Car Sales Exploratory Data Analysis Project

About:

The dataset provided focuses on used car sales, capturing various attributes to analyze the second-hand car market. This dataset provides insights into factors affecting resale value, trends in the used car industry, and consumer behavior.

Description:

The dataset contains details about used cars listed for sale, such as brand, model, selling price, kilometers driven, fuel type, and transmission type. This information is valuable for predictive modeling, market analysis, and understanding customer preferences.

Features:

Car_id: A unique identifier for each car in the dataset, helping to track individual car entries

Date: The date when the car sale transaction took place, formatted as YYYY-MM-DD

Customer Name: The name of the customer who purchased the car, represented as a string

Gender: The gender of the customer, categorized as "Male" or "Female.

Annual Income: The customer's annual income in US dollars, represented as a numeric value

Dealer_Name: The name of the dealership selling the car, represented as a string

Company: The manufacturer or brand name of the car, such as "Toyota," "Ford," etc.

Model: The specific model name of the car, such as "Corolla," "Civic," etc.

Engine: The engine type of the car, such as "V6," "I4," etc.

Transmission: The type of transmission in the car, either "Manual" or "Automatic.

Color: The color of the car, represented as a string (e.g., "Red," "Blue")

Price ($): The selling price of the car in US dollars

Dealer_No: A unique identifier for each car dealer in the dataset

Body Style: The body style of the car, such as "Sedan," "SUV," etc.

Phone: The phone number of the customer who purchased the car

Dealer_Region: The geographical region of the car dealer, such as "North," "South," etc.

Problem Statement

1.What is the average selling price of cars for each dealer, and how does it compare across different dealers?

2.Which car brand (Company) has the highest variation in prices, and what does this tell us about the pricing trends?

3.What is the distribution of car prices for each transmission type, and how do the interquartile ranges compare?

4. What is the distribution of car prices across different regions?

5.What is the distribution of cars based on body styles?

6.How does the average selling price of cars vary by customer gender and annual income?

7.What is the distribution of car prices by region, and how does the number of cars sold vary by region?

8.How does the average car price differ between cars with different engine sizes

9.How do car prices vary based on the customer's annual income bracket?

10.What are the top 5 car models with the highest number of sales, and how does their price distribution look?

11.How does car price vary with engine size across different car colors, and which colors have the highest price variation?

12.Is there any seasonal trend in car sales based on the date of sale?

13.How does the car price distribution change when considering different combinations of body style and transmission type?

14.What is the correlation between car price, engine size, and annual income of customers, and how do these features interact?

15.How does the average car price vary across different car models and engine types?