

Car Price

Analysis Insights

- The data set contains 11914 rows and 16 columns.
- The dataset occupy 1.45MB memory.

Data Description

S No	Column Name	Description	Data Type
1	Make	The Brand of the car	Object/category
2	Model	The model of the brand	Object/category
3	Year	Manufacturing year of the car	Numerical/discrete
4	Engine Fuel Type	Type of engine for thecar	Object/category
5	Engine HP	Horse power of car engine	Numerical/continuous
6	Engine Cylinder	No of cylinder of the car	Numerical/discrete
7	Transmission type	How the car is moving	Object/category
8	Driven wheels	Type of wheel drive	Object/category
9	No of doors	Number of doors of the car	Numerical/continuous
10	Market Category	Type of car it belongs to based premium	Object/category
11	Vehicle Size	Shape of the car	Object/category
12	Vehicle Style	Roof of the car	Object/category
13	Highway MPG	Mileage per gallon on highway	Numerical/discrete

14	City mpg	Mileage per gallon on city roads	Numerical/discrete
15	popularity	The score of the popularity in market	Numerical/discrete
16	Price	The price of the car	Numerical/discrete

- The data set contains 48 car brands.
- Chevrolet, Ford, Volkswagen, Toyota are the top 5 brands with highest no of cars.
- 2015,2016,2017,2014,2012 years having more no of cars manufactured.
- The max price of the car is 2065902 and min is 200.

Data Cleaning

- Fuel Type , Horsepower, cylinder, Market Category columns has missing values.
- After filling the missing value we found 715 duplicates and they are dropped.

Data manipulation

- There are 48 no. of different car brands.
- ['Chevrolet', 'Ford', 'Toyota', 'Volkswagen', 'Nissan'] these are top 5 brands which are having more no. of cars.
- [2016, 2015, 2017, 2014, 2009] top 5 years are having more no of manufacturing cars.
- Minimum price of car is \$2000 & maximum is \$2065902.
- Bugati , Lamborghini , McLaren are the top 3 cars brand which have the highest avg horsepower.
- Relationship between MPG and price-:

	highway MPG	city mpg
Driven_Wheels		
all wheel drive	25.870017	19.106153
four wheel drive	19.876981	15.124528
front wheel drive	30.775609	23.786633
rear wheel drive	22.852428	16.585616

- Compact size car prices is \$ 35506.201138 , Large size car prices is \$ 55352.122624, Mid size car prices is \$ 40031.293133.
- Impact of cylinders on MPG-:

	highway MPG	city mpg
Cylinders		
0.0	42.000000	111.196429
3.0	38.233333	32.033333
4.0	31.303486	24.037594
5.0	26.065089	18.775148
6.0	24.013740	17.194923
8.0	20.177099	14.185242
10.0	20.000000	12.569231
12.0	17.736842	11.250000
16.0	14.000000	8.000000

- Among the most high -performance cars 877 are manuals,812 are automatic,251 are automated manual and unknown are 4.
- Best fuel efficiency per price ratio-:

	Make	Model	highway MPG	city mpg	Price	efficiency_per_dollar
2379	Honda	Civic CRX	42	36	2000	0.019500
2374	Honda	Civic CRX	42	36	2000	0.019500
6427	Chevrolet	Metro	42	34	2000	0.019000
6431	Chevrolet	Metro	41	32	2000	0.018250
6429	Chevrolet	Metro	39	33	2000	0.018000
...
6001	Maybach	Landaulet	16	10	1382750	0.000009
7973	Lamborghini	Reventon	14	9	1500000	0.000008
10662	Bugatti	Veyron 16.4	14	8	1500000	0.000007
10663	Bugatti	Veyron 16.4	14	8	1705769	0.000006
10661	Bugatti	Veyron 16.4	14	8	2065902	0.000005

11199 rows × 6 columns

Data visualization

- 'Maybach', 'Lamborghini', 'Bugatti' are the expensive cars in the dataset.
- There are more no of cars are distributed with horse power 130-310
- Most of the cars are distributed between 25k-55k.
- Most of the cars are distributed among 4- Cylinders.
- Max no of cars are manufactured in the year 2015 ,2016 &2017.
- Max no of cars are distributed with regular unleaded fuel type and premium unleaded(required) fuel type .
- Min no of cars are distributed with natural gas and there are some diesel and electric fuel type.
- The Transmission type of cars are distributed with more no of automatic cars and least no of direct drive.
- The market is occupied with most no of compact and Midsize cars and least no of large size cars.
- The market is occupied with most no of Sedans and SUVs and least no of convertible SUV and Cargo Van.

- As the horse power is increased the price of car is also increasing.
- As the no of cylinder are increasing price of the car also gets increased.
- Except three cars the no of doors are not influencing the price of the car.
- As the year increases the price of the car also increases.
- As the car sizes increases the city mpg decreases.