

final_project

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Abstract

Emily

Introduction

Jessica

Research Questions

What were the top three bestselling BMW models between 2014 and 2024?

Which BMW car colors were the most popular each year between 2014 and 2024?

How has the price of each of the top three bestselling BMW models changed between 2014 and 2024 by region?

How has the price and number of sales changes from 2014 to 2024 for each fuel type?

Methods

Kat - identify top 3 models to filter, packages used, etc.

Results

RQ1 :

Figure 2 shows that the BMW 3 Series had the highest sales and was the top-selling model during the decade. The BMW 7 Series also showed strong and consistent sales, followed by the BMW i8.

RQ2 :

Across all years from 2014 to 2024, White, Silver, and Red were consistently the most popular BMW car colors, showing the highest average sales in nearly every year as shown in Figure 1. White remained the top-selling color throughout most of the decade, followed closely by Silver. Red also maintained strong sales and regularly appeared among the top three colors each year.

RQ3:

Figure 3 shows that from 2014 to 2024, the prices of the BMW 3 Series, 7 Series, and i8 increased in all six regions: Africa, Asia, Europe, the Middle East, North America, and South America. The 3 Series showed the most consistent growth, especially in Asia and North America. The 7 Series fluctuated but ended higher in every region, with more increases in Asia and North America. The i8 also rose in price, with important growth in Asia and North America and moderate growth elsewhere.

RQ4:

Figure 2 shows that BMW prices for all fuel types: Diesel, Petrol, Hybrid, and Electric, increased between 2014 and 2024. Despite these price increases, Electric and Hybrid vehicles maintained relatively stable sales, indicating consistent demand. Petrol vehicles displayed moderate changes in sales, whereas Diesel vehicles showed the largest fluctuations, with frequent declines in sales when prices rose. Overall, Electric and Hybrid models demonstrated steady demand, while Diesel and Petrol models were more sensitive to price changes.

Table 1. Average BMW Sales by Color and Year

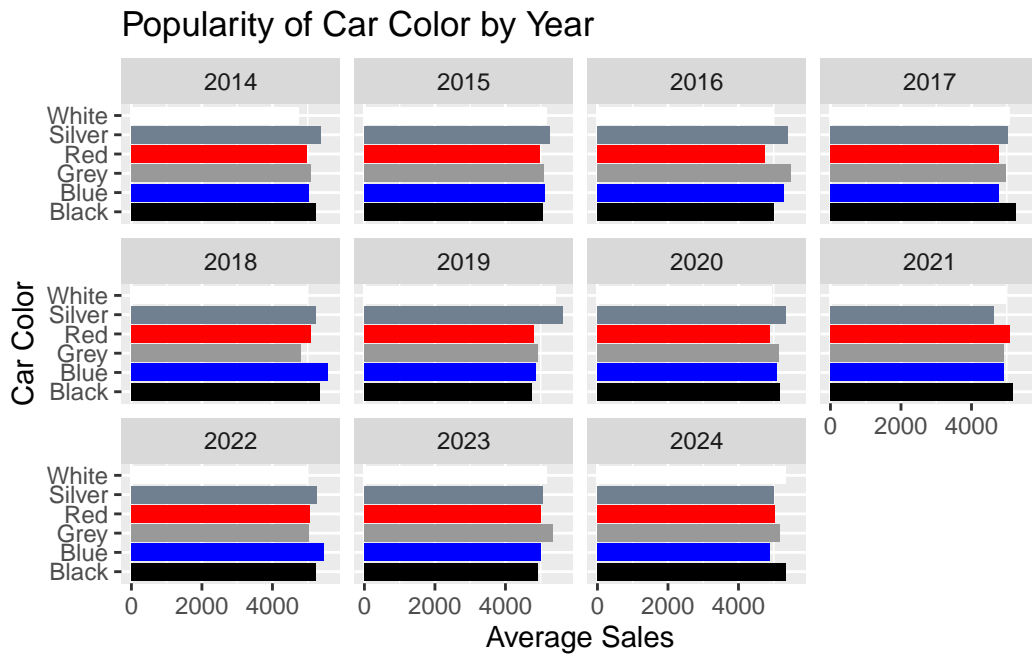
Table 1: Average BMW Sales by Color and Year

Year	Color	Mean Sales Volume
2014	Black	5246.193
2014	Blue	5021.206
2014	Grey	5099.291
2014	Red	4969.466
2014	Silver	5361.287

Year	Color	Mean Sales Volume
2014	White	4752.626
2015	Black	5062.669
2015	Blue	5110.622
2015	Grey	5093.288
2015	Red	4987.896
2015	Silver	5262.360
2015	White	5166.954
2016	Black	5000.129
2016	Blue	5287.796
2016	Grey	5473.719
2016	Red	4761.274
2016	Silver	5412.843
2016	White	4989.021
2017	Black	5247.097
2017	Blue	4786.644
2017	Grey	4967.043
2017	Red	4774.551
2017	Silver	5034.609
2017	White	5101.685
2018	Black	5342.121
2018	Blue	5575.413
2018	Grey	4820.367
2018	Red	5092.037
2018	Silver	5240.073
2018	White	4966.728
2019	Black	4749.289
2019	Blue	4863.615
2019	Grey	4916.527
2019	Red	4793.864
2019	Silver	5630.716
2019	White	5424.828
2020	Black	5174.411
2020	Blue	5085.630
2020	Grey	5135.804
2020	Red	4882.518
2020	Silver	5352.735
2020	White	4936.214
2021	Black	5163.140
2021	Blue	4924.646
2021	Grey	4930.406
2021	Red	5102.480

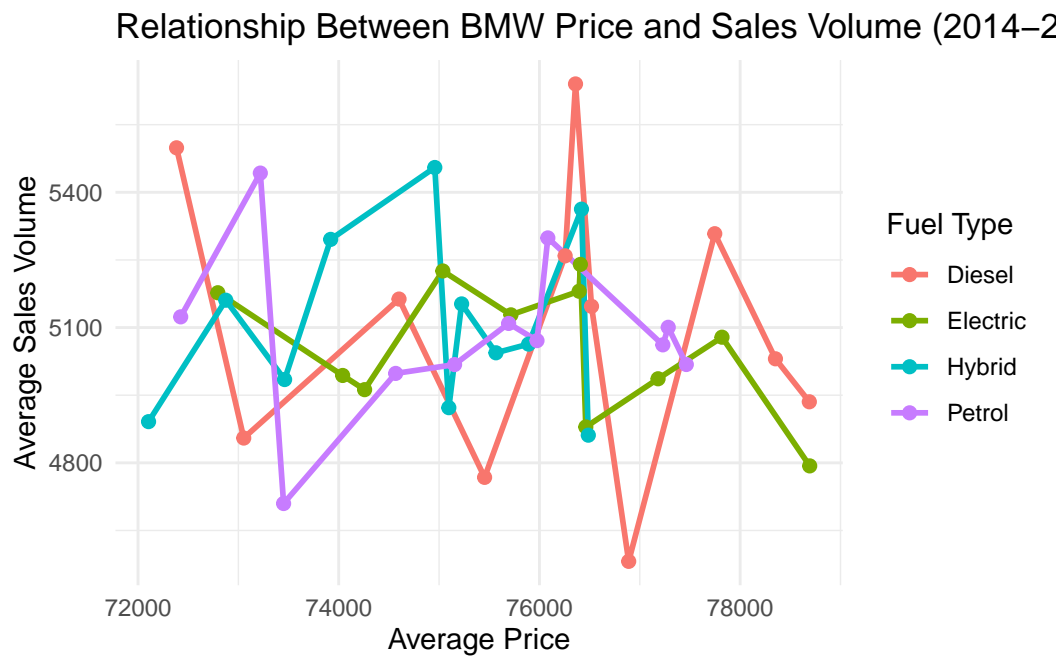
Year	Color	Mean Sales Volume
2021	Silver	4639.070
2021	White	4971.324
2022	Black	5218.601
2022	Blue	5470.257
2022	Grey	5026.483
2022	Red	5053.137
2022	Silver	5254.768
2022	White	4973.940
2023	Black	4911.170
2023	Blue	5015.682
2023	Grey	5346.292
2023	Red	4993.044
2023	Silver	5065.218
2023	White	5172.119
2024	Black	5348.875
2024	Blue	4886.994
2024	Grey	5170.550
2024	Red	5030.333
2024	Silver	5011.713
2024	White	5340.253

Figure 1. Popularity of Car Color by Year



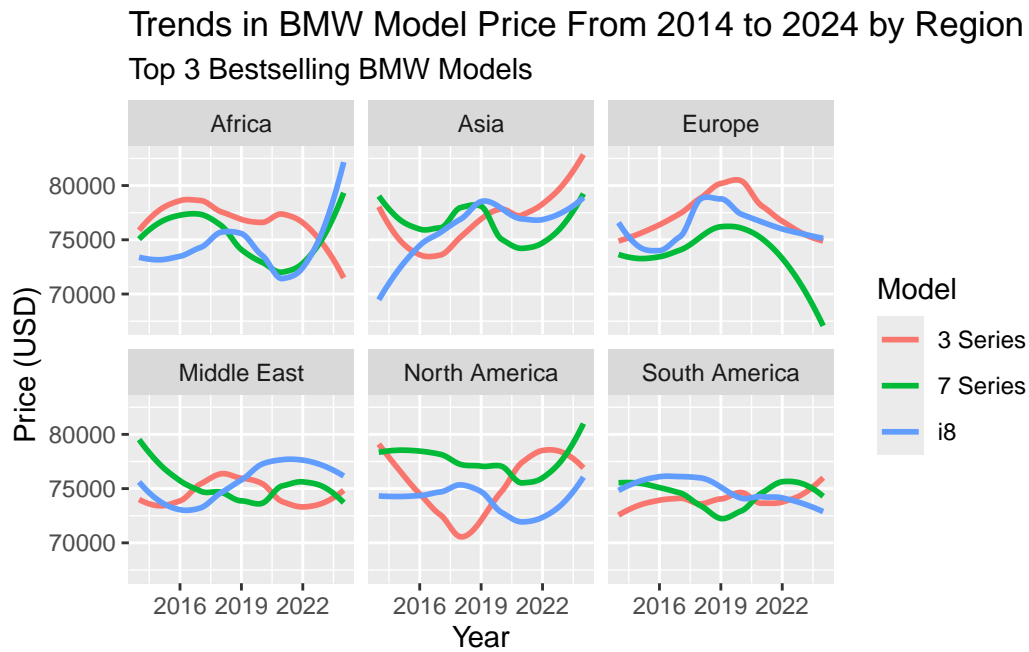
RQ

Figure 2. Relationship Between BMW Price and Sales Volume



RQ

Figure 3. Trends in BMW Model Price From 2014 to 2024 by Region



Discussion

Jessica

References