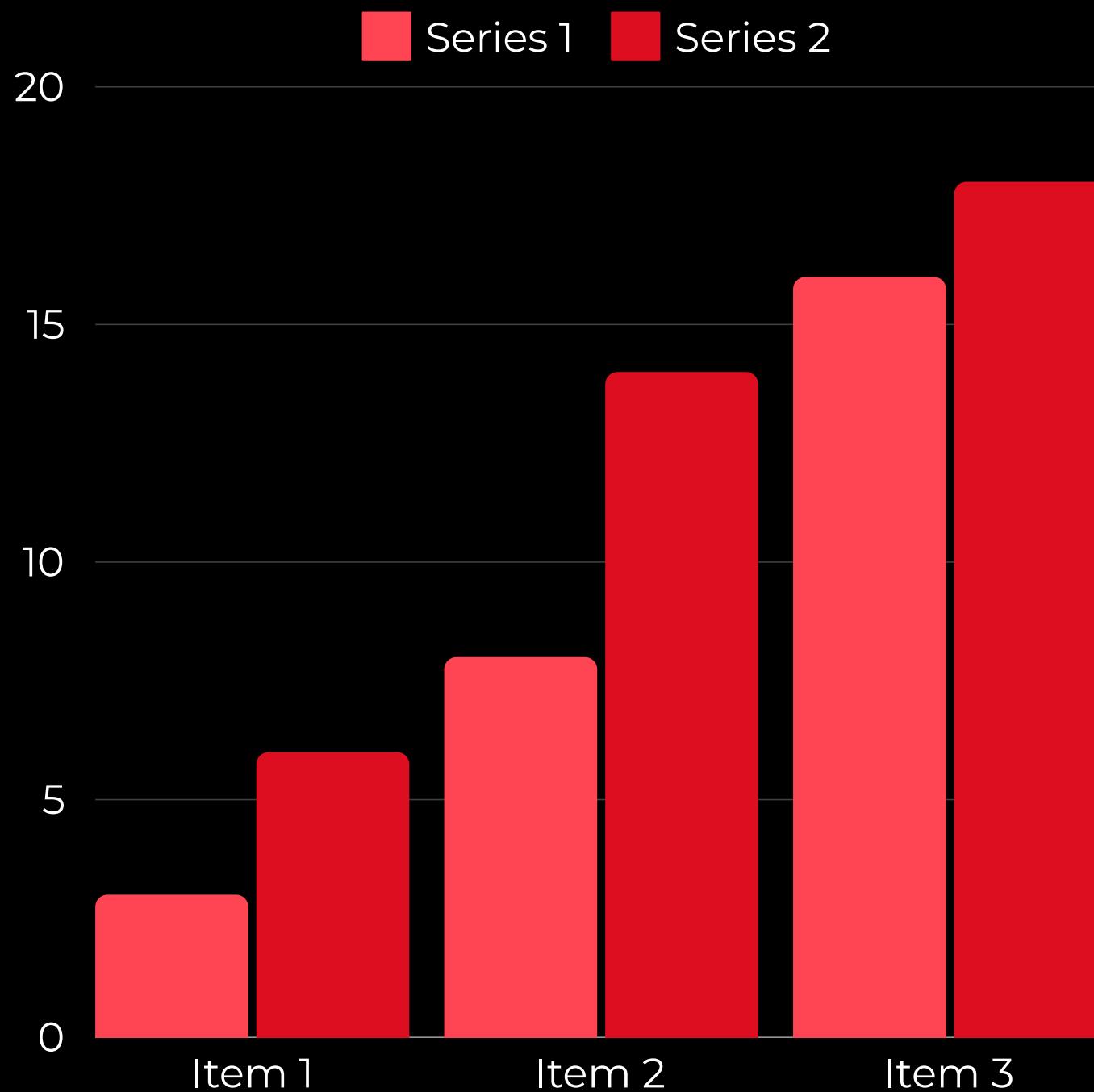
Scatter chart.



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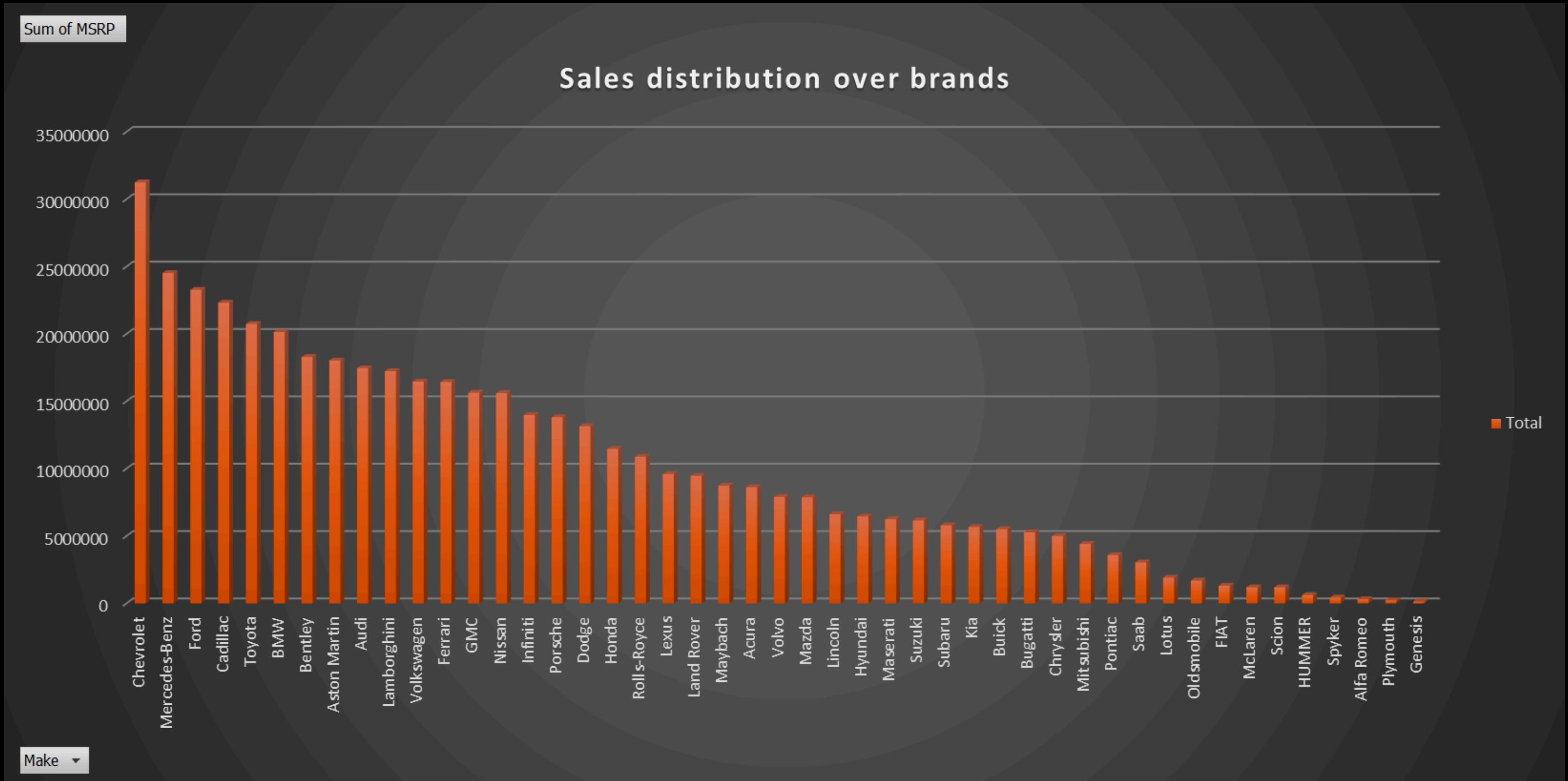
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DASHBOARD TASKS

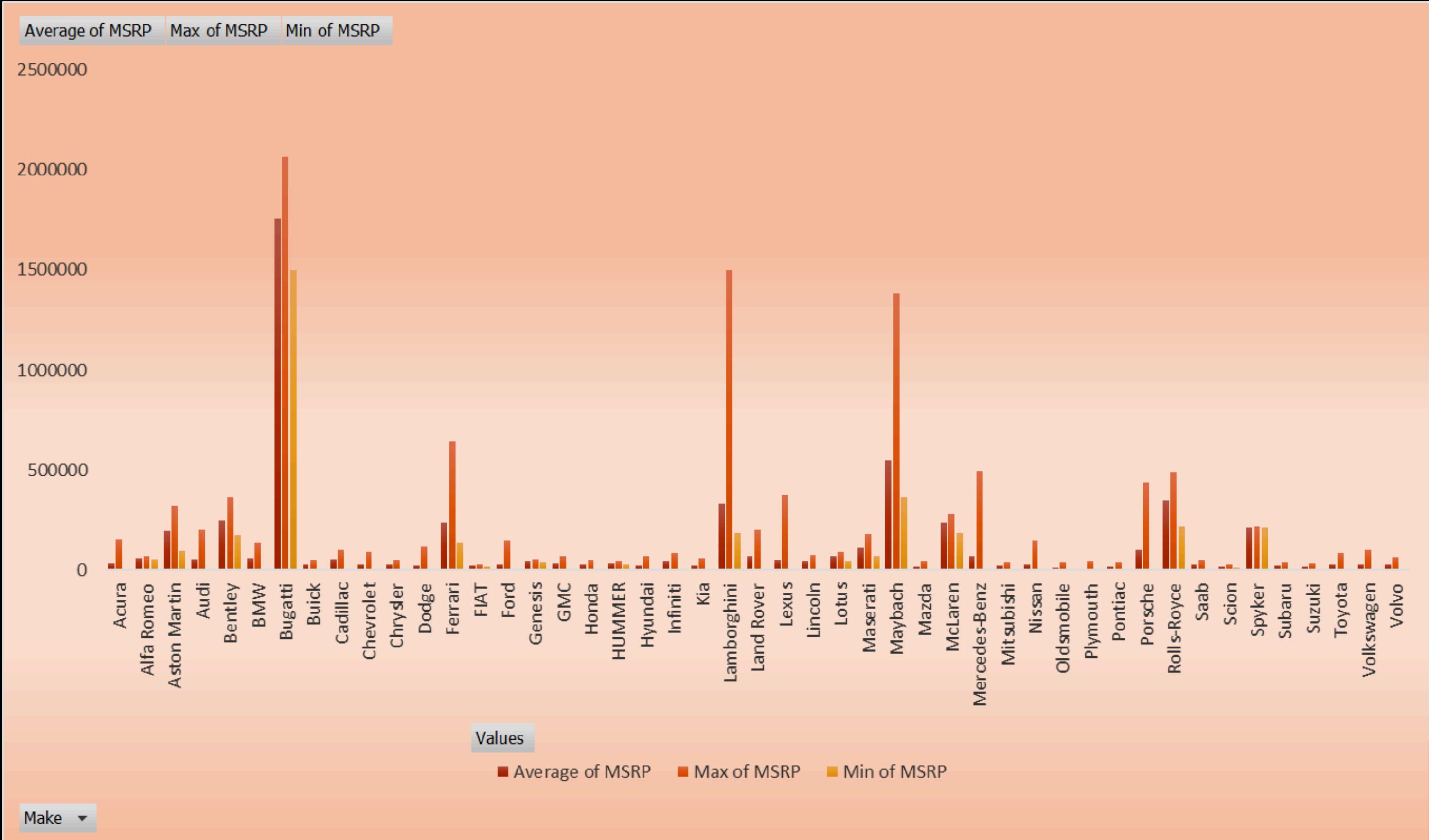
3-D Clustered column chart.



- Chevrolet has the highest Sales distribution of 31252763

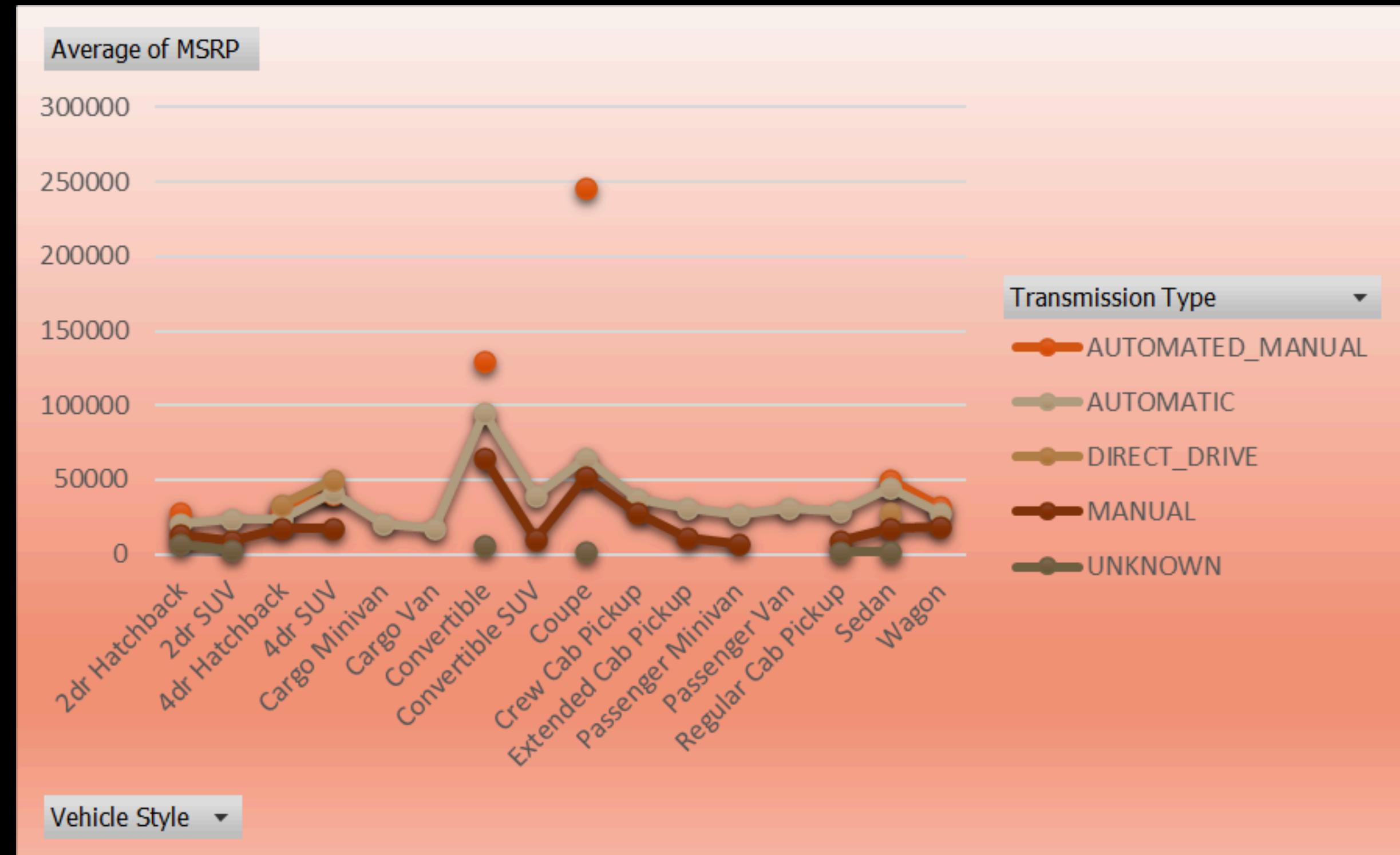
Task 2: Brands with the highest and lowest average MSRPs by body style.

Clustered column chart.



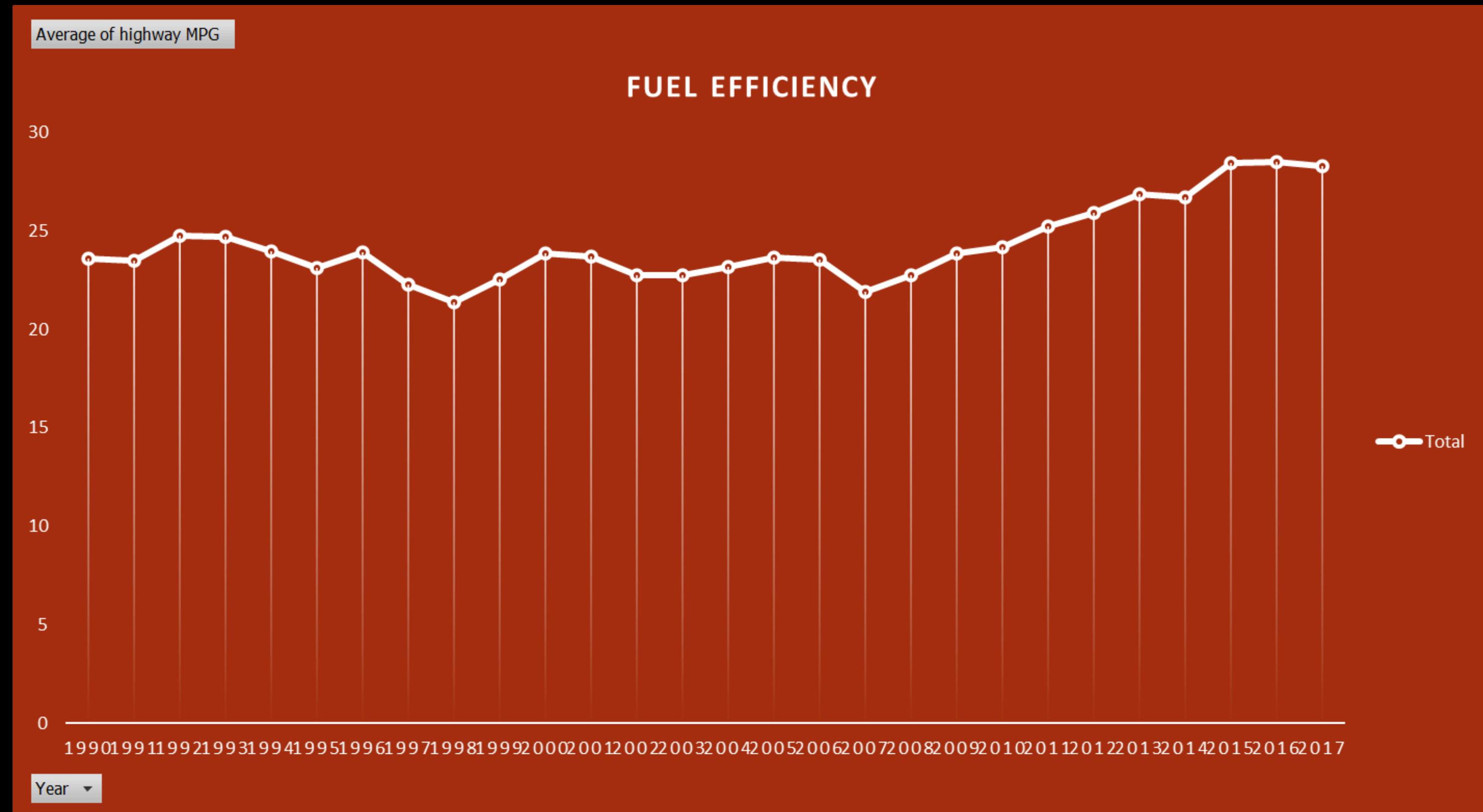
Task 3: Effect of transmission type on MSRP by body style.

Stacked Line
chart with
markers



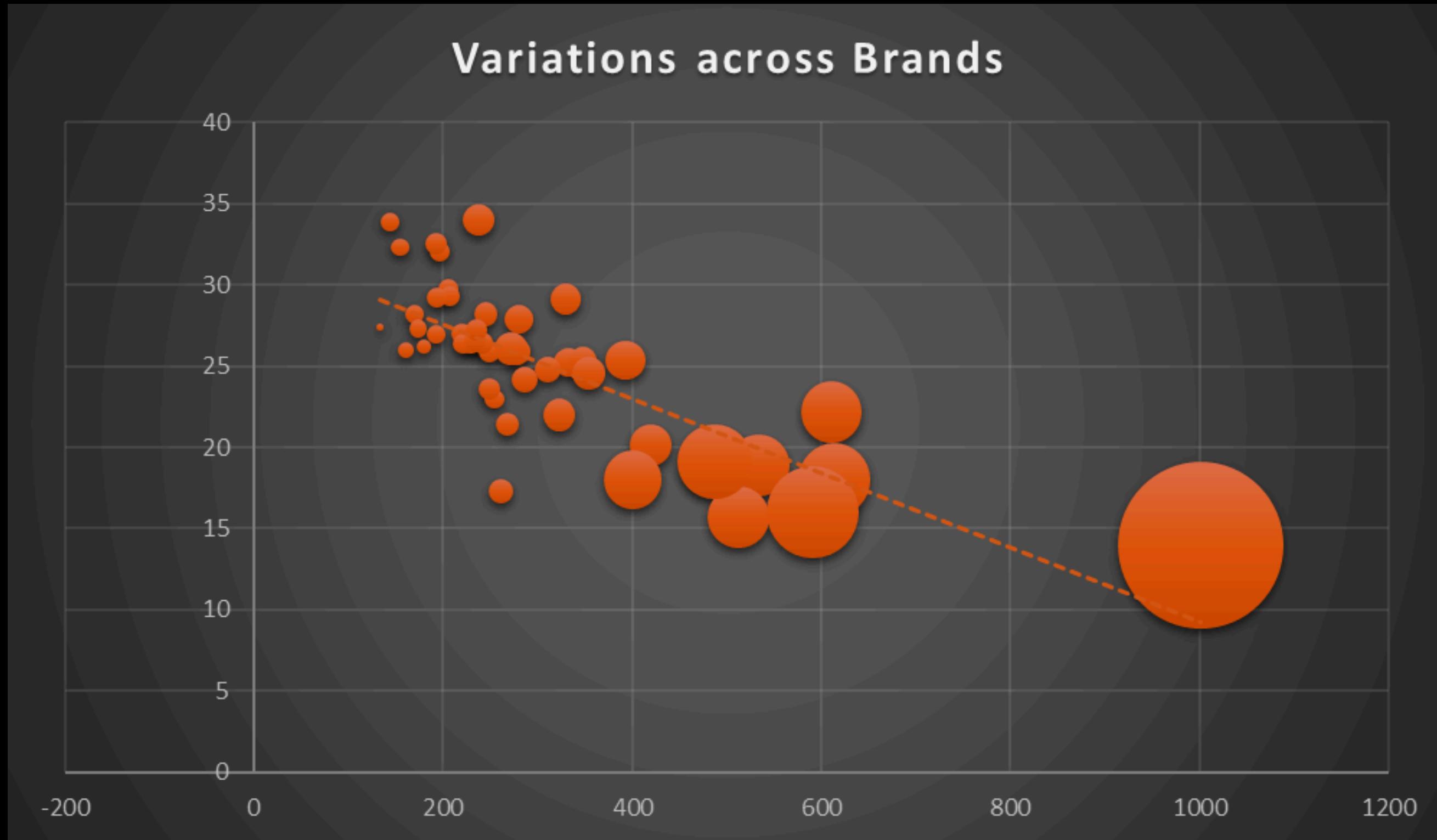
Task 4: Fuel efficiency trends by body styles and model years.

Line chart
with
markers



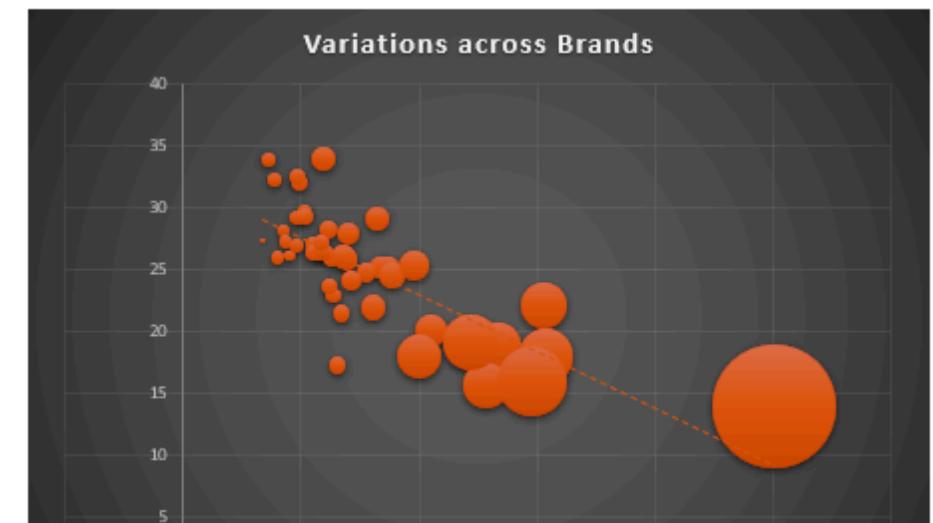
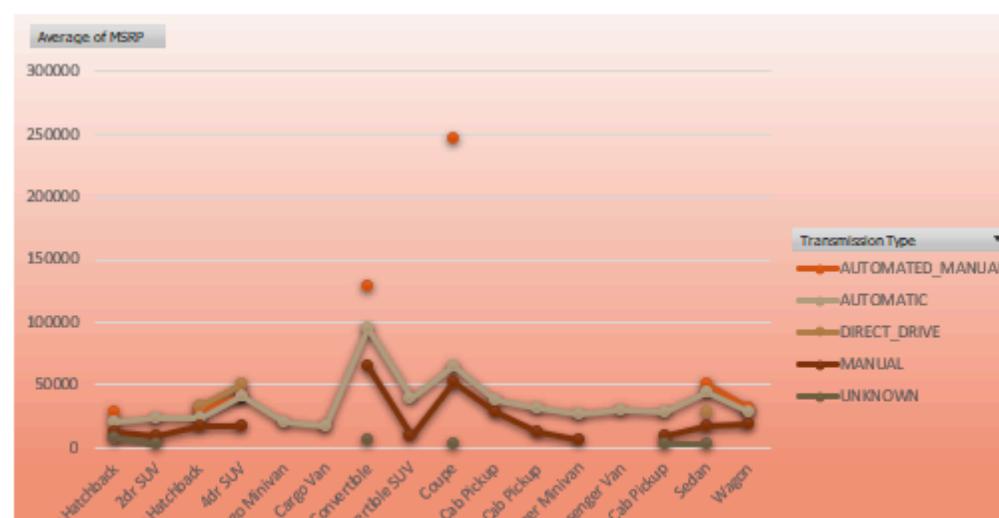
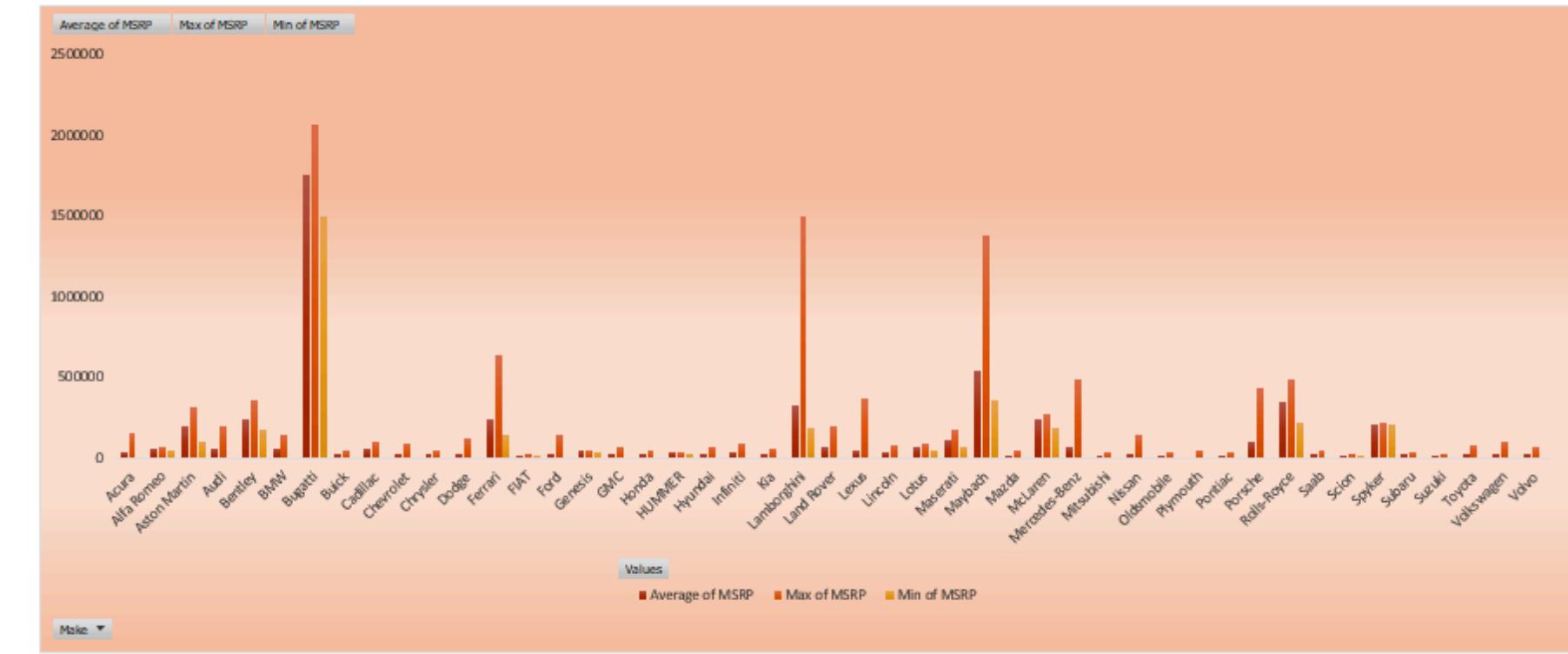
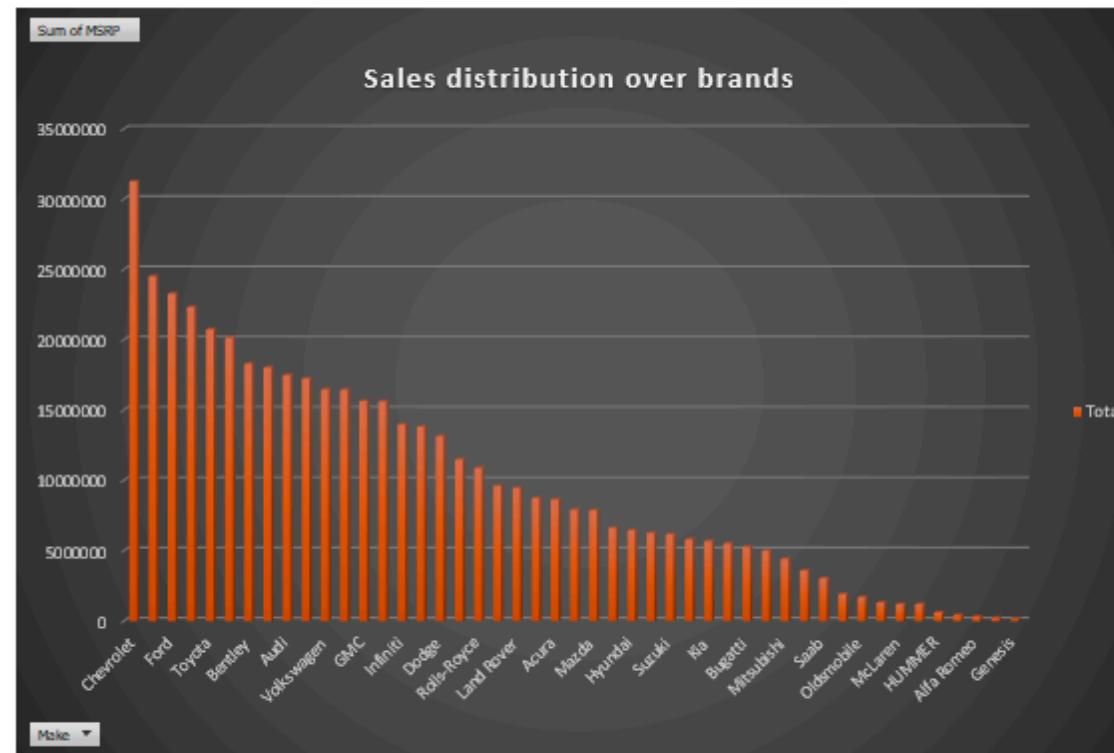
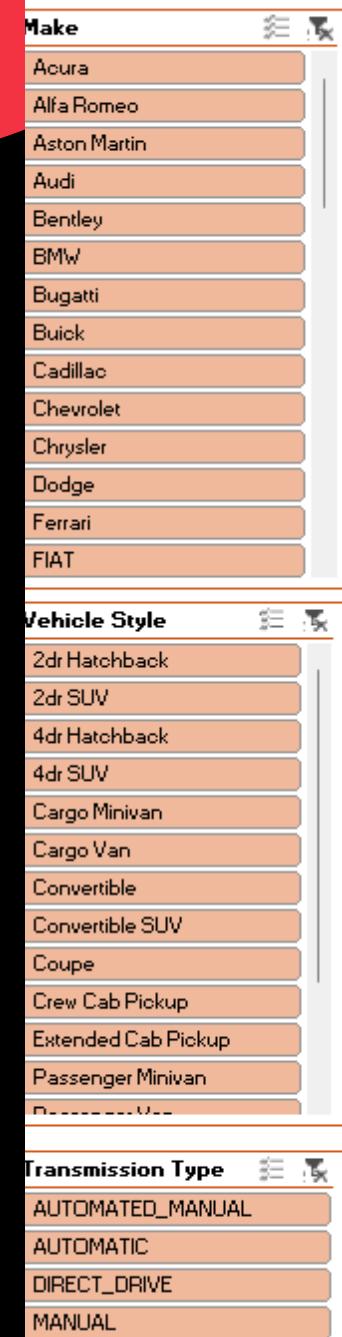
Bubble Chart

Task 5: Variations in horsepower, MPG, and price across brands.



Dashboard

Car Analysis Interactive Dashboard



Total Brands
47

4

Rows
11115

1111

Columns
16

14

Year

1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002

INSIGHTS SUMMARY

1. Popularity Insights: Luxury and SUVs are consistently popular market categories.
2. Horsepower and Price: Strong positive correlation; higher HP vehicles demand premium pricing.
3. Price Drivers: Engine HP, fuel type, and luxury category significantly influence MSRP.
4. Manufacturer Pricing: Premium brands like BMW and Mercedes dominate high average MSRP segments.
5. Fuel Efficiency: Higher cylinder counts correlate with lower MPG.

RECOMMENDATIONS

- Invest in high-HP, fuel-efficient cars for premium pricing.
- Focus R&D on improving MPG for SUVs and high-cylinder cars.
- Target marketing efforts on popular segments like luxury SUVs.
- Expand offerings in low-MSRP segments for emerging markets.

DASHBOARD REVIEW

Interactive Elements:

- Filters and Slicers:
Brand, Body Style, Market Category, Year.
- Charts:
Combo, Scatter, Bar, Line, and Bubble charts.
- Dynamic Updates:
Dropdowns and slicers dynamically update charts.

Features:

A circular inset in the bottom-left corner featuring a colorful, abstract illustration of a car's front end and a city skyline at night with streaks of light from moving vehicles.

1. Summarized metrics (e.g., average MSRP, top-performing brands).
2. Clear visual hierarchy for intuitive navigation.
3. Conditional formatting to highlight key insights.



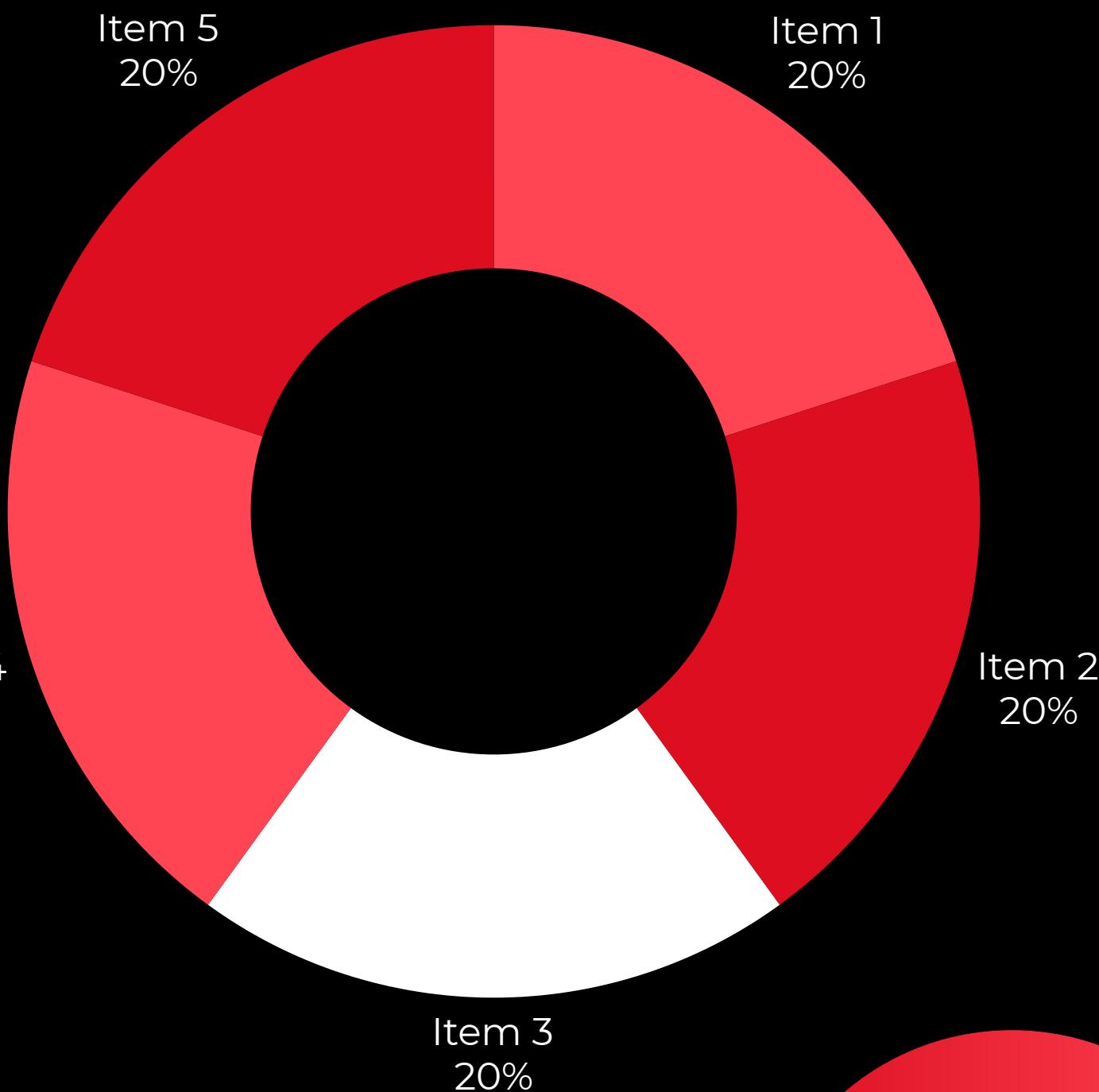
TOOLS AND TECHNIQUES

Tools Used:

- Excel:
 - Pivot Tables and Charts.
 - Regression Analysis with Data Analysis Toolpak.
 - Advanced functions (e.g., CORREL, SLOPE, AVERAGE).
- Dashboard Features:
 - Slicers, dropdowns, conditional formatting, dynamic ranges

Techniques:

- Data cleaning and preprocessing.
- Regression analysis for feature importance.
- Interactive visualizations for user exploration.



SUBMISSION DETAILS

1.) Files Delivered:

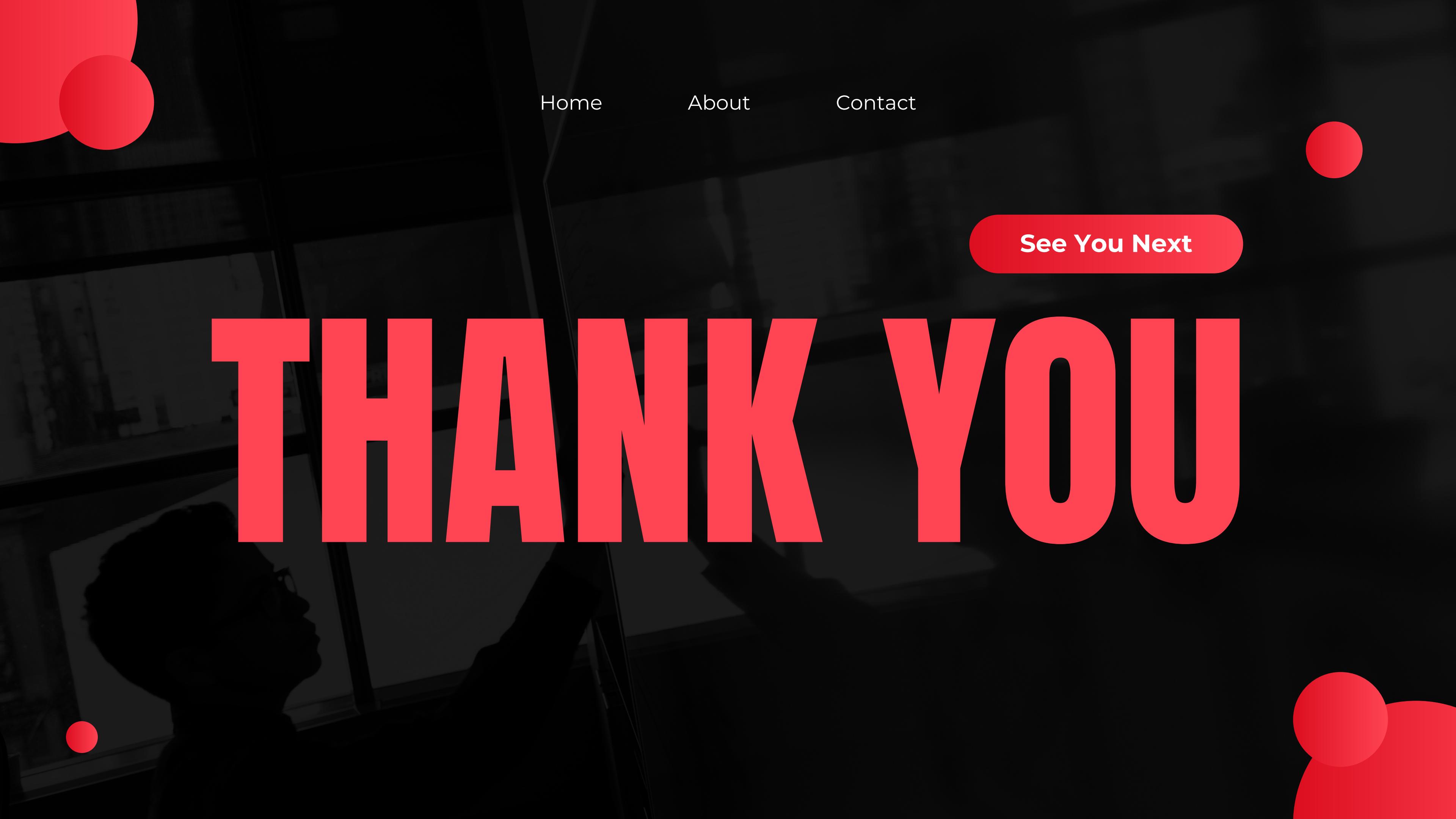
- Interactive Dashboard in Excel.
- Report (PDF/PPT).

2.) Video Presentation:

- Explains tasks, methodology, and insights.

Links to Files:

- Analysis Folder: [[Google Drive Link](#)]
- Presentation File: [[Google Drive Link](#)]



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See You Next

THANK YOU