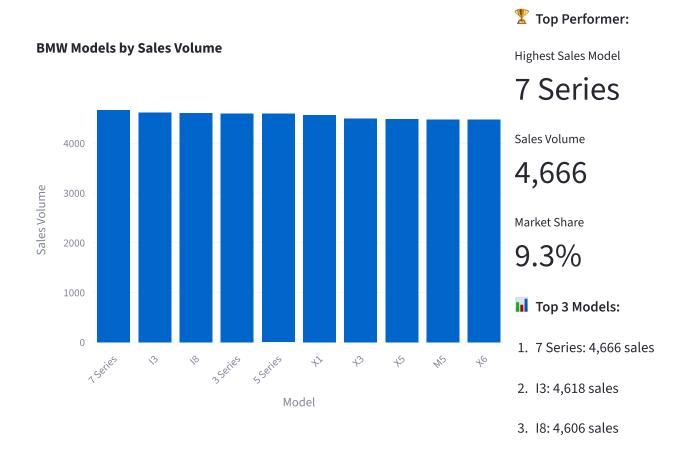


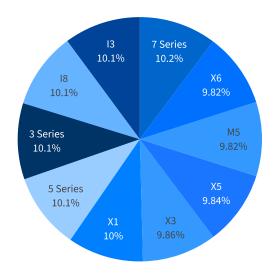
Comprehensive Sales Data Analysis & Business Intelligence

# BMW Sales Analysis - 10 Key Business Questions

### 1. Which BMW model has the highest sales volume overall?

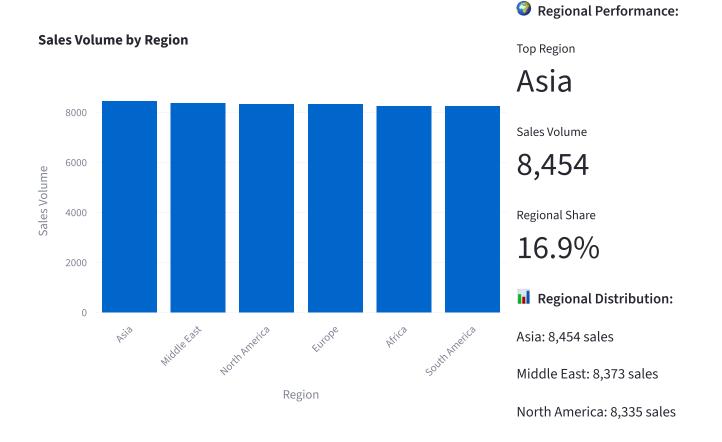


#### Market Share by BMW Model





### 2. How does the sales volume vary across different regions?



Europe: 8,334 sales

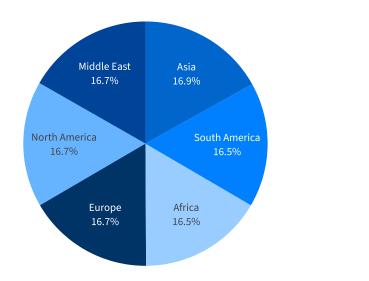
Africa: 8,253 sales

Asia Middle East

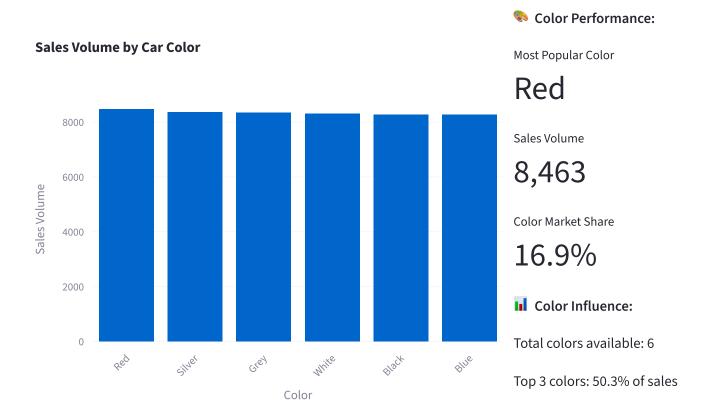
Europe Africa South America

North America

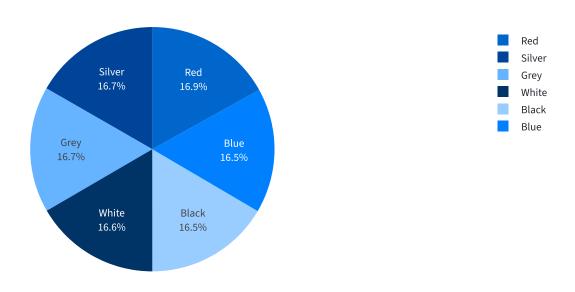
#### **Regional Sales Distribution**



### 3. Does the color of the car influence the sales volume?



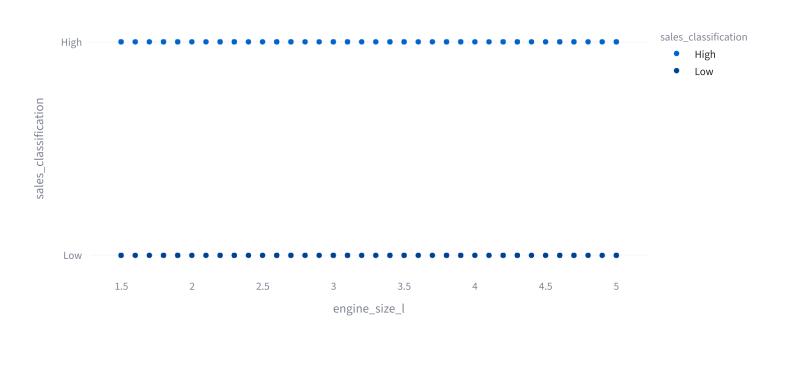
#### **Color Distribution in Sales**



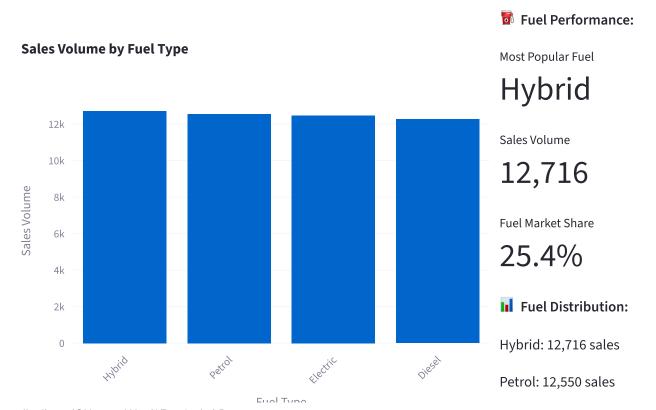
## 4. What is the relationship between engine size and sales classification (High/Low)?



#### **Engine Size vs Sales Classification**



## 5. How do sales volumes differ based on fuel type (Petrol, Diesel, Hybrid, etc.)?



ruerrype

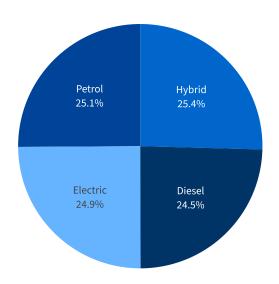
Electric: 12,471 sales

Diesel: 12,263 sales

Hybrid Petrol Electric

Diesel





## 6. Are manual or automatic transmission cars selling more?



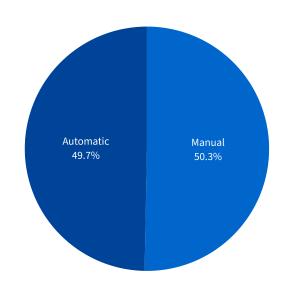
Transmission

Automatic: 24,846 sales

Manual Automatic

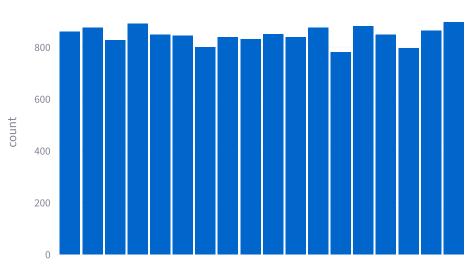
Winner: Manual

#### **Transmission Type Distribution**



## 7. What is the average price of BMW cars categorized as High sales classification?

#### **Price Distribution - High Sales Classification**



Migh Classification Pricing:

Average Price

\$74,966.82

Median Price

\$75,046.50

Price Range

\$30,000 - \$119...

**High Class Count** 

40k

60k

80k

price\_usd

100k

15,246

#### **■** Price Comparison by Classification:

sales_classification	mean	median	count
High	74966.82	75046.5	15246
Low	75064.34	75002.5	34754

## 8. Is there a correlation between car mileage and sales classification?



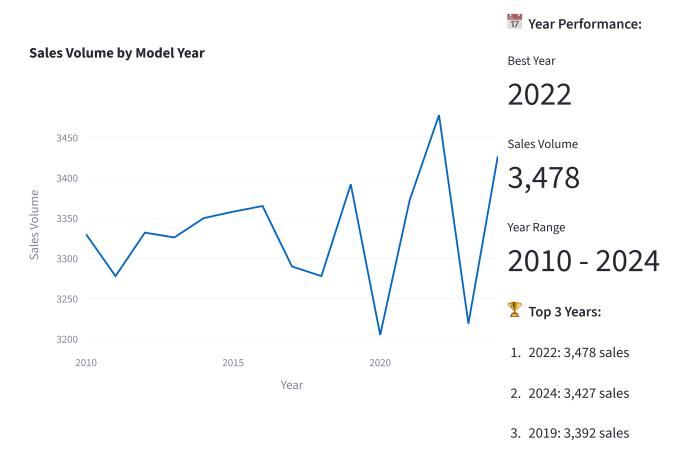
#### Mileage vs Sales Classification





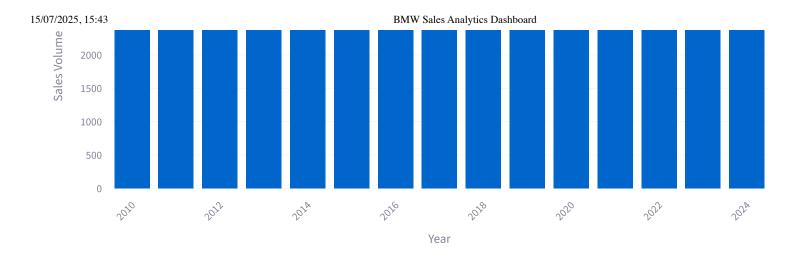


## 9. Which year models are showing higher sales volume?



#### **Sales Volume by Model Year (Bar Chart)**

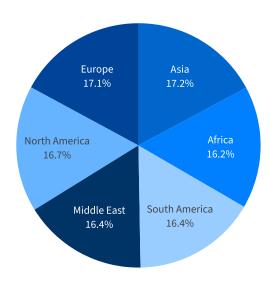




## 10. Which region contributes most to High sales classification cars?



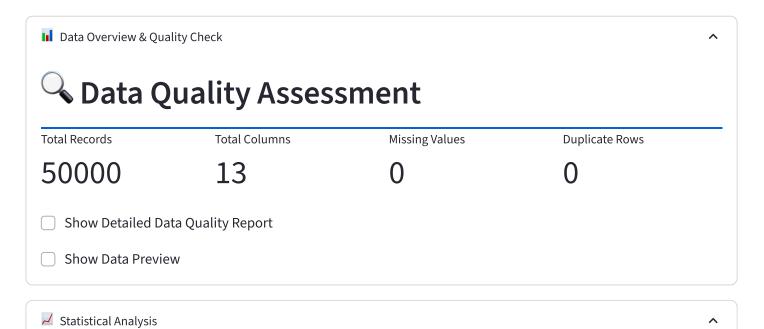
#### **Regional Distribution of High Sales Classification**





#### ■ Regional Performance Comparison:

region	High	Low
Africa	2469	5784
Asia	2618	5836
Europe	2609	5725
Middle East	2507	5866
North America	2548	5787
South America	2495	5756

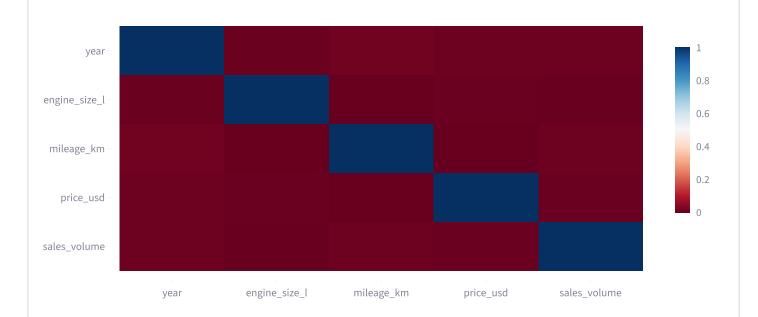




## Statistical Analysis

## **Correlation Analysis**

#### **Feature Correlation Matrix**



### **Strongest Correlations**

	Feature 1	Feature 2	Correlation
1	year	mileage_km	0.0087
4	engine_size_l	mileage_km	-0.0049
7	mileage_km	price_usd	-0.0042
6	engine_size_l	sales_volume	-0.0039
2	year	price_usd	0.0035
0	year	engine_size_l	-0.0019
3	year	sales_volume	0.0017
8	mileage_km	sales_volume	0.0014
5	engine_size_l	price_usd	0.0001
9	price_usd	sales_volume	0.00008

## **Descriptive Statistics**

	year	engine_size_l	mileage_km	price_usd	sales_volume
count	50000	50000	50000	50000	50000
mean	2017.0157	3.2472	100307.2031	75034.6009	5067.5147
std	4.3245	1.0091	57941.5093	25998.2489	2856.7671
min	2010	1.5	3	30000	100
25%	2013	2.4	50178	52434.75	2588
50%	2017	3.2	100388.5	75011.5	5087
75%	2021	4.1	150630.25	97628.25	7537.25
max	2024	5	199996	119998	9999

