

ANUSHKA GHARAGE

PROJECT 7: Analyzing the Impact of Car Features on Price and Profitability

Project Description:

Overview:

The project focuses on analyzing a dataset related to the automotive industry with the purpose of gaining insights into factors influencing car pricing. The analysis aims to provide valuable information for stakeholders in the automotive sector, addressing key business questions and informing data-driven decision-making.

Business Problem:

The primary business problem is understanding the determinants of car pricing in the market. By exploring relationships between various car attributes such as horsepower, fuel efficiency, and transmission type, the project aims to uncover patterns that impact the market price of cars. The goal is to assist manufacturers, marketers, and dealerships in making informed decisions to optimize product offerings and enhance competitiveness.

Data Sources:

The dataset contains detailed information about car models, including attributes such as make, model, year, horsepower, fuel efficiency, transmission type, and pricing (MSRP). The data was sourced from [Kaggle by Cooper Union](#).

Data Cleaning and Preprocessing:

Handling missing values.

Encoding categorical variables.

Addressing any data quality issues.

Approach:

Analytical Methods:

Descriptive statistics to summarize data.

Data visualization for exploring patterns and trends.

Regression for predictive modeling.

The choice of methods aligns with the project's goals, allowing for a comprehensive understanding of the dataset. Descriptive statistics provide initial insights, visualization aids in pattern recognition, and machine learning can uncover complex relationships.

Tech-Stack Used:

Excel for data exploration and initial analysis.

Excel was chosen for its ease of use, especially for descriptive statistics, data cleaning, and visualization tasks.

Insight:

Key Insights

- Audience is interested in Diesel, Flex fuel, Performance, Crossover, Hatchback type of cars.
- More the car's horsepower, more will be the price.

- Transmission Type and Engine Cylinders and if it is Exotic or not are the most important features in determining car price.
- The average price of Luxury car manufactures is higher than other manufacturers.
- More the number of cylinders, less is the fuel efficiency.

Result:

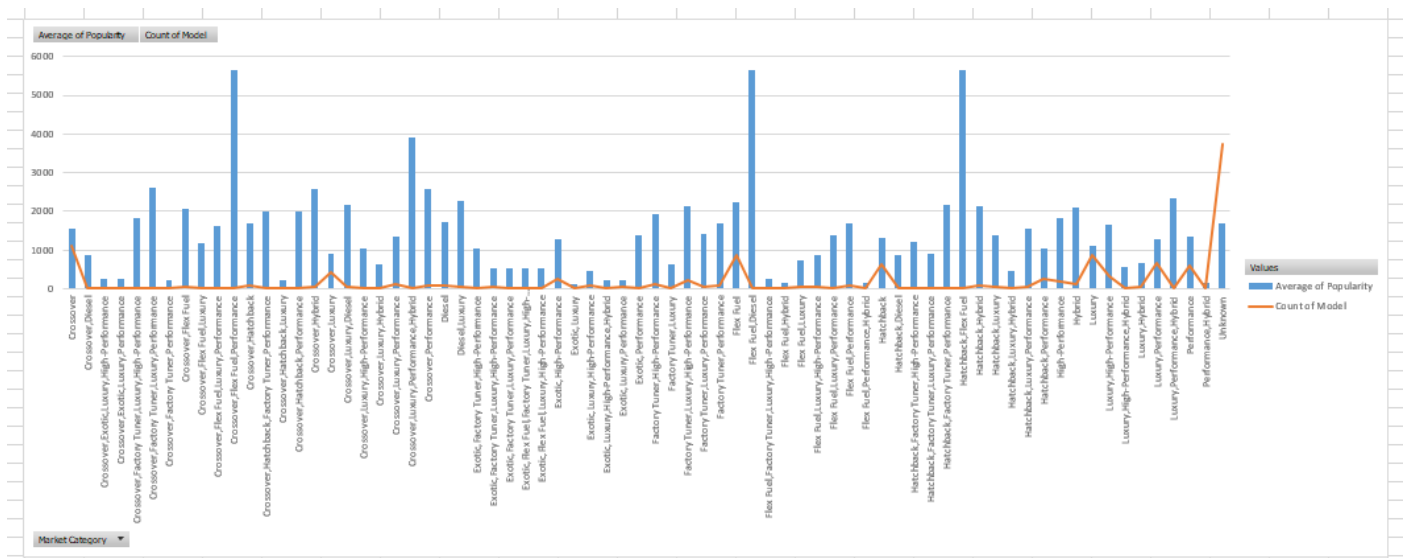
Limitations/Uncertainties: The data is available till 2017.

TASK RESULTS ARE ON NEXT PAGE _
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TASKS: ANALYSIS

TASK 1: How does the popularity of a car model vary across different market categories?

Market Category	Average of Popularity	Count of Model
Crossover	1545.263063	1110
Crossover,Diesel	873	7
Crossover,Exotic,Luxury,High-Performance	238	1
Crossover,Exotic,Luxury,Performance	238	1
Crossover,Factory Tuner,Luxury,High-Performance	1823.461538	26
Crossover,Factory Tuner,Luxury,Performance	2607.4	5
Crossover,Factory Tuner,Performance	210	4
Crossover,Flex Fuel	2073.75	64
Crossover,Flex Fuel,Luxury	1173.2	10
Crossover,Flex Fuel,Luxury,Performance	1624	6
Crossover,Flex Fuel,Performance	5657	6
Crossover,Hatchback	1675.694444	72
Crossover,Hatchback,Factory Tuner,Performance	2009	6
Crossover,Hatchback,Luxury	204	7
Crossover,Hatchback,Performance	2009	6
Crossover,Hybrid	2563.380952	42
Crossover,Luxury	884.5487805	410
Crossover,Luxury,Diesel	2149.411765	34
Crossover,Luxury,High-Performance	1037.222222	9
Crossover,Luxury,Hybrid	630.9166667	24
Crossover,Luxury,Performance	1344.849558	113
Crossover,Luxury,Performance,Hybrid	3916	2
Crossover,Performance	2585.956522	69
Diesel	1730.904762	84
Diesel,Luxury	2275	51
Exotic,Factory Tuner,High-Performance	1046.380952	21
Exotic,Factory Tuner,Luxury,High-Performance	517.5384615	52
Exotic,Factory Tuner,Luxury,Performance	520	3
Exotic,Flex Fuel,Factory Tuner,Luxury,High-Performance	520	13
Exotic,Flex Fuel,Luxury,High-Performance	520	11
Exotic,High-Performance	1271.333333	261
Exotic,Luxury	112.6666667	12
Exotic,Luxury,High-Performance	467.0759494	79
Exotic,Luxury,High-Performance,Hybrid	204	1
Exotic,Luxury,Performance	217.0277778	36
Exotic,Performance	1391	10
Factory Tuner,High-Performance	1941.415094	106
Factory Tuner,Luxury	617	2
Factory Tuner,Luxury,High-Performance	2133.367442	215
Factory Tuner,Luxury,Performance	1413.419355	31
Factory Tuner,Performance	1695.695652	92
Flex Fuel	2217.302752	872
Flex Fuel,Diesel	5657	16
Flex Fuel,Factory Tuner,Luxury,High-Performance	258	1
Flex Fuel,Hybrid	155	2
Flex Fuel,Luxury	746.5384615	39
Flex Fuel,Luxury,High-Performance	878.9090909	33
Flex Fuel,Luxury,Performance	1380.071429	28
Flex Fuel,Performance	1680.471264	87
Flex Fuel,Performance,Hybrid	155	2
Hatchback	1318.865835	641
Hatchback,Diesel	873	14
Hatchback,Factory Tuner,High-Performance	1205.153846	13
Hatchback,Factory Tuner,Luxury,Performance	886.8888889	9
Hatchback,Factory Tuner,Performance	2159.045455	22



The top 3 popular cars based on Market Category are:

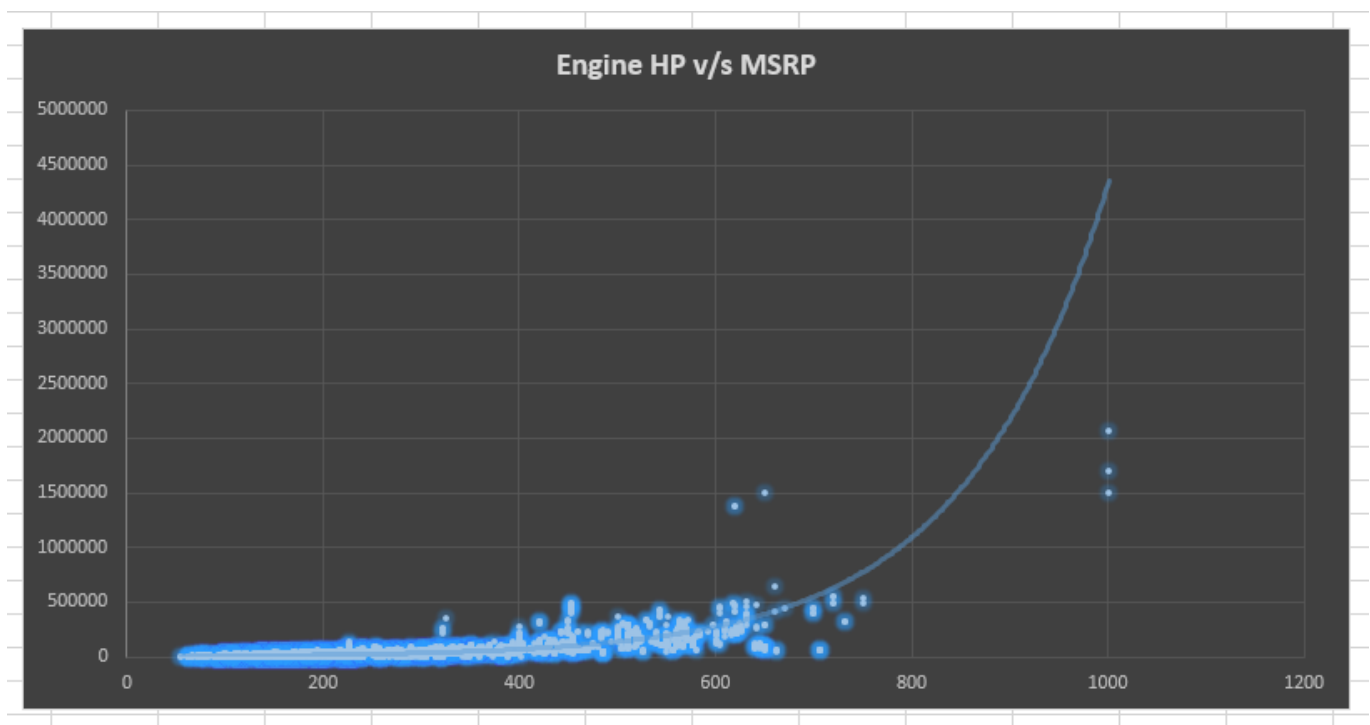
Crossover, Flex fuel, Performance

Flex fuel,Diesel

Hatchback, Flex fuel

This implies that audience is interested in Diesel, Flex fuel, Performance, Crossover, Hatchback type of cars.

TASK 2: What is the relationship between a car's engine power and its price?



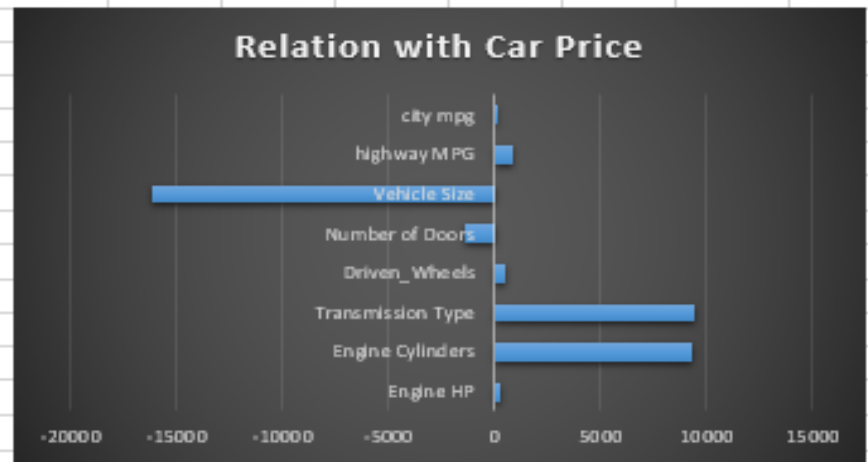
The relationship between a car's engine power and its price is **exponential**.

More the car's horsepower, more will be the price.

Task 3: Which car features are most important in determining a car's price?

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.7002436							
R Square	0.4903411							
Adjusted R Square	0.4899986							
Standard Error	42926.545							
Observations	11914							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	8	2.11057E+13	2.638E+12	1431.7199	0			
Residual	11905	2.19372E+13	1.843E+09					
Total	11913	4.30429E+13						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-96932.91	3408.218022	-28.44094	3.34E-172	-103613.57	-90252.24	-103613.6	-90252.24
Engine HP	310.83231	5.931587644	52.402887	0	299.205435	322.4592	299.20543	322.4592
Engine Cylinders	9262.3203	434.9310367	21.296067	8.49E-99	8409.78446	10114.856	8409.7845	10114.856
Transmission Type	9373.1511	837.8486391	11.187165	6.567E-29	7730.83092	11015.471	7730.8309	11015.471
Driven_Wheels	477.82992	425.1322142	1.123956	0.2610543	-355.49863	1311.1585	-355.4986	1311.1585
Number of Doors	-1412.83	508.6423177	-2.777649	0.0054839	-2409.8519	-415.8079	-2409.852	-415.8079
Vehicle Size	-16146.47	621.4384417	-25.98241	8.15E-145	-17364.591	-14928.35	-17364.59	-14928.35
highway MPG	806.78077	101.1531375	7.9758354	1.652E-15	608.504107	1005.0574	608.50411	1005.0574
city mpg	146.08287	96.9164559	1.5073072	0.1317585	-43.889206	336.05495	-43.88921	336.05495
SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.712708							
R Square	0.5079527							
Adjusted R Square	0.5074979							
Standard Error	42183.663							
Observations	11914							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	11	2.18638E+13	1.988E+12	1116.9755	0			
Residual	11902	2.11791E+13	1.779E+09					
Total	11913	4.30429E+13						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	19271.357	1301.439317	14.807726	3.574E-49	16720.3229	21822.39	16720.323	21822.39
Factory Tuner	810.70003	1981.325609	0.4091705	0.6824219	-3073.0218	4694.4218	-3073.022	4694.4218
Luxury	18888.229	1074.80074	17.573703	2.844E-68	16781.4442	20995.014	16781.444	20995.014
Performance	10471.75	1266.470147	8.2684541	1.501E-16	7989.26193	12954.239	7989.2619	12954.239
Flex fuel	12564.047	1600.420743	7.850465	4.5E-15	9426.96092	15701.133	9426.9609	15701.133
Unknown	690.04057	1472.848198	0.4685076	0.6394302	-2196.9824	3577.0636	-2196.982	3577.0636
Hatchback	-5595.236	1553.908199	-3.600751	0.0003186	-8641.1501	-2549.322	-8641.15	-2549.322
Diesel	10258.641	3055.847503	3.3570526	0.0007902	4268.68047	16248.601	4268.6805	16248.601
High-Performance	25075.787	1714.867683	14.622579	5.254E-48	21714.3666	28437.208	21714.367	28437.208
Exotic	171402.65	2256.967387	75.943788	0	166978.629	175826.68	166978.63	175826.68
Crossover	8559.6743	1324.711395	6.461539	1.077E-10	5963.02365	11156.325	5963.0236	11156.325
Hybrid	10773.661	2392.500191	4.5030971	6.761E-06	6083.9695	15463.352	6083.9695	15463.352

Engine HP	310.832315
Engine Cylinders	9262.320303
Transmission Type	9373.151053
Driven_Wheels	477.8299216
Number of Doors	-1412.829915
Vehicle Size	-16146.47047
highway MPG	806.7807722
city mpg	146.0828716

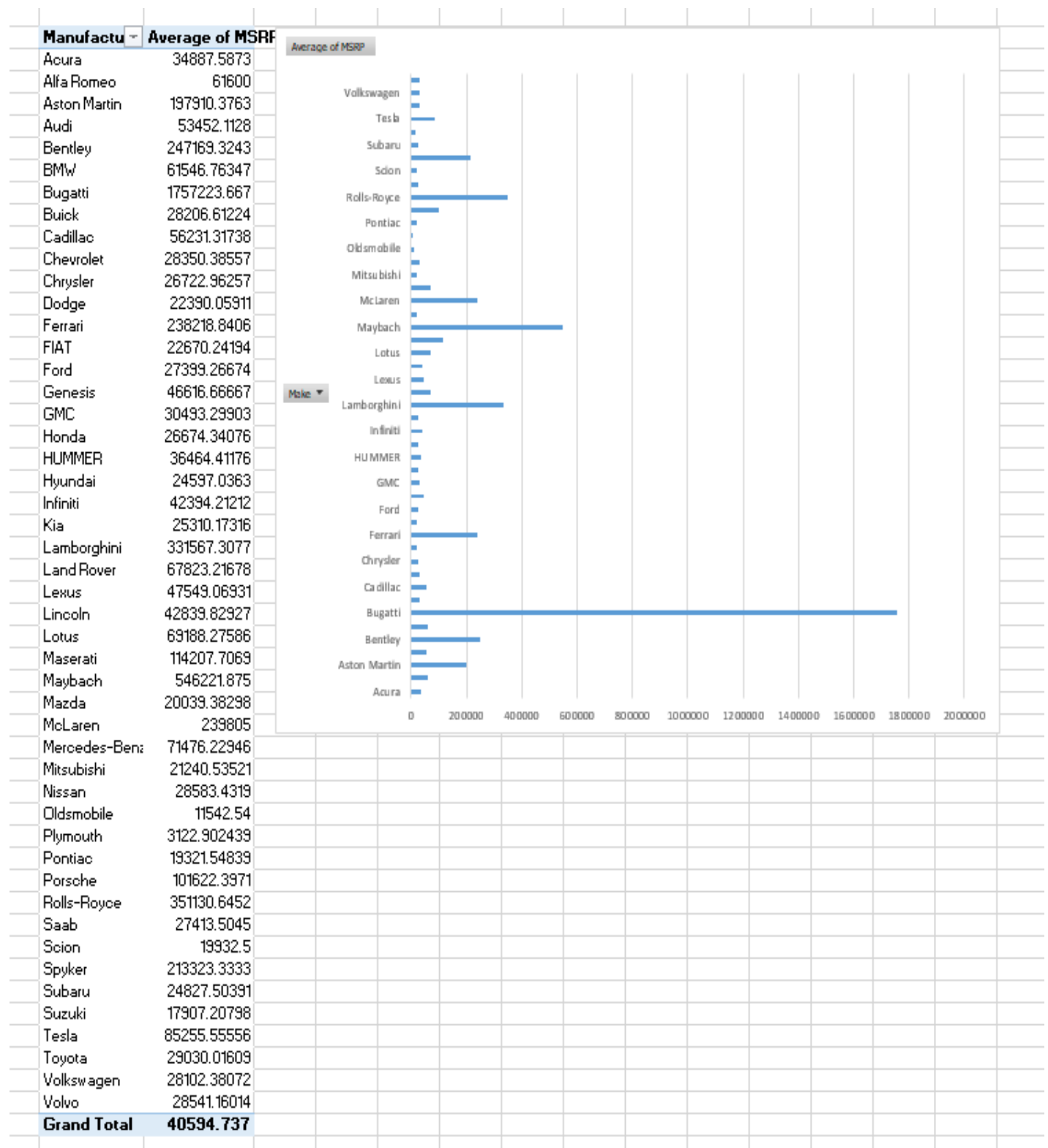


Factory Tuner	810.7000324
Luxury	18888.22923
Performance	10471.75026
Flex fuel	12564.04696
Unknown	690.0405698
Hatchback	-5595.23622
Diesel	10258.64066
High-Performance	25075.78735
Exotic	171402.6537
Crossover	8559.674333
Hybrid	10773.66062



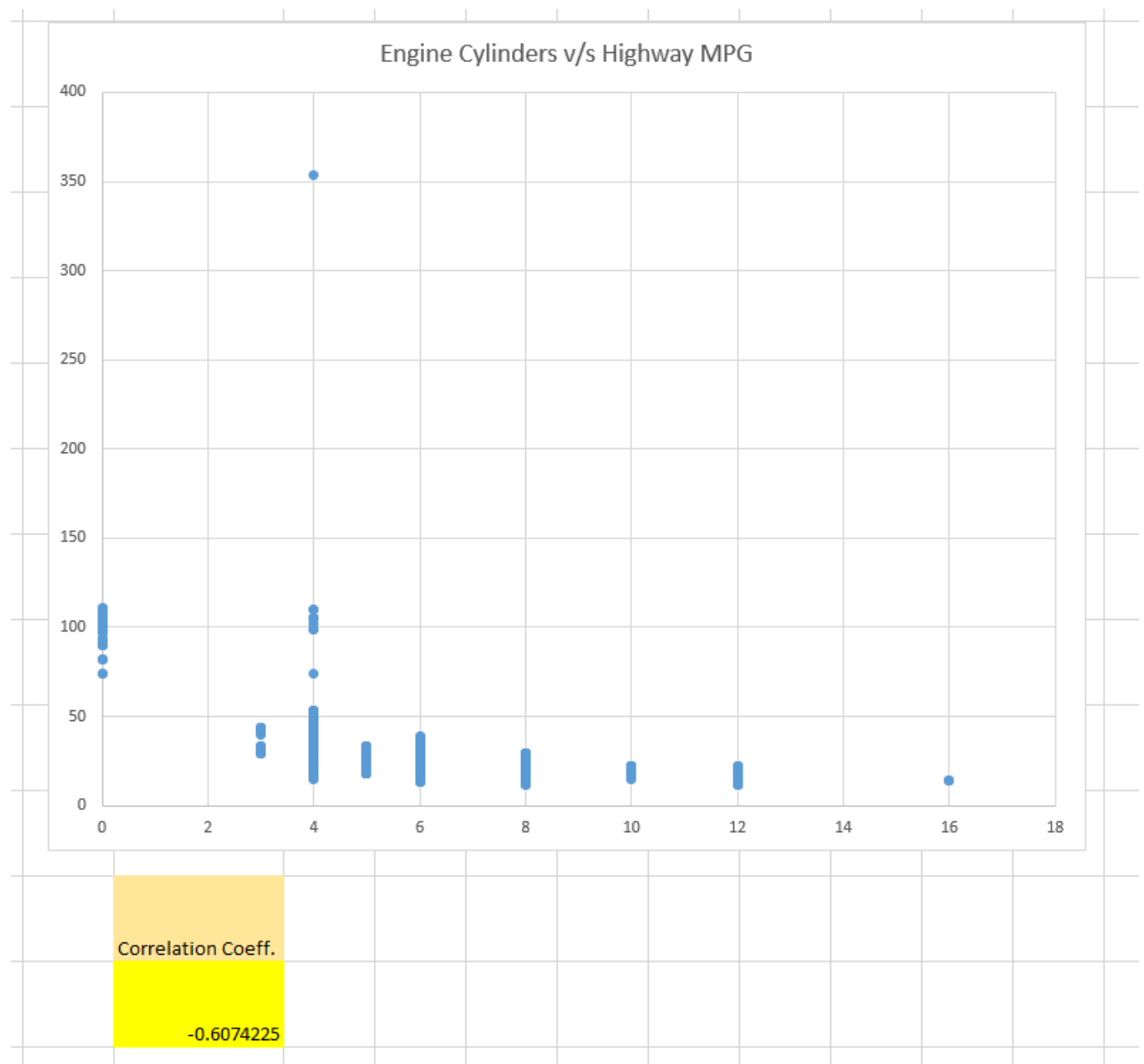
Transmission Type and Engine Cylinders and if it is **Exotic or not** are the most important features in determining car price.

Task 4: How does the average price of a car vary across different manufacturers?



The average price of Luxury car manufactures is higher than other manufacturers.

Task 5: What is the relationship between fuel efficiency and the number of cylinders in a car's engine?



Engine Cylinders and Fuel efficiency are inversely related to each other.

More the number of cylinders, less is the fuel efficiency.

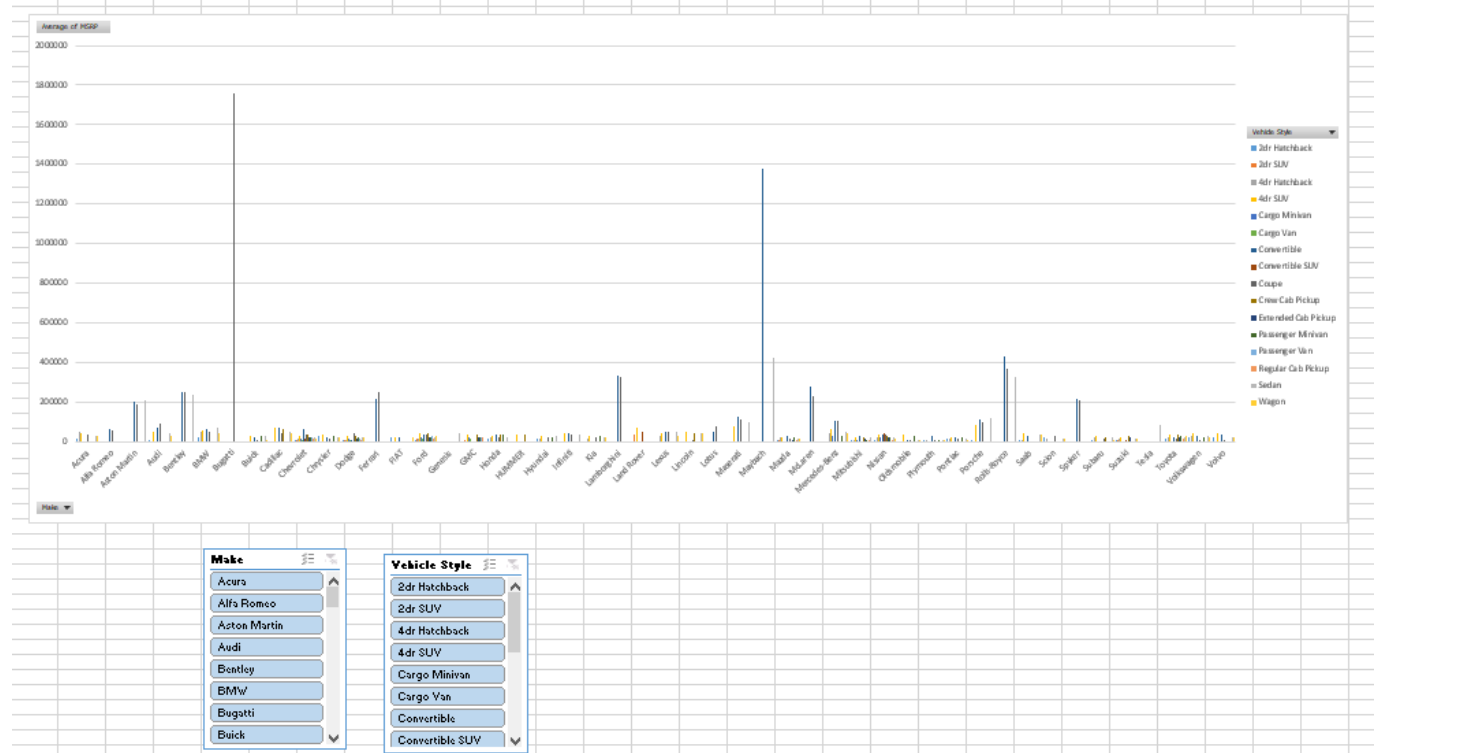
BUILDING THE DASHBOARD

TASK 1: How does the distribution of car prices vary by brand and body style?

Sum of MSRP Column Labels																					
Row Label	2dr Hatchback	2dr SUV	4dr Hatchback	4dr SUV	Cargo Minivan	Cargo Van	Convertible	Convertible S	Coupe	Crew Cab	Pickup	Extended Cab	Pickup	Passenger Mini	Passenger Van	1 Regular Cab	Pickup Sedan	Wagon	Grand Total		
Acura	480917		357440	2663505					733748								4294702	201360	8791672		
Alfa Romeo							129800		178200									308000			
Aston Martin							7321655		1E+07								1448735	18405665			
Audi	4000		2674900				3291405		4E+06								7158348	847350	17532293		
Bentley							6012870		6E+06								5320900	18290530			
BMW	80097		1144950	3160950			4502671		3E+06								7989300	253600	20556619		
Bugatti									5E+06									5271671			
Buick			2141770				179325		18534					330065			2850590	8212	5528496		
Cadillac			7182555				985607		3E+06	599150							9418847	1E+06	22323833		
Chevrolet	8000	2E+05	1287260	6569568		420150	78688	2953245	106300	4E+06	5927617		3117951	1178515	607670		2260032	3303977	300675	31837483	
Chrysler	98805			250545				630105		114510							922235	2479859	501075	4997194	
Dodge	48000	44000	18000	2572405		60520	338497	12000		3E+06	2235775		864172	557425	70708		719408	2417585	793055	14016177	
Ferrari								4723811		1E+07									16437100		
FIAT	420715			369305				327965										287570	1405555		
Ford	36000	5E+05	567615	4482771		702400	566351	730007		1E+06	3812353		2285584	1411605	2431898		1299240	2299348	2E+06	24138754	
Genesis																		139850	139850		
GMC		1E+05		6641919		142750	468085				4062482		2183866	150630	603670		1306328			15704049	
Honda	413200		2088520	3953209				252135		2E+06	787720			553185				2340105		11976779	
HUMMER				377490							242405									619895	
Hyundai	1038050		528880	2128890						724070					133075			2899937		7452902	
Infiniti				4340200				980050		2E+06								6494090		13990090	
Kia			406960	2049645						142630					494650			1980360	772405	5846650	
Lamborghini								7064450		1E+07									17241500		
Land Rover		5E+05		9076595						145731										9698720	
Lexus			94700	3152974				472065		1E+06								4837596	31105	9604912	
Lincoln				3422570						25342	453260							2854855	269705	7025732	
Lotus								413260		2E+06										2006460	
Maserati				155000				2342963		2E+06								2153800		6624047	
Maybach								2762750										5976800		8739550	
Mazda	22000	24000	853180	3222525				870505		543879			580033		443130		265486	1618571	33350	8476659	
McLaren								280225		918800										1199025	
Mercedes-Benz			122800	4974610		28950		5753964		6E+06					32500			7080243	764935	25231109	
Mitsubishi	394868		407835	2066505		2000		209893			240210		134360		2000		8000	1058563		4524234	
Nissan	14683		1347320	4149630		128620		1406552		131075	3E+06	2422300		1026379		413320	21914	1769130	175000	15949555	
Oldsmobile				238150				2000		286015					492055			691161	22000	1731381	
Plymouth	42000		16000					85631		14000					33688			46759	18000	256078	
Pontiac	163505		162975	401550				473481		667715					541192			1160535	22855	3593808	
Porsche	28827			1815200				4504586		5E+06								2713500		13820646	
Rolls-Royce								2141365		2E+06								6539010		10885050	
Saab	14000		36586	541905				632628										1066500	751280	3042899	
Scion	366325		282470							330210								32500	184445	1195950	
Spyker								219990		419980										639970	
Subaru	12000		678060	3020230						356476	365975							1913100	10000	6355841	
Suzuki	46496	14000	584387	2362141							304131		259659					1906715	685707	6285430	
Tesla																		1534600		1534600	
Toyota	473750		1397750	5106450				386668		811995	3893760		3558504		1956518		373446	2459596	1E+06	21656392	
Volkswagen	4171275		3355760	2084955				3612631		8000					1038130			6760050	2E+06	22734826	
Volvo	157550			3219000				121600		6000								2086345	2E+06	8020066	
Grand Total	8535063	1E+06	15739448	1E+08	1485390	1E+06	6.7E+07	505300	9E+07	25347138	14010508	10683978	3713946	6253854	3713946	6253854	1E+08	2E+07	4.8E+08		

TASK 2: Which car brands have the highest and lowest average MSRPs, and how does this vary by body style?

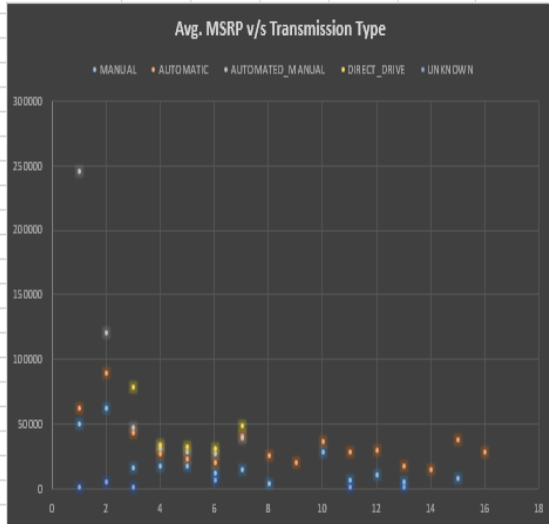
Average of MSRP Column Labels																	
Row Labels	2dr Hatchback	2dr SUV	4dr Hatchback	4dr SUV	Cargo Minivan	Cargo Van	Convertible	Convertible SUV	Coupe	Crew Cab Pickup	Extended Cab Pickup	Passenger Minivan	Passenger Van	Regular Cab Pickup	Sedan	Wagon	Gr
Acura	17175.60714		51062.85714	42353.75806					39687.4							33292.26357	33550
Alfa Romeo							64300		53400								
Aston Martin							203373.3056		132705.5						206962.1429		
Audi	2000			48634.54545			70029.83362		93586.57895						44461.78882	33834	
Bentley							250536.25		254270.4						236836		
BMW	26639		54521.42857	58536.11111			63417.90141		51803.80303						70701.76391	43266.66667	
Bugatti									1757223.667								
Buick				33996.34321			25617.85714		2053.333333			30005.30309			27346.96078	2053	
Cadillac				72551.06061			70400.5		45433.6	66572.22222					50912.68649	47364	
Cherollet	2000	8887.916667	18390.23412	32046.67317	20007.14286	7153.454545	62835	17716.66667	38333.16667	39255.74172	24170.16279	24552.39583	24306.8	19824.84211	20521.59627	15825	
Chrysler	32935			35792.14286			24234.80769		19085			29751.45161			26103.77895	26372.36842	
Dodge	2000	2000	2000	30992.83133	20173.33333	12536.32593	2000		45380.66197	31052.43056	13338.25806	25337.5	14141.6	3342.361039	21780.04505	24782.96875	
Ferrari							214718.6818		243218.3149								
FIAT	21035.75			24620.33333			23426.07143									22120.76323	
Ford	2000	15710.65714	18572.33103	41507.15889	21284.84848	17638.46875	34762.2381		34101.07317	41438.61957	23808.16667	23526.75	32425.30667	17797.80822	21290.25326	27259.41667	
Genesis																46616.66667	
GMC		5550.730769		36635.68508	23791.66667	18723.4				39062.32632	26632.5122	25105	26246.52174	21063.80645	26001.16667		
Honda	17216.66667		26106.5	28855.54015			36019.28571		21763.08219	34248.63955		36879					
HUMMER				37749						34623.28571							
Hyundai	18536.60714		17629.33333	30412.71429					20687.71429			26615			27102.21435		
Infiniti				45686.31579					40291.66667						40588.0625		
Kia			19379.04762	31533					20375.71429			32976.66667			23298.35294	20326.44737	
Lamborghini							336402.381										
Land Rover		39639.5		70910.89844				48577									
Lease			31566.66667	45042.48571			52451.66667		50823.6						48864.60606	31105	
Lincoln				50331.91176					2111.833333	41205.45455					42609.77612	44590.83333	
Lexus									75866.66667								
Mazda				77500					130164.6111	116016.7059					102561.9048		
Maybach									1381375						426314.2857		
Mazda	2000	2000	20809.26829	27080.04202			28080.80645		20143.66667		11600.66	23322.63158		9154.689555	19738.67073	16675	
McLaren							280225		229700								
Mercedes-Benz			40933.33333	68145.34247	28950		104617.5273		109713.678			32500			43168.35417	44396.17647	
Mitsubishi	15162.26667		13155.96774	26158.23114	2000		23984.71429			26630	19194.28571	2000		2000	21841.11111	17500	
Nissan	2037.571429		24059.28571	34294.46281	21436.66667		39070.88889	43691.66667	34228.27907	32733.78378	20527.58	22962.22222		21914	8131.305882	2000	
Oldsmobile				34021.42857			2000		3226.290323			32803.66667			20009.22414	2000	
Plymouth	2000		2000				28543.66667		2000			2105.5			2537.722222	2000	
Pontiac	18167.22222		18108.33333	25096.875			22546.71429		15528.25581			20815.07692			20009.22414	5713.75	
Porsche	5765.4			82509.09091			115502.2051		39136.10417						123340.9091		
Rolls-Royce							428273		367445.8333						326950.5		
Saab	2000		2032.555556	41685			28755.81818								36775.86207	34149.09091	
Scion	20351.38889		15632.77778						27517.5						16250	18444.5	
Spiker								219990									
Suabaru	2000		21188.375	29322.62136					15498.95652	24398.33333					26570.83333	2000	
Suzuki	6642.285714	2000	16636.77143	21090.54464					27648.27273		21638.25				18159.19048	15237.93333	
Tecla								7187.882353							85255.55556		
Toyota	18350		22186.50734	40851.6			25777.86667		15615.28846	37803.49515	26353.28889	23201.76119		16236.78261	24844.40404	31742.4359	
Volkswagen	24251.59884		27964.66667	41693.1			27789.46323		2000			25320.2439			23911.72566	25818.56061	
Volvo	26258.33333			45338.02817			40533.33333		2000						20863.45	24785.41837	
Grand Total	16867.71344	10115.1884	22420.8661	40421.8718	20920.3853	15280.2211	84224.285	17424.13793	76248.322	37220.46696	22488.77689	25621.05036	29015.20313	15953.70918	39270.6896	25557.3932	



- Bugatti (Coupe) has the highest average MSRP.
- Mitsubishi(reg.cabpickup,passenger minivan,cargo minivan) and Plymouth(Hatchback,SUV,Wagon) have the lowest average MSRP.

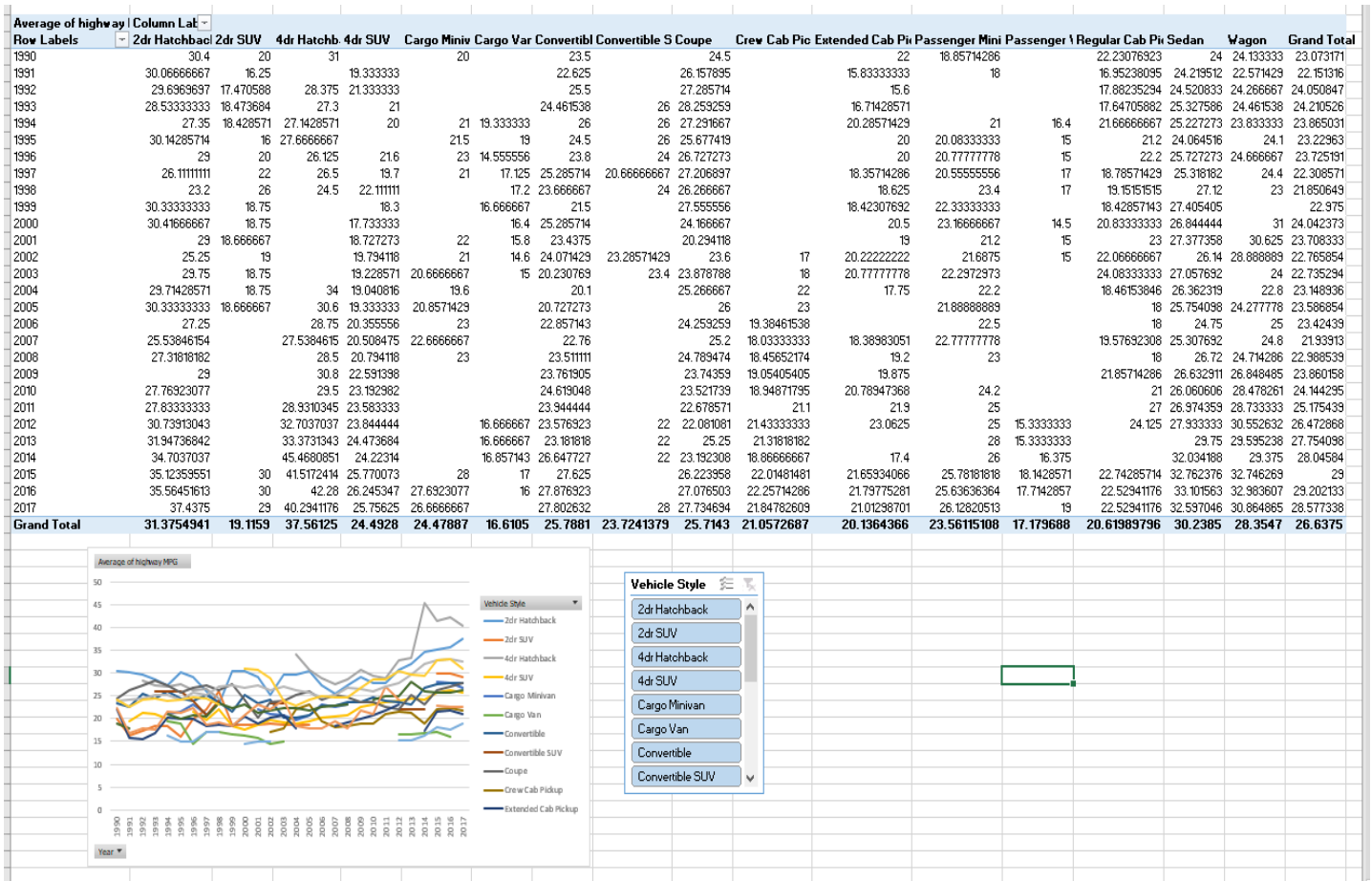
TASK 3: How do the different feature such as transmission type affect the MSRP, and how does this vary by body style?

	Coupe	Convertible	Sedan	Wagon	4dr Hatchback	2dr Hatchback	4dr SUV	Passenger Minivan	Cargo Minivan	Crew Cab Pickup	Regular Cab Pickup	Extended Cab Pickup	2dr SUV	Cargo Van	Convertible SUV	Passenger Van
MANUAL	50484.372	62357.756	17119.234	17844.14	17594.4131	13353.6583	15426.462	4405.333333		28360.52632	7557.773333	10884.19455	6303.8111		9233.142857	
AUTOMATIC	63371.8111	90637.387	43769.116	27613.192	23833.679	20926.464	41535.606	26412.68159	20920.9859	37744.07154	28536.8239	30637.34973	18615.205	15280.2	38925.5	29015.2031
AUTOMATED_MANUAL	245977.43	121256.64	47498.708	31985.278	23249.0741	27180.9649	40451.154									
DIRECT_DRIVE			79512.25	34250	32799.7297	31800	49800									
UNKNOWN	2000	5783.5	2000			7361.5					2000		2371			



- **AUTOMATED_MANUAL COUPE** cars have highest MSRP.
- **MANUAL PASSENGER MINIVAN** cars have lowest MSRP.
- **AUTOMATIC** cars have high MSRP.

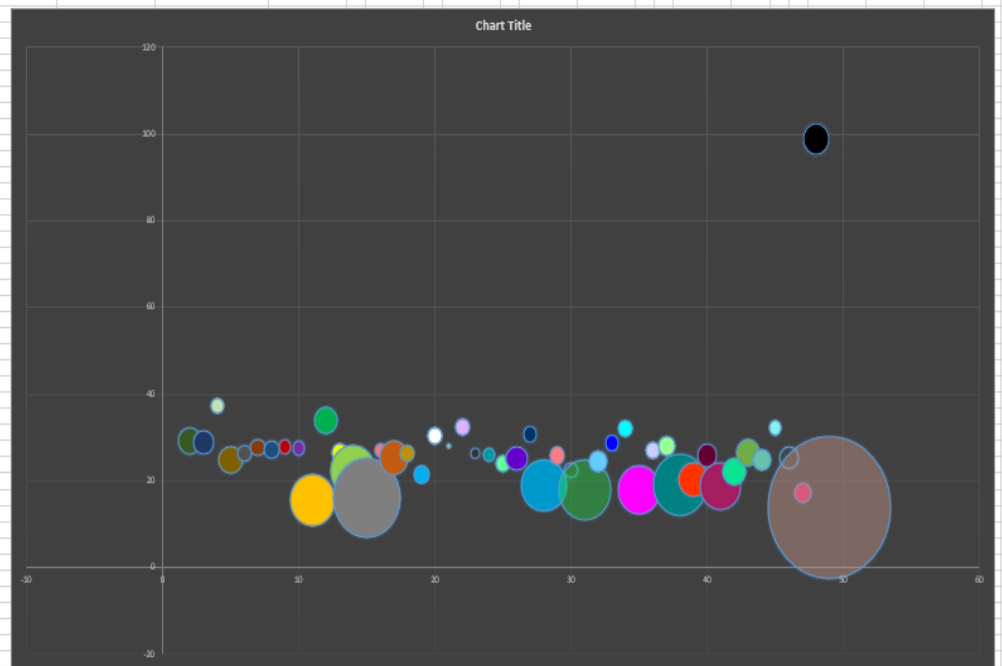
TASK 4: How does the fuel efficiency of cars vary across different body styles and model Years?



- SEDAN, WAGON, 2DR HATCHBACK have best fuel efficiency.
- Over the years fuel efficiency has improved for a lot of car styles.

TASK 5: How does the car's horsepower, MPG, and price vary across different Brands?

Make	Average HP	Average MPG	Average MSRP
BMW	326.3071856	23.24550836	61546.76347
Audi	277.635122	28.82317073	53452.1128
FIAT	147.5967142	37.33870968	22670.24194
Mercedes-Benz	343.8328612	24.83002833	71476.22346
Chrysler	223.1330374	26.36838396	26722.36257
Nissan	233.6839642	27.79328318	28583.4319
Volvo	230.3175302	27.20284638	28541.16014
Mazda	171.9323078	27.85106383	20033.38298
Mitsubishi	173.6807512	27.54460094	21240.53521
Ferrari	511.3565217	15.72463768	238218.8406
Alfa Romeo	237	34	61600
Toyota	236.1233244	26.45308311	29030.01609
McLaren	610.4	22.2	233805
Maybach	590.5	16	546221.875
Pontiac	190.2356383	27.06383247	19321.54839
Porsche	332.7341176	25.36764706	101622.3371
Suzuki	220.5225225	26.35135135	27415.5045
GM	253.8446602	21.4038835	30433.28903
Hyundai	201.3174317	30.33273327	24597.0363
Plymouth	151.5609756	27.36341463	3122.302439
Honda	195.8886414	32.57461024	26674.34076
Oldsmobile	177.4666667	26.23333333	11542.54
Ford	160.2877493	26.03418903	17907.20798
Suzuki	242.8603859	24.00681044	27339.26674
Cadillac	332.3038237	25.23677582	56231.31738
Kia	207.2640630	30.65367365	25310.11316
Bentley	533.8513514	18.30540541	24716.33243
Cherrolot	246.8655387	25.81567231	28350.38357
Dodge	244.4153355	22.34504752	22330.03911
Lamborghini	614.0763231	18.01923077	331567.3077
Lincoln	282.0853659	24.49780488	42833.62927
Subaru	197.3085338	28.68353375	24621.50331
Volkswagen	183.1571256	32.12855377	28102.38072
Spyker	400	18	213323.3333
Buick	219.244638	26.34897353	28206.61224
Acura	244.731619	28.11111111	34887.5873
Rolls-Royce	487.5483811	13.12903226	351130.6452
Maserati	420.7301034	20.23310345	114207.7069
Lexus	277.4159416	25.87623762	47543.06931
Aston Martin	484.3225806	18.63247312	197910.3763
Land Rover	322.0979021	22.12581413	67823.21678
Lotus	275.3655112	26.55172414	63188.27586
Infiniti	310.0666667	24.77878788	42334.21212
Scion	154.4333333	32.3	19932.5
Genesis	347.3333333	25.33333333	46616.66667
HUMMER	261.2352841	17.29411765	36464.41176
Tesla	227	98.94444444	85255.55556
Bugatti	1001	14	1757223.667



- Luxury cars such as Bugatti, Lamborghini, Bentley, etc tend to have comparatively less fuel efficiency and high MSRP. Which makes it difficult for common people to afford it.
- Whereas, electric cars like Tesla have high fuel efficiency with moderate to high MSRP.