# Vehicle Sales & Market Trends Analysis

## Project Overview

This project provides data-driven insights into vehicle sales and market dynamics. The analysis aims to understand the factors driving vehicle sales and pricing strategies to optimize revenue generation. Key findings and recommendations are provided to enhance business outcomes.

## Files in the Repository

- \*\*Vehicle Sales and Market Trends Dataset.ipynb\*\*: The main Jupyter notebook containing data cleaning, analysis, and visualization of vehicle sales data using pandas, Matplotlib, Seaborn, and Plotly.

- \*\*Orange and White Minimalist Monotone Business SDG Progress Report.pdf\*\*: A summarized report highlighting the outcomes, insights, and recommendations from the analysis.

## Key Insights from the Analysis

1. \*\*Impact of Vehicle Condition and Mileage\*\*:

- Vehicles with better condition and lower mileage command higher prices, emphasizing the importance of maintenance and mileage in pricing.

2. \*\*Relationship Between MMR Values and Actual Selling Prices\*\*:

- MMR values are a strong predictor of selling prices, with minor deviations indicating additional factors influencing final sale prices.

3. \*\*Selling Price Distribution by Transmission Type\*\*:

- Automatic transmission vehicles tend to have higher selling prices and a wider price range than manual transmission vehicles, reflecting market preference for automatic cars.

4. \*\*Selling Price Distribution by Car Make\*\*:

- Luxury brands like Porsche and BMW exhibit higher selling prices compared to more common brands like Kia or Ford.

## Recommendations

1. \*\*Utilize MMR Values for Pricing\*\*:

- Leverage MMR data to establish accurate pricing strategies. Aligning selling prices with MMR values can enhance competitiveness and buyer trust.

2. \*\*Focus on Vehicle Condition and Mileage\*\*:

- Prioritize vehicle maintenance and mileage in marketing to highlight value. Sellers should emphasize the low mileage and good condition to attract higher offers.

3. \*\*Optimize Inventory Based on Popular Makes and Models\*\*:

- Stock more popular brands like Toyota and Honda to match market demand. This can drive sales and improve turnover rates for dealerships.

## Technologies Used

- \*\*Python Libraries\*\*:

- `pandas` for data cleaning and manipulation.

- `Matplotlib`, `Seaborn`, and `Plotly` for data visualization.

- \*\*Tools\*\*:

- Excel for initial data analysis.

- SQL for database querying and management.

- Tableau for creating interactive dashboards.

- GitHub for version control and project management.

## Contact

For any questions or feedback, feel free to reach out to Dakota Smith at [your-email@example.com].

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\*\*Note\*\*: The dataset used in this project is hypothetical and for demonstration purposes only.