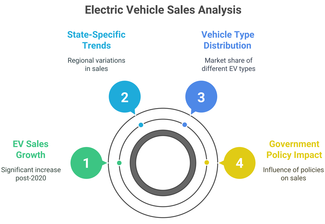
Exploratory Data Analysis (EDA) of Electric Vehicle Sales by State in India

This document presents an exploratory data analysis (EDA) of electric vehicle (EV) sales across various states in India, highlighting key findings and insights derived from the data. The analysis focuses on trends in EV sales, the impact of government policies, and the distribution of different vehicle types within the market. The findings reveal significant growth in EV sales post-2020, with specific states and vehicle categories leading the

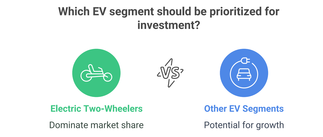


This project aims to analyze and predict the sales of Electric Vehicles (EV) by state in India using machine learning. The dataset contains the following columns :

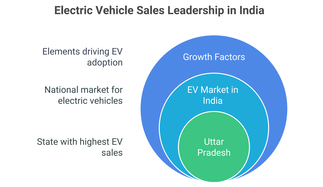
1. Year: The year of the sales.
2. Month_Name: The month in which sales occurred.
3. Date: The specific date of the sales.
4. State: The state in India where the sales occurred.
5. Vehicle_Class: The class of the vehicle (e.g.,sedan,SUV,etc.).
6. Vehicle_Category: The category of the vehicle (e.g.,commercial,passenger).
7. Vehicle_Type: The type of the vehicle (e.g.,2-wheeler,4-wheeler).
8. EV_Sales_Quantity: The quantity of EVsales.

Findings from EDA

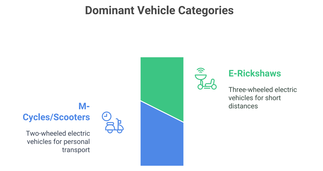
1. **Growth in EV Sales Post-2020: The analysis indicates a notable increase in electric vehicle sales after 2020. This surge can be attributed to several factors, including government incentives aimed at promoting clean energy, heightened environmental awareness among consumers, advancements in EV technology, and a growing public interest in sustainable transportation. Electric two-wheelers have emerged as the frontrunners in this market, accounting for nearly 60% of total EV sales in India.**



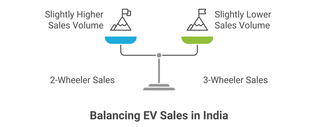
2. **Uttar Pradesh as the Leading State: The data reveals that Uttar Pradesh is the state with the highest number of electric vehicle sales. This finding underscores the state's pivotal role in the overall growth of the EV market in India.**



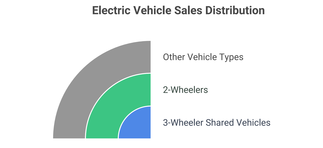
3. **Dominant Vehicle Categories: The analysis identifies two major categories of vehicle classes that contribute significantly to EV sales: E-Rickshaws and M-Cycles/Scooters. Notably, the highest sales of E-Rickshaws are recorded in Uttar Pradesh, indicating a strong preference for this mode of transport in the state.**



4. **Sales Distribution Between Vehicle Types: The majority of electric vehicle sales are concentrated in the 2-Wheeler and 3-Wheeler segments, with only a small difference in sales figures between the two categories. This highlights the importance of both vehicle types in the overall EV market.**



5. **Prevalence of 3-Wheeler Shared Vehicles: The analysis further reveals that the most commonly used vehicle type is the 3-Wheeler shared (Low Speed) vehicle, followed closely by 2-Wheelers. This trend suggests a growing reliance on shared mobility solutions, particularly in urban areas.**



In conclusion, the exploratory data analysis of electric vehicle sales in India provides valuable insights into market trends, consumer preferences, and the impact of government initiatives. The findings emphasize the importance of electric two-wheelers and three-wheelers, particularly in states like Uttar Pradesh, as the country moves towards a more sustainable transportation future.