Two-Wheeler Business Intelligence Report

Project Overview:

This project focuses on analyzing bike sales and resale data to understand brand performance, price trends, and sales contribution. SQL is used for data querying and analysis, while Tableau is used to create interactive dashboards for visual insights. The project helps identify key business trends that support data-driven decision-making.

Business Objective:

The main objectives of this project are:

- To analyze bike sales performance across different brands
- To understand resale price contribution by each brand
- To compare sales across different manufacturing years
- To identify trends and patterns in bike resale prices
- To present insights using interactive visualizations

Tools and Technologies Used:

- **SQL**: Data extraction, aggregation, and analysis
- **Tableau**: Data visualization and dashboard creation
- **Excel**: Initial data review and Basic cleaning
- **Git & GitHub**: Version control, project tracking, and source code management using Visual Studio Code

Dataset Description:

The dataset contains bike sales and resale information with the following attributes

- Brand
- Model
- Year of manufacture

- Resale price
- Sales records

The data represents historical bike resale transactions used for analytical purposes

Data Pre-processing:

- Verified data types and consistency
- Removed or handled missing and invalid values
- Standardized brand names
- Ensured resale price values were numeric and accurate.

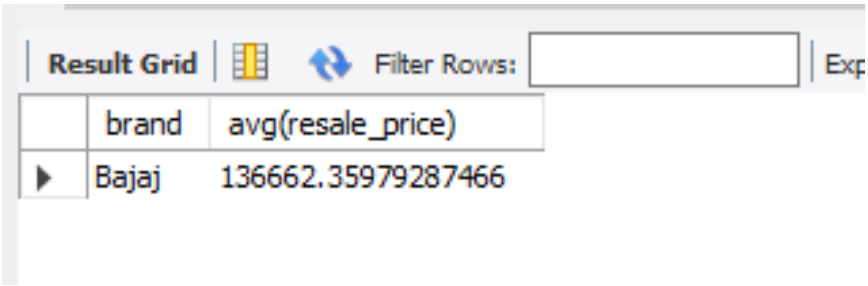
Key Analysis Performed Using SQL:

Using SQL, the total resale value was analyzed to evaluate overall brand performance, and each brand's percentage contribution was calculated to understand its share in total resale revenue. Sales were then compared across different years of manufacture to identify time-based trends, while brand-wise and year-wise aggregations were performed to study resale price patterns and growth over time.

Examples:

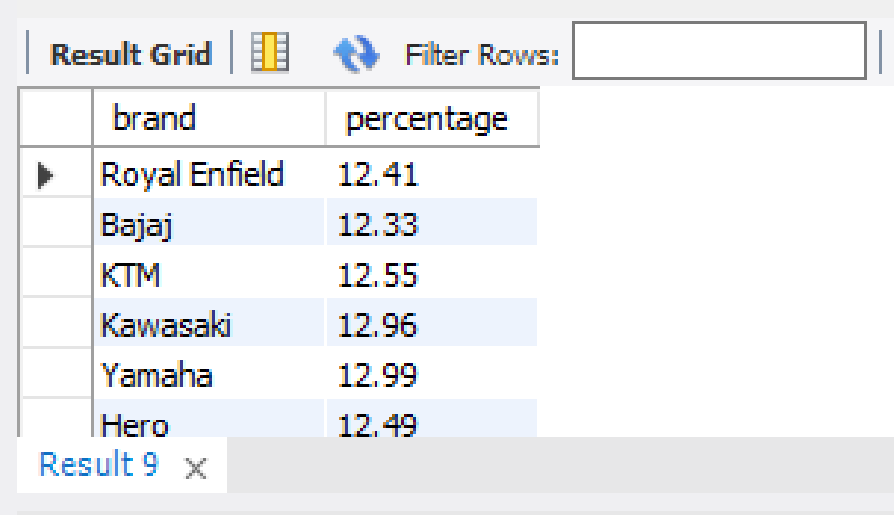
1) Find days where sales were higher than the overall average sales.

```
select brand, avg(resale_price)
from bike_sales
group by brand
having avg(resale_price) > (select avg(resale_price) from bike_sales)
limit 1
```



2) Calculate the percentage contribution of each product to overall sales.

```
select brand, round((sum(resale_price) / (select sum(resale_price) from bike_sales))*100,2) as percentage
from bike_sales
group by brand ;
```



3) Compare sales between two time periods (for example: last year vs this year).

```
select brand, round(sum(case when  year_of_manufacture =2024 then resale_price else 0 end ),2) as "2024" ,
round(sum(case when  year_of_manufacture =2023 then resale_price else 0 end ),2) as "2023"
from bike_sales
group by brand;
```

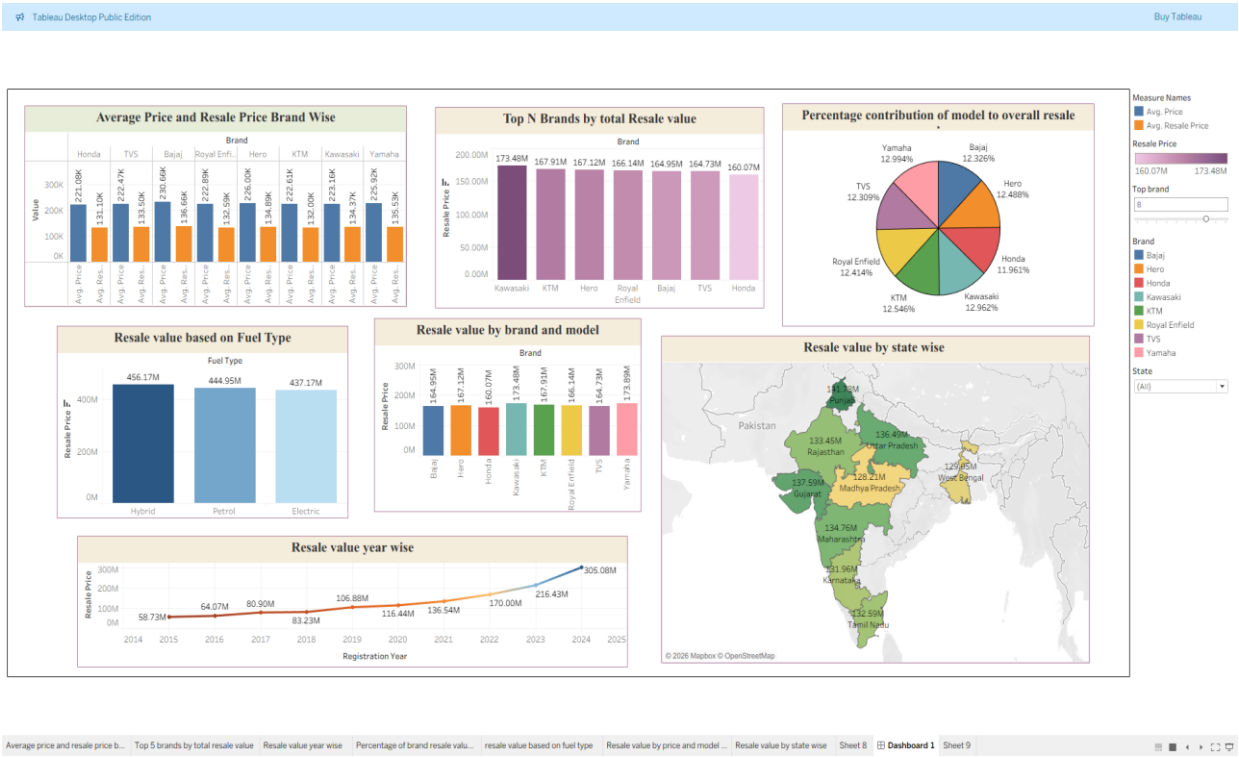
Result Grid | Filter Rows:

	brand	2024	2023
▶	Royal Enfield	15577596.57	17929693.28
	Bajaj	17172663.65	15788930.01
	KTM	19901441.27	17286317.73
	Kawasaki	19677134.04	17588023.71
	Yamaha	18434475.83	17372388.25
	Hero	17176389.32	16662046.89

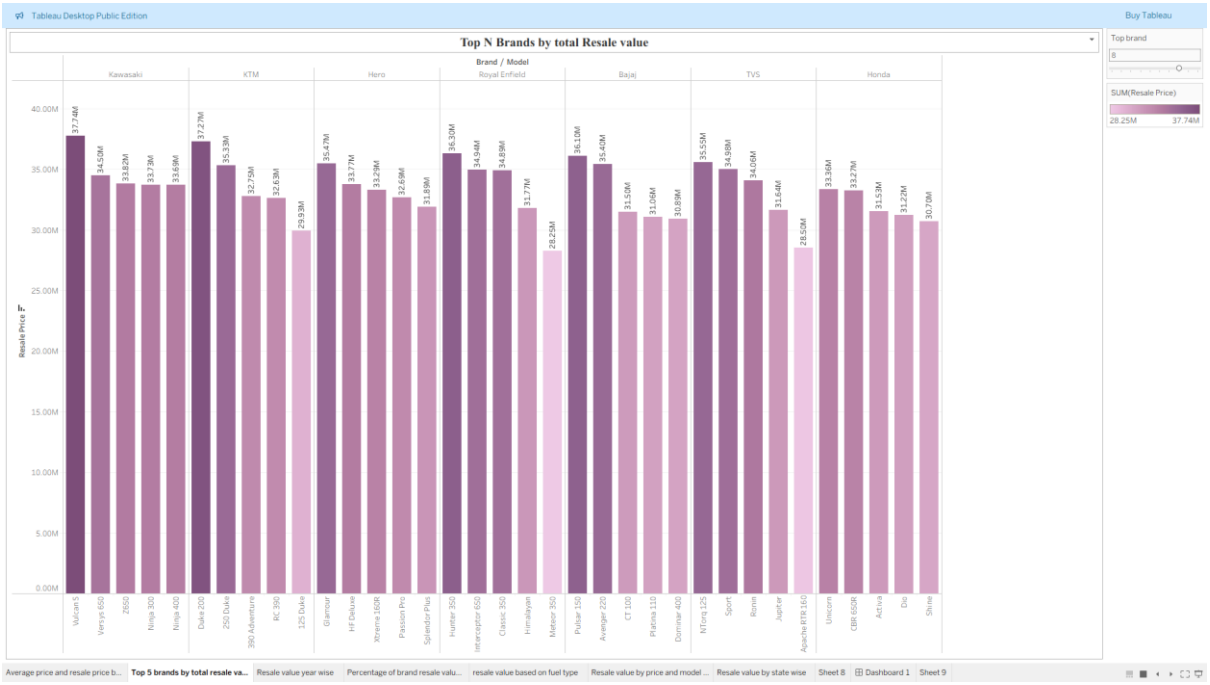
Data Visualization Using Tableau:

The Tableau dashboard includes:

- Brand-wise resale contribution chart
- Year-wise sales comparison
- Total resale value summary
- Interactive filters for brand and year



Drill-Down:



Version Control Using Git and GitHub:

- Initializing the Git repository using Visual Studio Code
- Staging and committing SQL scripts and Tableau project files
- Tracking project changes through version control
- Pushing the complete Bike Sales Analysis project to GitHub for secure storage and easy sharing

Conclusion:

This project demonstrates how SQL and Tableau can be used together to analyze sales data effectively. The insights derived from the analysis help understand market trends, brand performance, and resale value behaviour. This approach supports better business decisions through data-driven insights.