Analysis Report: Key Drivers of Used Car Prices

# 1. Objective

The goal of this analysis was to identify the main factors influencing the prices of used cars. Through specific model we have outlined the primary features that have a significant impact on price determination.

# 2. Methodology Summary

We found the relative importance of different factors and also validate and highlight the most influential features in predicting used car prices.

# 3. Key Findings

The top features from our model are summarized below. These features have the largest positive or negative impact on price, indicating that vehicles with these characteristics tend to have higher or lower prices, respectively.

|  |
| --- |
| Top 10 Features Influencing Used Car Prices: |
|  |

As shown in the chart, the following factors have the greatest influence:

• Manufacturer: Certain manufacturers like Datsun, Ferrari, and Porsche have the highest positive impact on price, indicating that cars from these manufacturers command significantly higher prices.

• Vehicle Type: Specific types such as offroad, truck, and pickup vehicles also have a considerable positive influence on price.

• Region: Regional factors, including locations like Susanville and Huntington-Ashland, play a crucial role in determining the price.

• Year: As expected, newer vehicles tend to be priced higher, reflected in the positive correlation of the year feature.

# 4. Price Growth Insights by Category – some example

In the category 'manufacturer', selecting 'manufacturer\_datsun' instead of 'acura' could lead to a potential price change of 110.89%.

In the category 'region', selecting 'region\_susanville' instead of 'SF bay area' could lead to a potential price change of 28.57%.

In the category 'size', selecting 'size\_full-size' instead of 'compact' could lead to a potential price change of 15.90%.

In the category 'type', selecting 'type\_offroad' instead of 'SUV' could lead to a potential price change of 32.98%.

We can detail these point or discuss together.

# 5. Conclusion

This analysis has identified several key drivers of used car prices. By focusing on these factors—especially the manufacturer, vehicle type, and region—businesses can better understand market trends and make more informed pricing decisions. Additionally, regions where demand is higher or specific vehicle types that command premium prices can be targeted for better marketing and sales strategies.

# 6. Recommendations

• Target Marketing: Focus advertising efforts on premium manufacturers such as Datsun, Ferrari, and Porsche.

• Inventory Strategy: Consider stocking more vehicles that fall into higher-demand categories, such as off-road and truck types, in regions where prices tend to be higher.

• Dynamic Pricing: Implement region-specific pricing strategies to take advantage of local market conditions.