**Statistical Analysis of Used Car Prices**

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**Statistical/Hypothetical Question:**

The main question guiding this analysis was, "What factors most strongly affect the prices of used cars?" The hypothesis suggested that cars with higher mileage and smaller engines would generally have lower prices, while those with larger engines and less mileage would command higher prices.

**Outcome of EDA:**

Through our exploration of the data, we gained valuable insights. Significant predictors of used car prices included key variables like 'enginesize,' confirming our hypothesis. However, other variables such as 'citympg,' 'highwaympg,' and 'symboling' did not show strong associations with the prices.

**Missed Aspects and Potential Improvements:**

In hindsight, a closer look at outliers in the 'price' variable could have provided additional valuable information. Delving deeper into extreme values might have uncovered specific trends or irregularities that influence the used car market.

**Potential Additional Variables:**

Considering additional factors like ‘year’, ‘brand,' 'condition,' or 'region' might enhance our analysis. These variables often play a crucial role in determining used car prices and could bring new perspectives to our understanding.

**Assumptions and Challenges:**

One assumption made during the analysis was that our dataset represents the entire used car market accurately. However, biases or limitations in the dataset could impact the general applicability of our findings. Additionally, challenges were encountered in handling outliers and ensuring our statistical methods aligned with the dataset's characteristics.

**Areas Not Fully Understood:**

While our regression model provided valuable insights, a deeper understanding of the nuanced interactions between variables could enhance predictive accuracy. Further exploration of non-linear relationships or interactions among predictors might reveal hidden patterns in used car pricing.

**In conclusion**, our analysis shed light on the factors influencing used car prices, confirming our initial hypothesis. However, continuous refinement and consideration of additional variables can strengthen future analyses, ensuring a more comprehensive understanding of the intricate dynamics within the used car market.