ANALYSIS FOR CAR PRICES IN AUSTRALIA FOR THE YEAR 2023

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HYPOTHESIS

- Whether different car Brands have any sort of affects Car Prices

- Location Affects average car Prices

- New Cars Are Priced Higher than Used Cars

 I will be using data visualization such as graphs, charts and maps to present key findings effectively.

 The aim is to provide an insight into car sales for the year 2023, this insights helps firms understand market segments based on factors like brand, model, state, and customer demographics.

Project Summary

- General Exploration:

  What are the most popular car brands in Australia based average price from dataset?

  How does the distribution of used and new cars vary in the dataset?

  How does the average fuel consumption vary across different car brands?

- Price Analysis:

  What is the average price of cars in Australia?

  How does the average price differ between used and new cars?

  Is there a correlation between engine capacity and car prices?

- Geographical Insights:

  What state has the highest average prices?

Cars Sales in Australian 2023

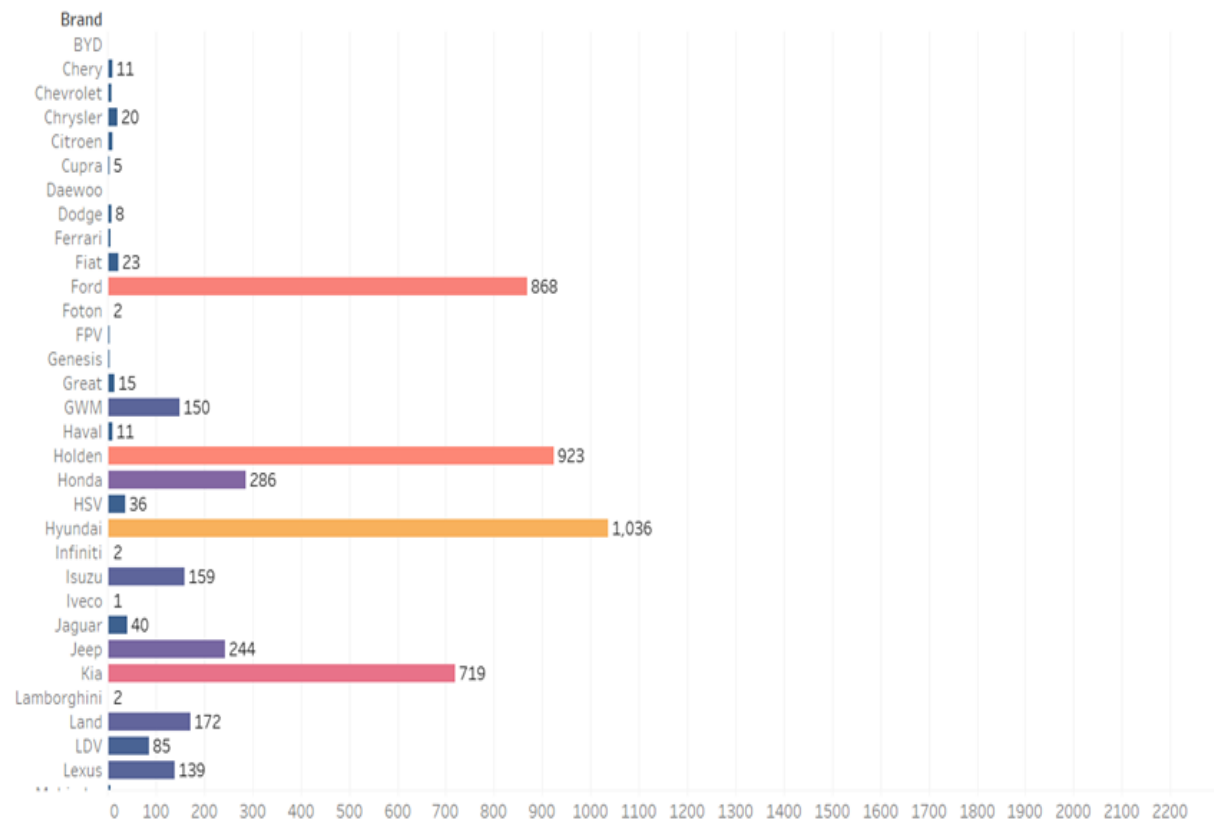| 900	649,880	13,198	34,893	
Minimum Car Price	Maximum Car Price	Amount of cars	Average Car Price	

The cheapest car sold was 900 Australian dollars in 2023.

The expensive car sold was 649,880Australian dollars.

The average car price for the year 2023 from the dataset was 34,893 Australian dollars.
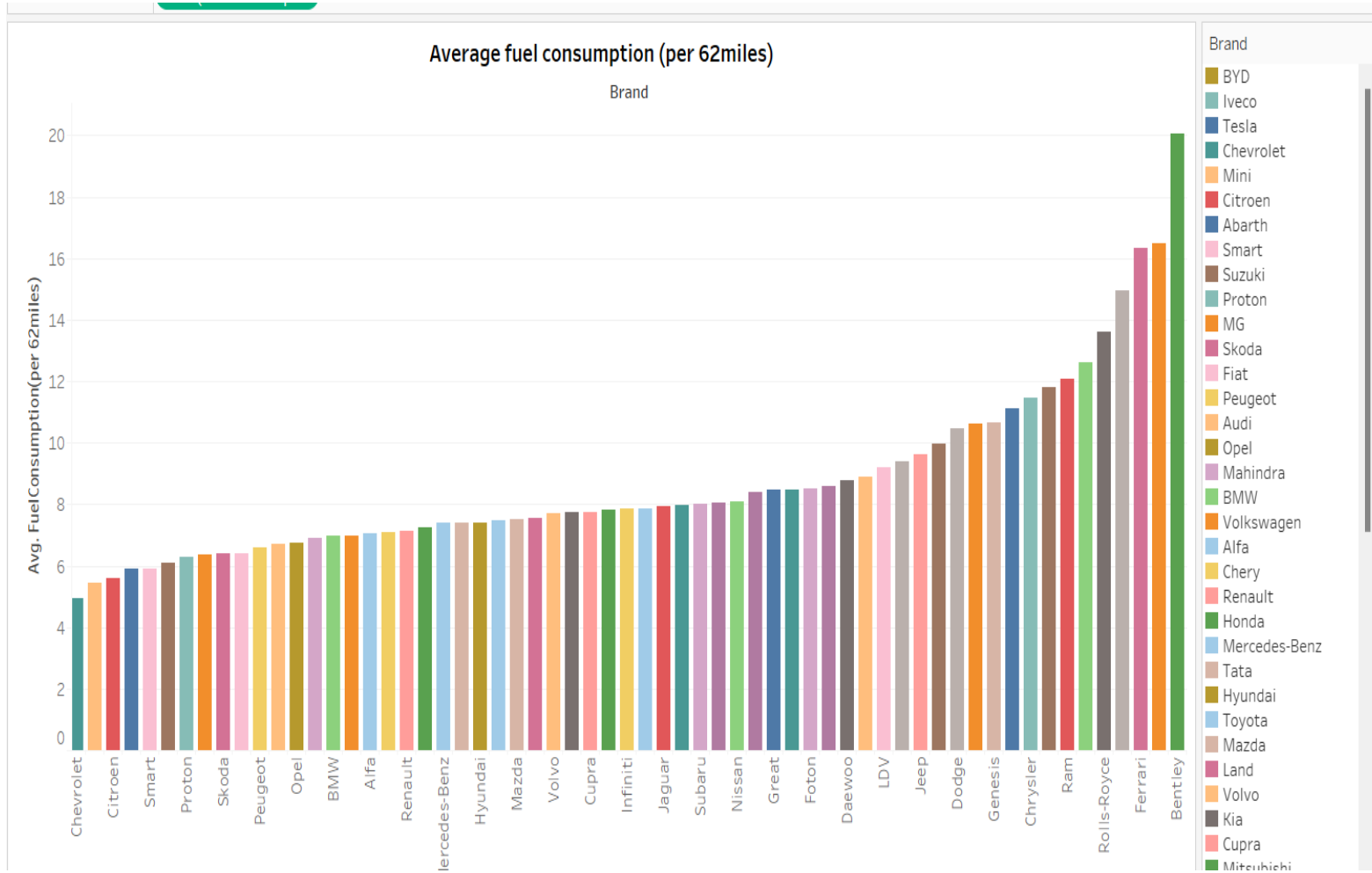
Car Brands

Most Popular Car Brands

- This dashboard provides quick insight to the most popular car brands. As you can see this bar chat demonstrate the number of cars sold per each brand. For example, brands such as Ford, Hyundia has a higher number of cars sold in comparison to their competitors.

Most Popular Car Brands
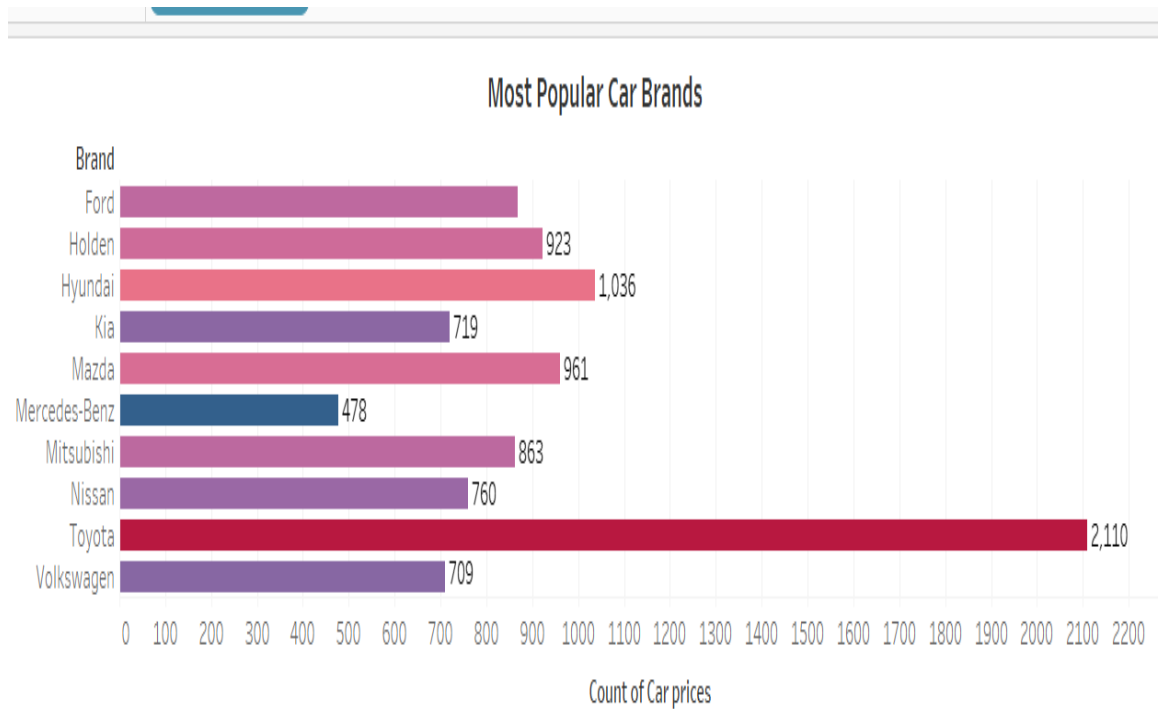
I also wanted to see the topmost selling car brands. So, as you can see from the bar chat these are the top 10 most selling car brands from my dataset. We can tell that Toyota was the preferred brand to customers as it has the most sold cars across the country. Whereas the rest of the brands all fall between 700-900.

Another bar chat is created to show which car brands has the highest fuel consumption per 62miles/100km, and I ordered them from ascending order. So that is easier to visualise them.

As you can from the bar-chart that the brands with the highest fuel consumption are luxury cars such as Ferrari, Bentley and Rolls-Royce. These car brands builds bigger engine with bigger horsepower so intern the fuel consumptions will be high.

Condition of the car

	Count of Car p..	% of Total Co..
USED	12,385	93.84%
NEW	470	3.56%
DEMO	343	2.60%

Fuel & Transmission Type

	Automatic	Manual
Diesel	3,218	679
Electric	81	
Hybrid	577	
Leaded	1	
LPG	12	
Premium	2,490	270
Unleaded	5,278	591

Average price for each Car Type

Body Type	
Commercial	30,804
Convertible	68,776
Coupe	65,840
Hatchback	22,998
Other	63,891
People Mover	50,624
Sedan	31,699
SUV	38,071
Ute/Tray	37,966
Wagon	20,012

I also created text Tables in order gain further insight into what was the preferred condition in which customers bought their car, the fuel and transmission type, and the average price for each car type.

- Starting with the condition of the car, we can see that over 93% of cars bought was all used cars, whereas only 3.5% cars sold were new cars.
- For fuel and transmission , cars that were unleaded sold the most and automatic was preferred to manual.
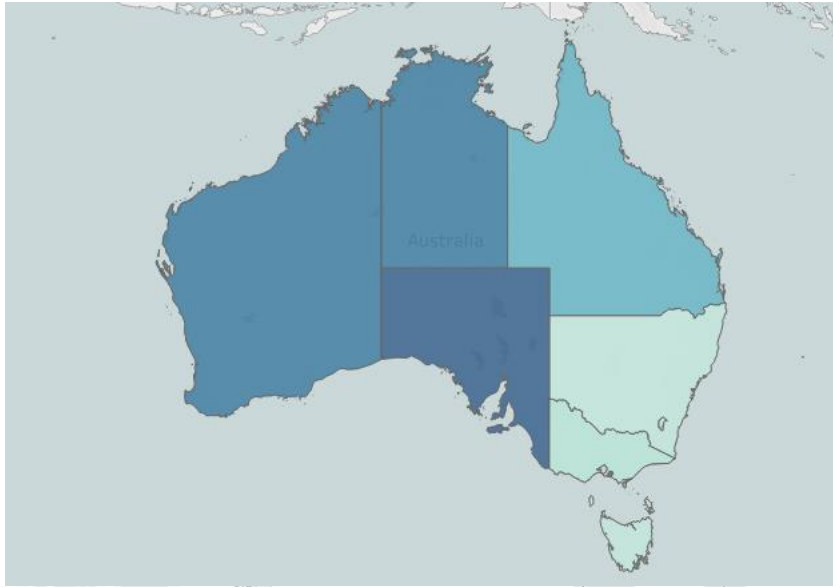
➢ This map visualization demonstrate the average price of cars bought across different states in Australia. The darker the colour the higher the average price is in that state.
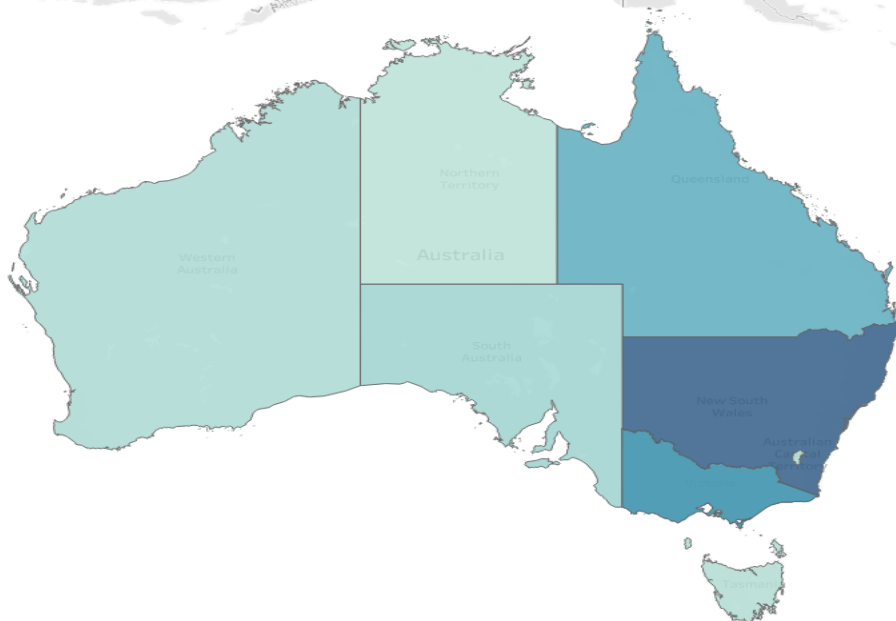
➢ This Second map also shows the state in which there was most sales for car. The darker the area the more cars were bought from there.

Findings

- The condition of a car had a huge impact in the sales, as used cars were sort after more than New or DEMO car. Since the average prices for used cars are cheaper than New or DEMO car.

- There is no correlation between the engine size (Cylinders in Engine) and car prices.

- Cars with a higher engine size tend to have higher prices.

Recommendation

- **Pricing Strategy:**
  Firms can utilize dynamic pricing strategies based on factors such as brand. By adjusting pricing to align with consumer preferences and market trends, this will help increase sales.
- **Promotional Offers:**
  Firms should consider promotional offers or discounts for specific car models, especially those with less popularity.
- **Geographical Expansion:**
  Explore opportunities for market expansion in states where there is high demand for specific car brands or models. As shown from the previous page, there are states in which car sales was high so they can increase stock levels in those states based on observed demand patterns.
- **Customer Service Improvements:**   Firms can gather feedback from their customers to help Identify areas for improvement in customer service. Enhance after-sales services to improve customer satisfaction.
- **Data-Driven Insights:** Encourage data-driven decision-making across departments. Regularly analyse sales data to stay responsive to market trends and consumer preferences.

Tools I used in this project:

I download the dataset from Kaggle, in excel format. I then cleaned the data by deleting columns in which I wouldn't need for my analysis, I then checked for any duplicates and corrected certain things such as the dates. I also created a new collum called 'State'. I used the column call location to help me find each state for all the locations.

Tableau Public Link

▪ https://public.tableau.com/views/CarsalesforAustralia2023/Dashboard2?:language=en-GB&:display_count=n&:origin=viz_share_link

Kaggele Dataset

▪ https://www.kaggle.com/datasets/nelgiriyewithana/australian-vehicle-prices

THANK YOU