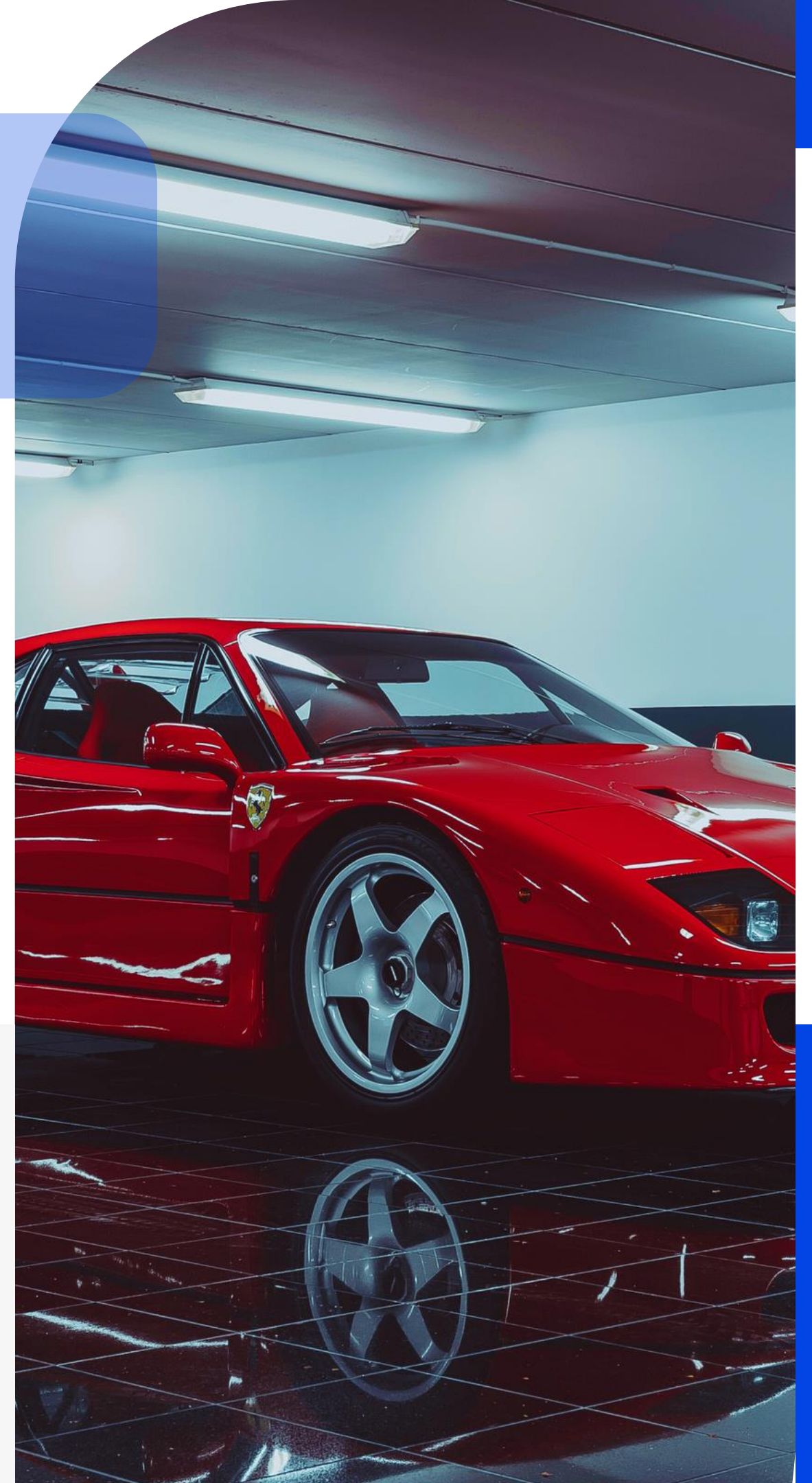


ANALYSIS ON CAR PRICES PREDICTION

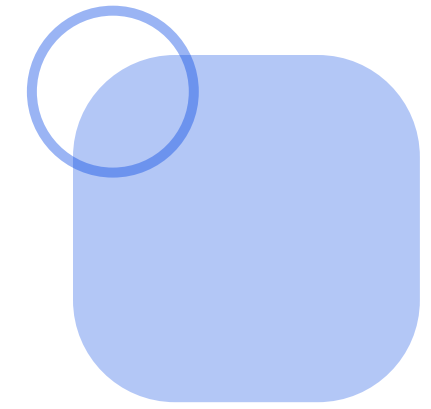
BY

SABI 25A GROUP ONE MEMBERS



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- 03 About the Dataset
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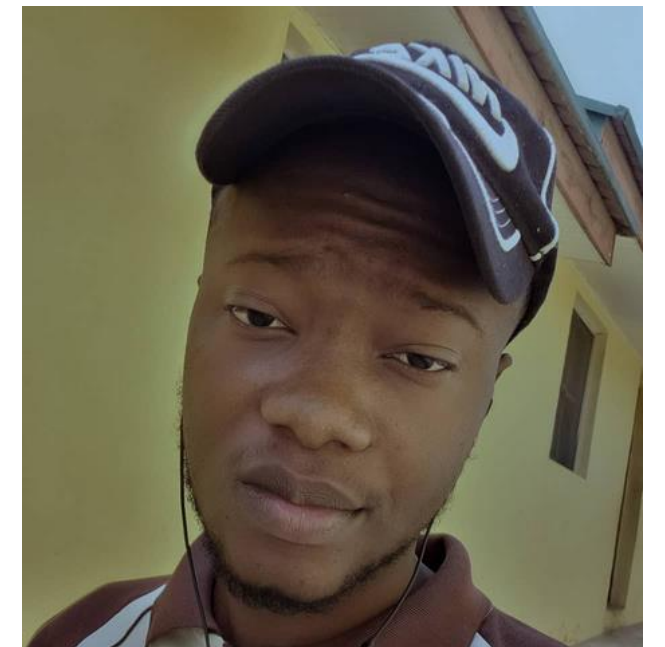
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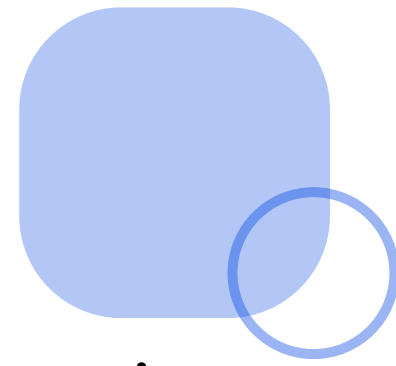


**Balogun
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**Jamiu
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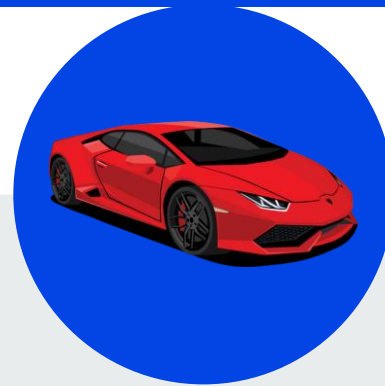
INTRODUCTION



Car price prediction is a critical aspect of the automotive industry, influencing both buyers and sellers in making informed decisions. Various factors such as brand, mileage, fuel type, and engine size contribute to the price variation in the used car market. This analysis leverages a dataset containing 10,000 car entries to explore these factors and uncover key insights into car pricing trends.



ABOUT THE DATASET



The dataset consists of 10,000 records detailing various characteristics of cars, including:

- **Brand & Model:** Different car manufacturers and their respective models.
- **Year:** The production year of each car.
- **Engine Size:** The size of the engine in liters.
- **Fuel Type:** Categories include petrol, diesel, hybrid, and electric.
- **Transmission:** Types include manual, automatic, and semi-automatic.
- **Mileage:** The total distance traveled by the vehicle.
- **Owner Count:** The number of previous owners.
- **Doors:** Number of doors in the car.
- **Price:** The recorded price of the car based on all these factors.

This dataset was gotten from Kaggle through the link <https://www.kaggle.com/datasets/asinow/car-price-dataset>

PROBLEM STATEMENT

The automotive industry needs effective methods to predict car prices accurately. With fluctuating demand and depreciation factors, understanding which variables impact car pricing the most can help businesses optimize their inventory and pricing strategies. This study aims to identify these factors and their influence on resale values.

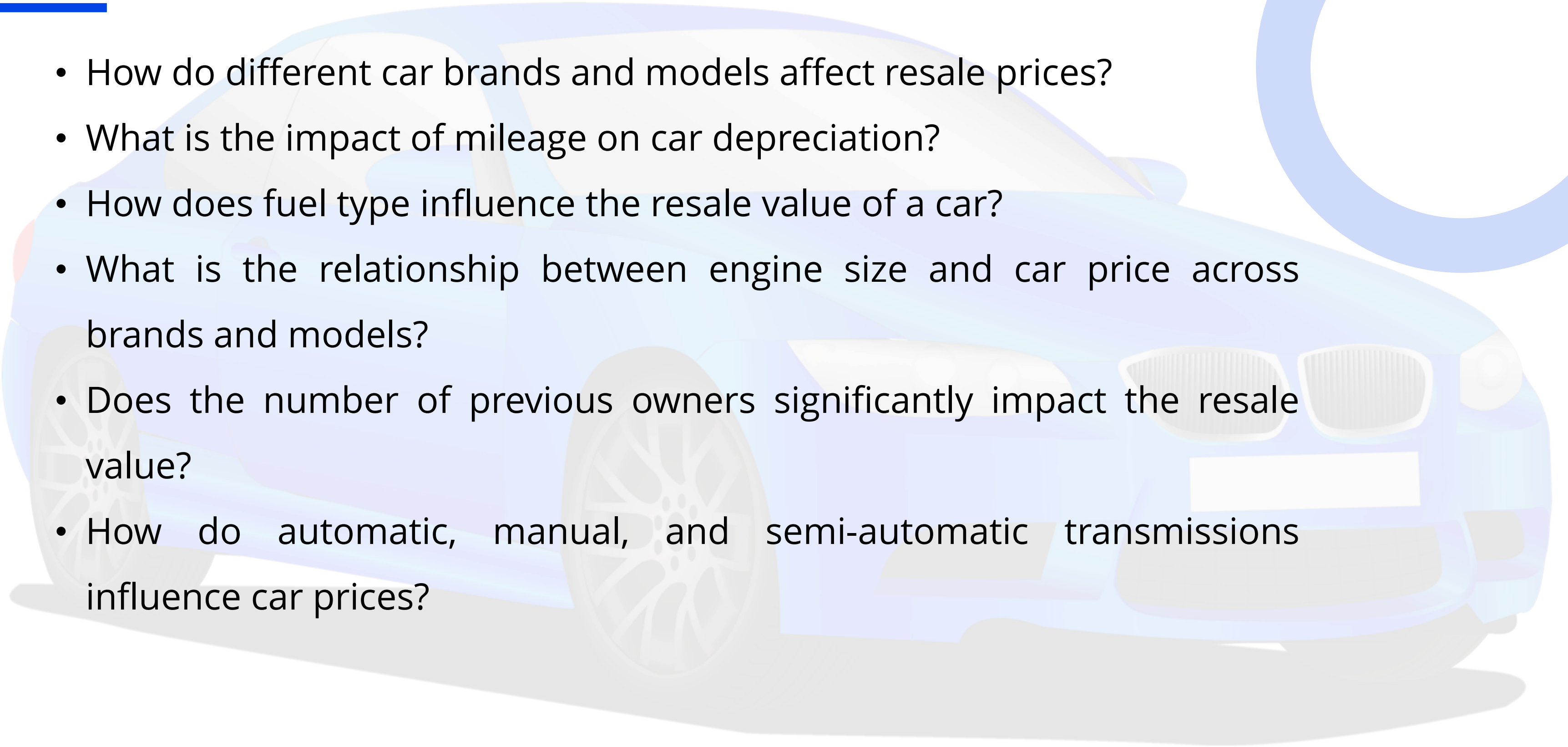
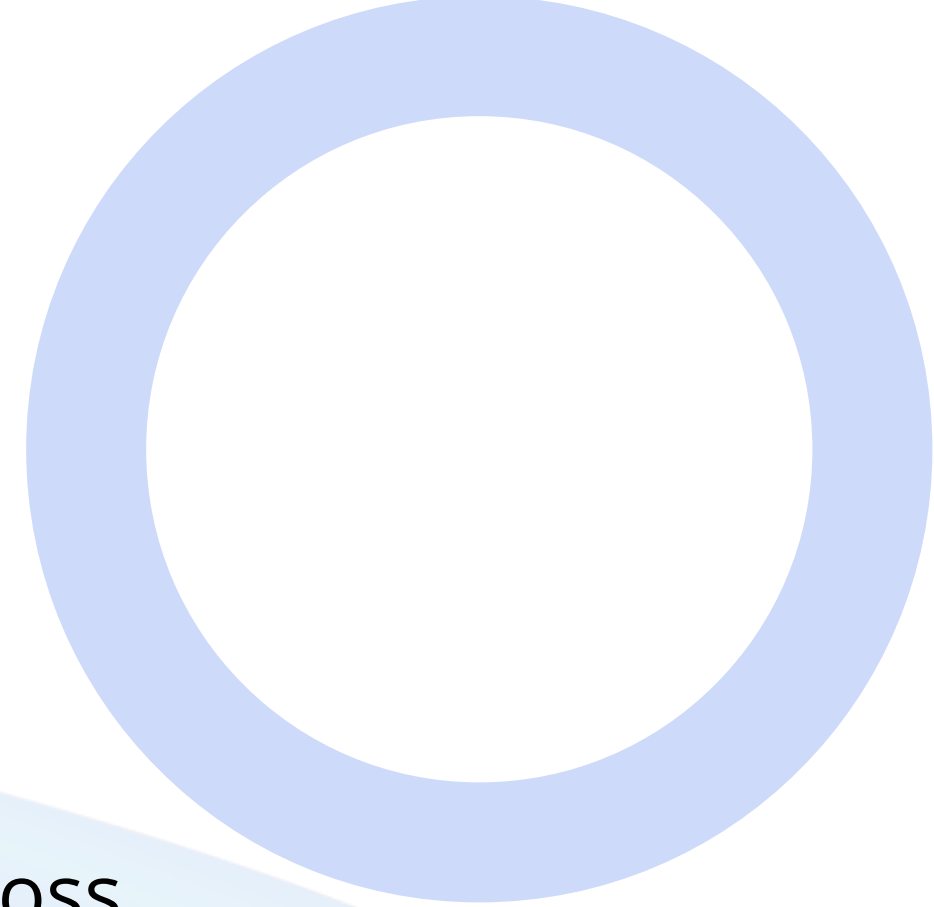
AIMS AND OBJECTIVES



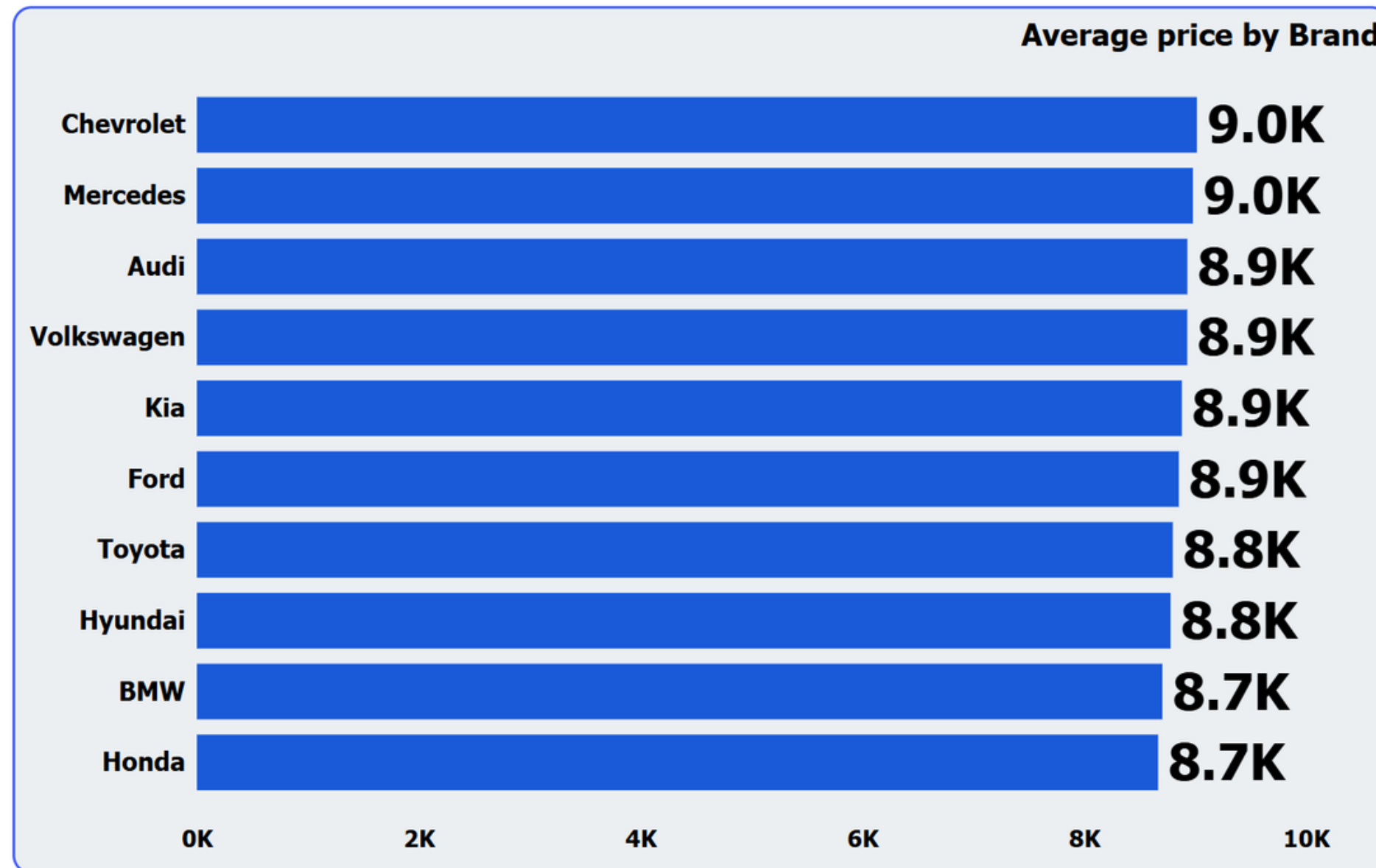
- To analyze the impact of various factors on car prices.
- To identify the brands and models with the highest resale value.
- To determine the correlation between mileage and depreciation.
- To assess the effect of fuel type and transmission on pricing.
- To provide insights that help dealerships and individuals make informed car pricing decisions.

RESEARCH QUESTIONS

- How do different car brands and models affect resale prices?
- What is the impact of mileage on car depreciation?
- How does fuel type influence the resale value of a car?
- What is the relationship between engine size and car price across brands and models?
- Does the number of previous owners significantly impact the resale value?
- How do automatic, manual, and semi-automatic transmissions influence car prices?

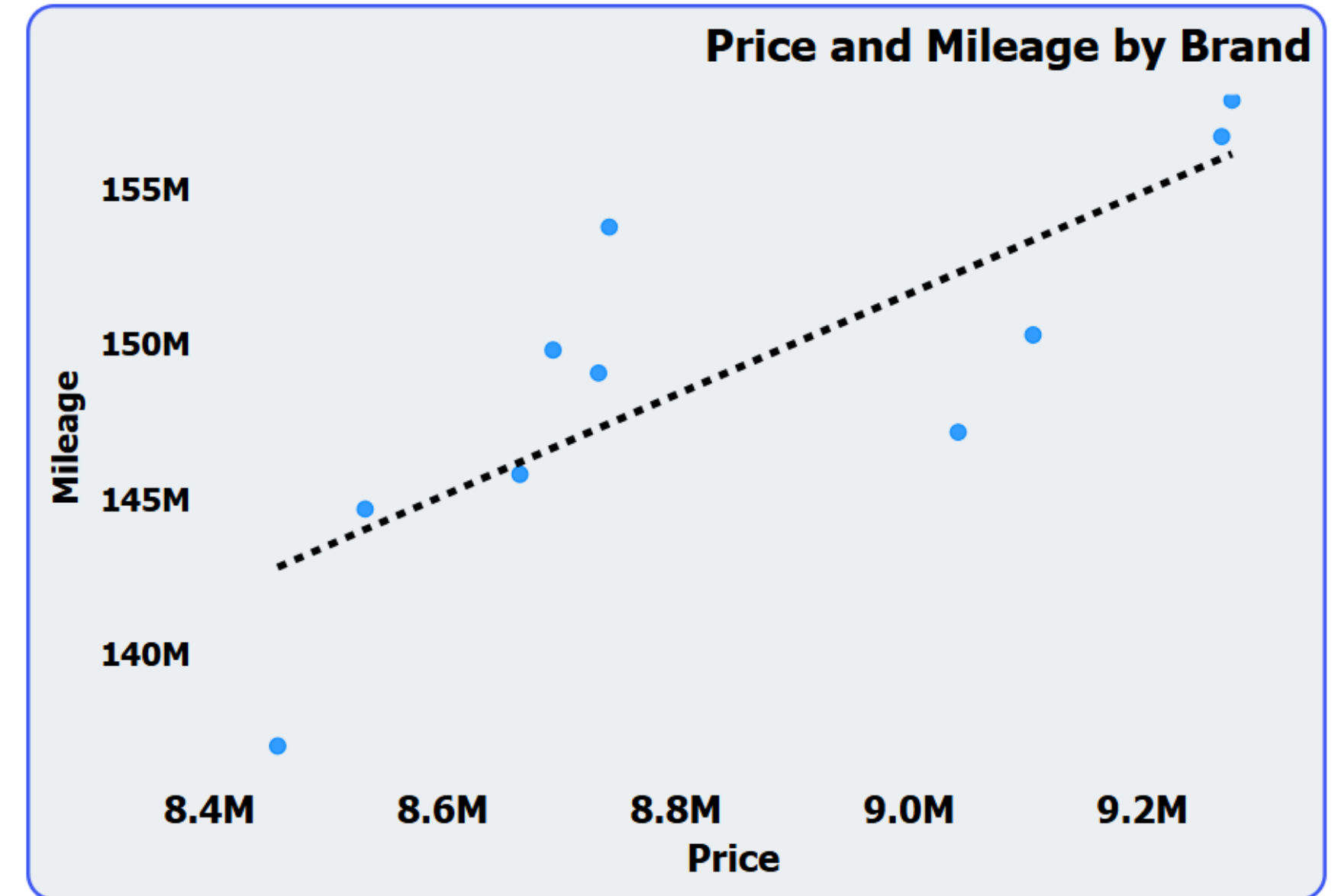


ANALYSIS AND FINDINGS



Average price by brand

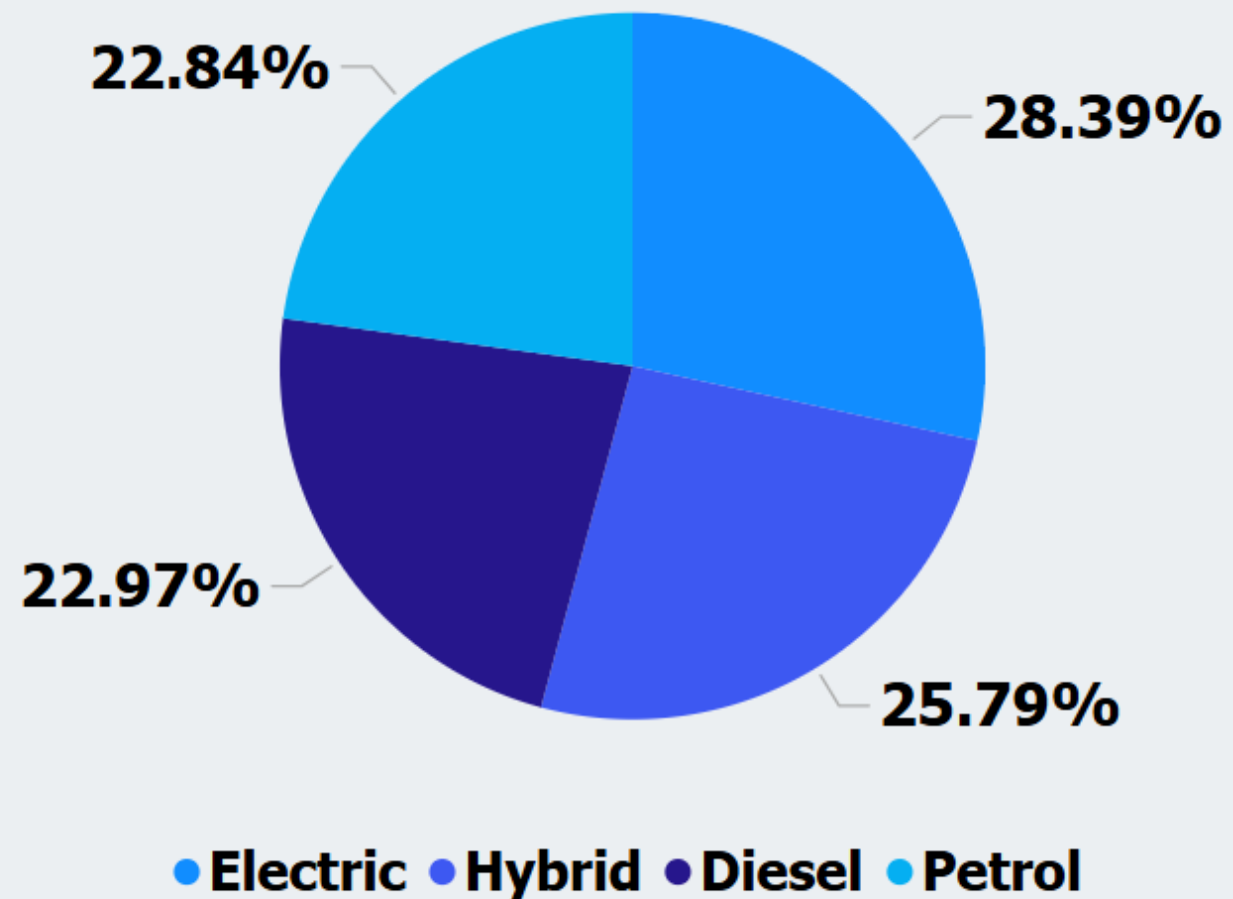
An impressive client satisfaction rate underscores our unwavering commitment to delivering exceptional service and exceeding expectations.



price and milleage

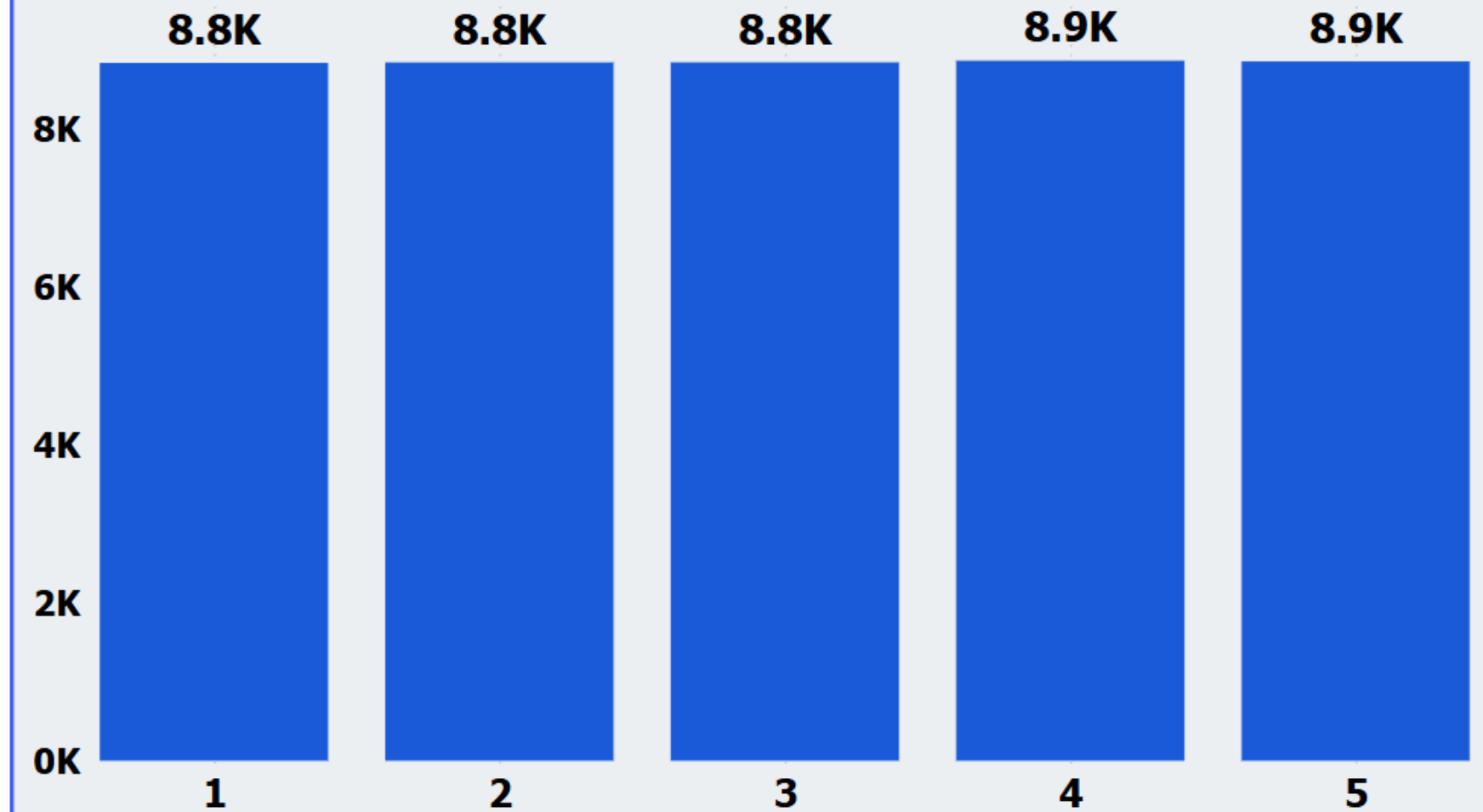
ANALYSIS AND FINDINGS

Average price by Fuel_Type



Average price by Fuel_Type

Average price by Owner_Count



Average price by owner_count

DASHBOARD OVERVIEW



CAR PRICES DATASET

Engine size

2

7.88K

Regression for engine size and price

8.85K

Average price

593.21

Depreciaion per 10,000km

Brand

All

Fuel_Type

All

Transmission

All

All Brand Analysis

Owner_Count and price correlation for Brand

-1 0.31 1

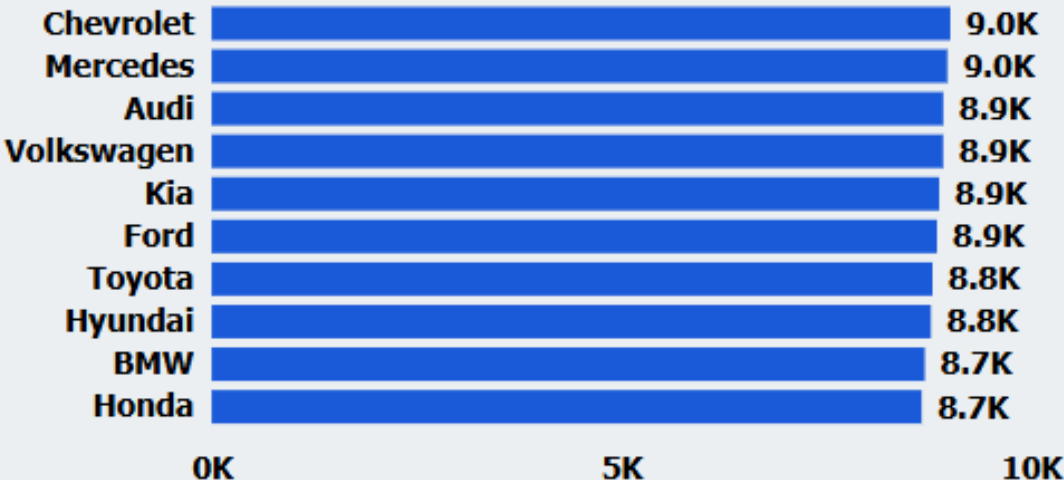
Mileage and price correlation for Brand

-1 0.79 1

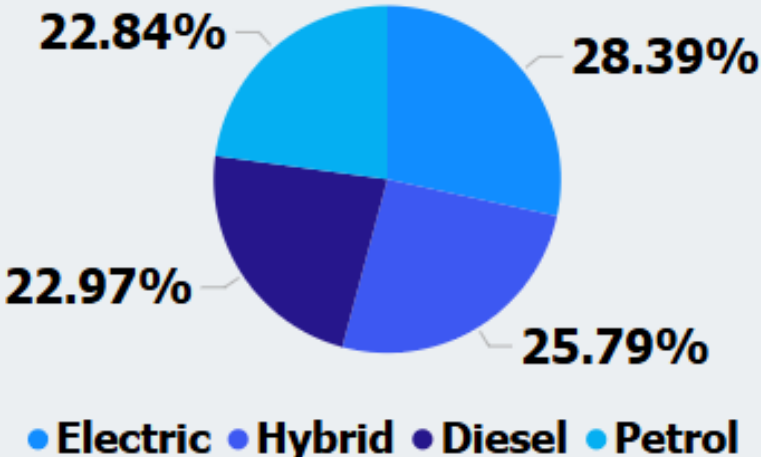
Brand	Model	Engine_Size	Average of Price
-------	-------	-------------	------------------

Audi	A3	1.00	6.66K
Audi	A4	1.00	7.34K
Audi	Q5	1.00	11.82K
BMW	3 Series	1.00	7.62K
BMW	5 Series	1.00	6.56K
BMW	X5	1.00	5.90K
Chevrolet	Equinox	1.00	6.66K
Chevrolet	Impala	1.00	3.61K
Chevrolet	Malibu	1.00	8.77K
Ford	Explorer	1.00	9.63K
Ford	Fiesta	1.00	4.63K
Ford	Focus	1.00	10.56K
Honda	Accord	1.00	8.97K
Honda	Civic	1.00	5.70K
Honda	CR-V	1.00	9.10K
Hyundai	Elantra	1.00	4.93K
Hyundai	Sonata	1.00	4.34K
Hyundai	Tucson	1.00	4.85K
Kia	Optima	1.00	6.27K
Kia	Rio	1.00	5.03K
Kia	Sportage	1.00	7.48K
Mercedes	C-Class	1.00	2.78K
Mercedes	E-Class	1.00	6.57K

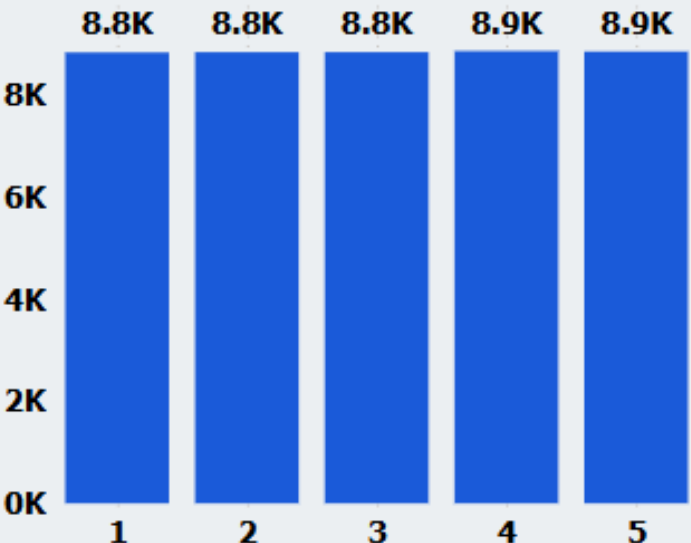
Average price by Brand



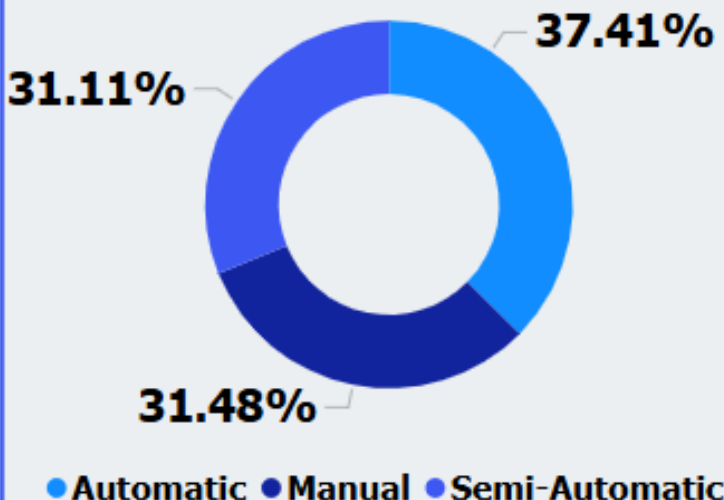
Average price by Fuel_Type



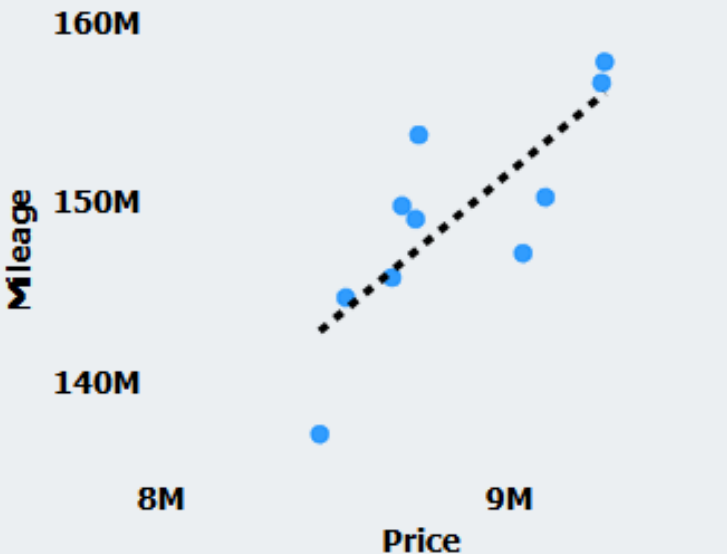
Average price by Owner_Count



Average price by Transmission



Price and Mileage by Brand



CONCLUSION

The analysis confirms several important trends:

- Mileage significantly affects depreciation, with higher mileage leading to lower prices.
- Engine size has a moderate correlation with price, suggesting performance-oriented vehicles are priced higher.
- Fuel type is a key determinant, with electric and hybrid vehicles showing competitive resale values.
- Brands such as Mercedes and Chevrolet tend to retain value better.
- Transmission type plays a role, with automatic and semi-automatic cars generally priced higher than manual cars.

RECOMMENDATION

For Buyers

Consider lower mileage vehicles for better resale value.

For Sellers & Dealerships

Stock cars with lower owner counts and popular brands/models for better resale potential.

For Investors

- Electric and hybrid cars are gaining market value and can be a good investment.

For Market Strategy

- Focus on customer preferences regarding transmission type and fuel efficiency.

CHALLENGES



- Dealing with missing and inconsistent data values from the raw dataset
- Reducing dashboard complexity to maintain performance in Power BI
- Managing collaboration across five team members with different design approaches
- Balancing analysis depth with limited project timeline

THANK YOU

FOR YOUR ATTENTION

