

BMW Sales Analysis

Name: Debdatta Mukherjee

Date: August, 2025

Tool used: Excel

Problem Statement: BMW, as a premium automobile manufacturer, generates extensive sales data across different models, years, regions, and customer preferences. However, without structured analysis, it becomes challenging to identify market trends, customer choices, and performance drivers.

The company wants to leverage its sales dataset—which includes attributes such as model, year, region, colour, fuel type, transmission, engine size, mileage, price, and sales volume—to gain actionable insights. The primary challenge is to answer key business questions such as:

- Which models and regions drive the highest sales and revenue?
- What are the customer preferences in terms of fuel type, transmission, and colour?
- How do pricing and engine size influence sales performance?
- What are the sales trends over the years?

By addressing these questions through data cleaning, analysis, and visualization in Excel, the project aims to provide BMW with a comprehensive sales performance report and an interactive dashboard. This will help the company in strategic decision-making, product positioning, and demand forecasting.

Dataset Description:

Data source: Kaggle

This dataset contains **50,000** rows (csv) of sales records and includes the following fields:

1. **Model:** Refers to the BMW car model.
2. **Year:** The year of sale.
3. **Region:** Geographic market where the car as sold.
4. **Colour:** Exterior colour of the car.
5. **Fuel type:** The type of fuel car uses (Petrol, Diesel, Hybrid, Electric).
6. **Transmission:** Gearbox type (Automatic, Manual).
7. **Engine size:** Engine displacement. Mainly measured in litres.
8. **Mileage:** Distance the car can travel per unit of fuel. (KM/L)
9. **Price:** Selling price of the car. (Per unit)
10. **Sales volume:** Number of units sold.

	A	B	C	D	E	F	G	H	I	J	K
1	Model	Year	Region	Color	Fuel_Type	Transmission	Engine_Size_L	Mileage_KM	Price_USD	Sales_Volume	Sales_Classification
2	5 Series	2016	Asia	Red	Petrol	Manual	3.5	151748	98740	8300	High
3	i8	2013	North America	Red	Hybrid	Automatic	1.6	121671	79219	3428	Low
4	5 Series	2022	North America	Blue	Petrol	Automatic	4.5	10991	113265	6994	Low
5	X3	2024	Middle East	Blue	Petrol	Automatic	1.7	27255	60971	4047	Low
6	7 Series	2020	South America	Black	Diesel	Manual	2.1	122131	49898	3080	Low
7	5 Series	2017	Middle East	Silver	Diesel	Manual	1.9	171362	42926	1232	Low

Data Clean & Preparation: Data extracted and transformed from csv file using power query.



Extracted table:

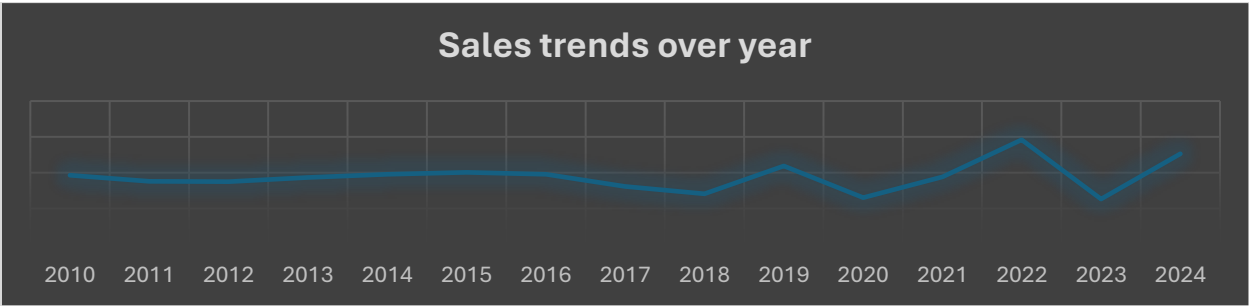
	A	B	C	D	E	F	G	H	I	J
1	Model	Year	Region	Color	Fuel_Type	Transmission	Engine_Size_L	Mileage_KM	Price_USD	Sales_Volume
2	5 Series	2016	Asia	Red	Petrol	Manual	3.5	151748	98740	8300
3	i8	2013	North America	Red	Hybrid	Automatic	1.6	121671	79219	3428
4	5 Series	2022	North America	Blue	Petrol	Automatic	4.5	10991	113265	6994
5	X3	2024	Middle East	Blue	Petrol	Automatic	1.7	27255	60971	4047
6	7 Series	2020	South America	Black	Diesel	Manual	2.1	122131	49898	3080
7	5 Series	2017	Middle East	Silver	Diesel	Manual	1.9	171362	42926	1232

New columns created:

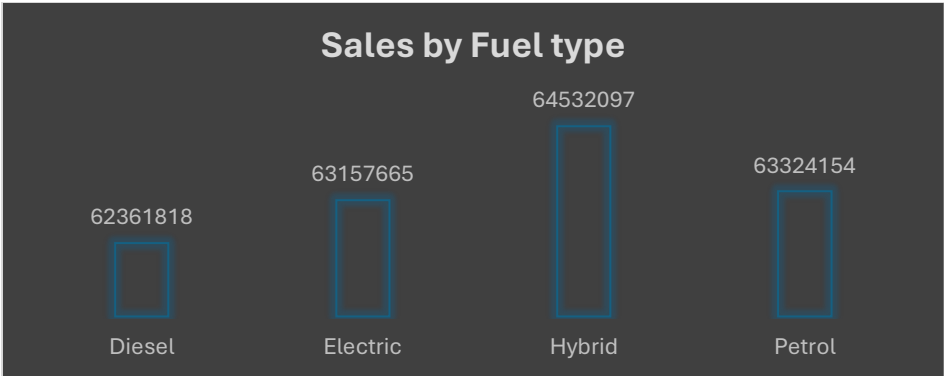
- 1. Revenue: Price * Sales volume
- 2. Engine size classification: ">4 lit", "2-4 lit", "<2 lit".

Exploratory Data Analysis (EDA):

- 1. Which BMW model has the highest sales volume and revenue overall?
 - **BMW 7 series** has the highest Sales volume (**23786466**) and Revenue (**1790070249282.00**).
- 2. What is the sales trend over the years? Are sales increasing, stable, or declining?

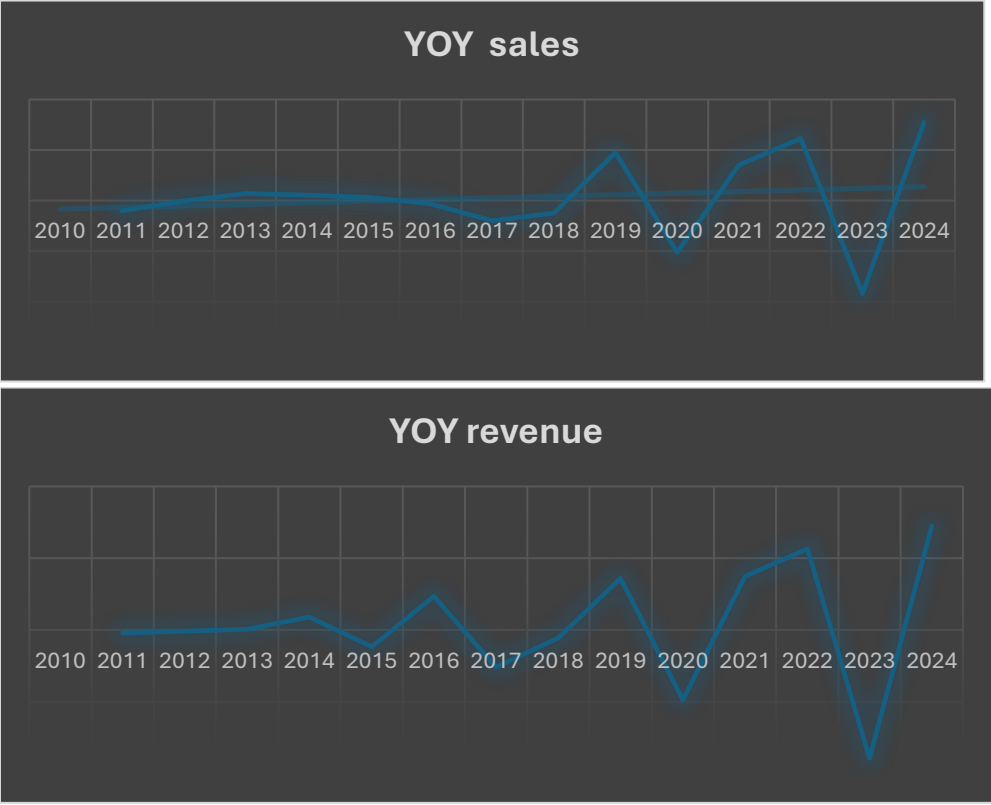


- 3. Which region contributes the most to BMW’s sales and revenue?
 - Asia contributes most to BMW’s Sales (**16.96%**) and Revenue (**17.10%**). Europe and North America is in 2nd and 3rd position.
- 4. What are the most popular car colours among customers?
 - **Red & Silver** are the most popular car colours among customers.
- 5. How do sales vary by fuel type (Petrol, Diesel, Electric, Hybrid)?



- 6. Do customers prefer Automatic or Manual transmission more?
 - Customers prefer **Manual** transmission more than Automatic transmission.
- 7. Which engine sizes are most popular with customers?
 - Most popular engine size is between **2 – 4 litres**.
- 8. How do pricing, and engine size influence sales performance?
 - Models priced between 50000 – 100000 accounted for **55%** of total sales.
 - Mid-sized engines (2-4 ltr) has the highest sales volume.

9. What is the YOY sales and revenue trends?

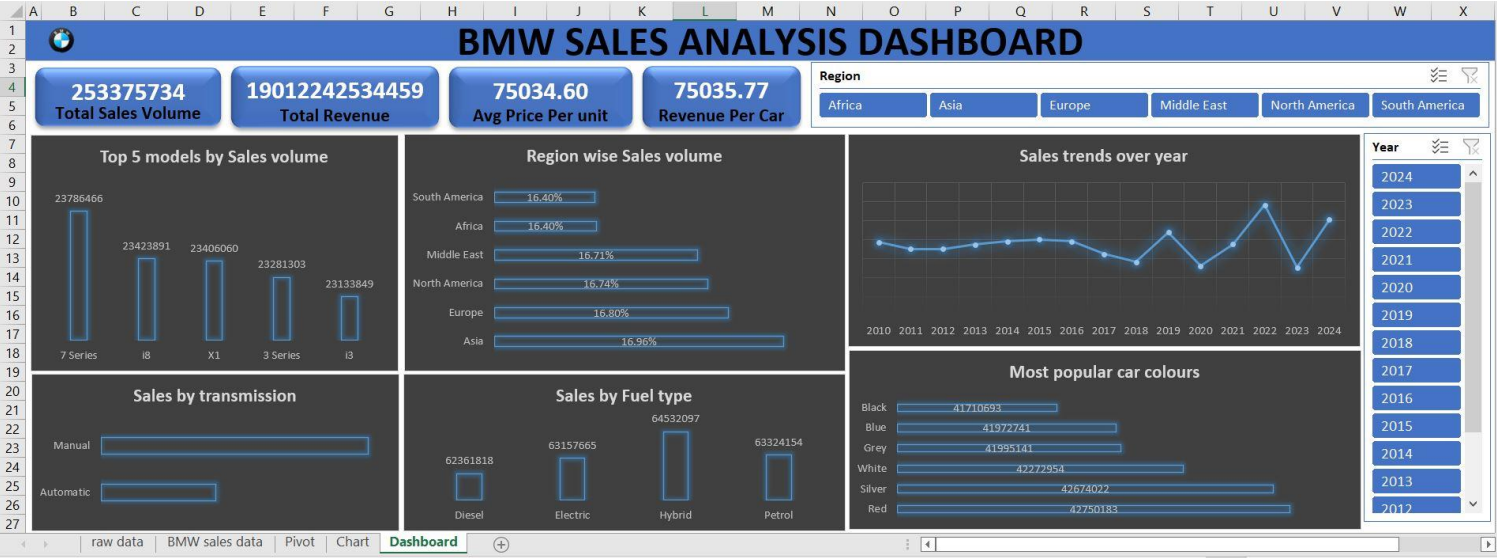


10. What is the average selling price and sales volume per region?

Sales volume & Avg Price by Region

Row Labels	Sum of Sales Volume	Average of Price_USD
Africa	41565252	74885.7716
Asia	42974277	75554.92501
Europe	42555138	74988.35685
Middle East	42326620	74726.78849
North America	42402629	75070.05471
South America	41551818	74973.59884
Grand Total	253375734	75034.6009

Dashboard:



Key insights:

1. BMW 7 Series emerged as the strongest performer, recording the highest overall sales volume & revenue.
2. Asia is the leading region, contributing 17% of both sales and revenue, followed by Africa & North America.
3. Diesel and Petrol still dominate, but Electric & Hybrid sales are showing increasing adoption.
4. Sales volumes have remained fairly stable across years, with minor fluctuations.

Conclusion:

The analysis reveals that BMW's success is driven by a combination of premium luxury models (7 Series) and mid-priced cars (50K–100K) that appeal to broader audiences. Asia is the growth engine, and customer preferences lean toward manual transmissions, mid-sized engines, and bold colours (Red, Silver). While traditional petrol and diesel cars still dominate, there is a clear opportunity for BMW to strengthen its electric and hybrid line-up in high-growth markets.