

Market Segmentation Analysis of EVs in India

- Parvathy M D

PROBLEM STATEMENT

India's Electric Vehicle (EV) market is evolving rapidly, with increasing consumer and business interest. As an EV startup aiming to enter this market, it is crucial to understand the segments most likely to adopt electric vehicles. This involves identifying the geographic, demographic, psychographic, and behavioural segments that present the most significant opportunities. The goal is to determine the optimal location, target audience, and strategic pricing that aligns with the innovation adoption life cycle, ensuring a successful market entry and growth.

GithubLink: https://github.com/parvathynd/Feynn-Labs-Internship-/blob/main/Project2.1/EV_MarketSegmentation.ipynb

EXPLORATORY ANALYSIS

- **Number of EV Models Manufactured by Brand**

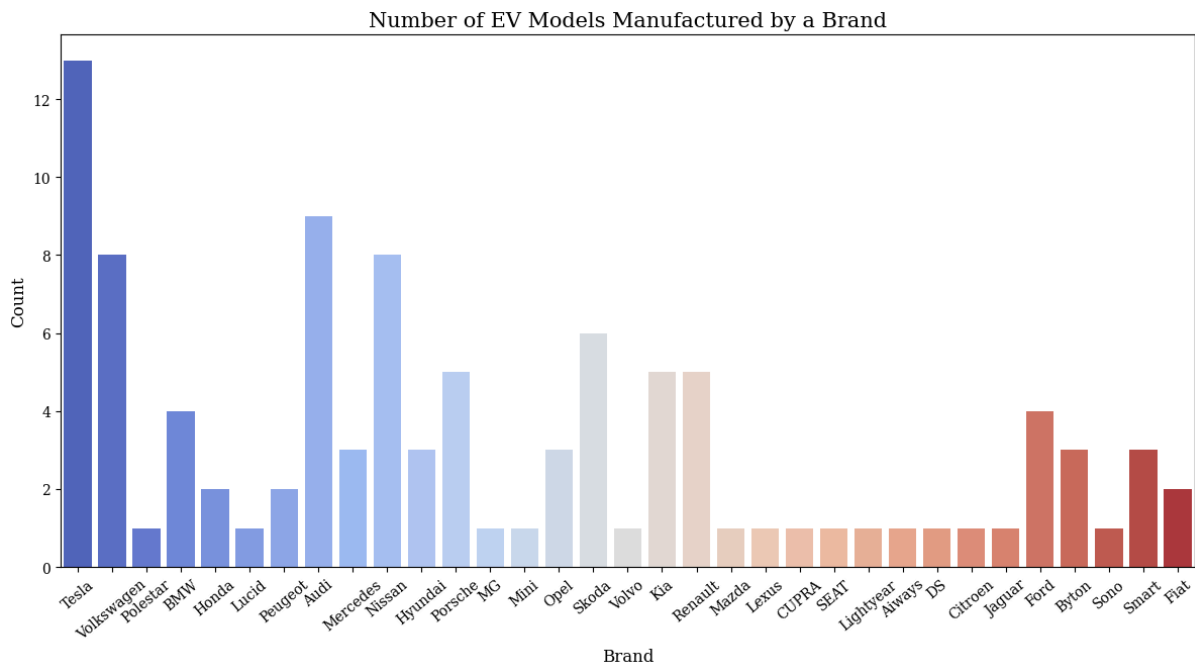
In our exploration of the Indian Electric Vehicle (EV) market, we first analyzed the number of EV models produced by various brands. The data reveals that a few key players dominate the landscape, with a significant concentration of models coming from a small number of manufacturers. This indicates a competitive environment where a handful of companies have established themselves as leaders in the EV sector. The distribution also suggests that new entrants may face challenges in breaking into the market unless they bring significant innovation or cater to an underserved niche. This concentration of models among leading brands highlights the importance of brand recognition and market trust in driving consumer adoption of EVs in India.

- **Types of Electric Vehicles in India**

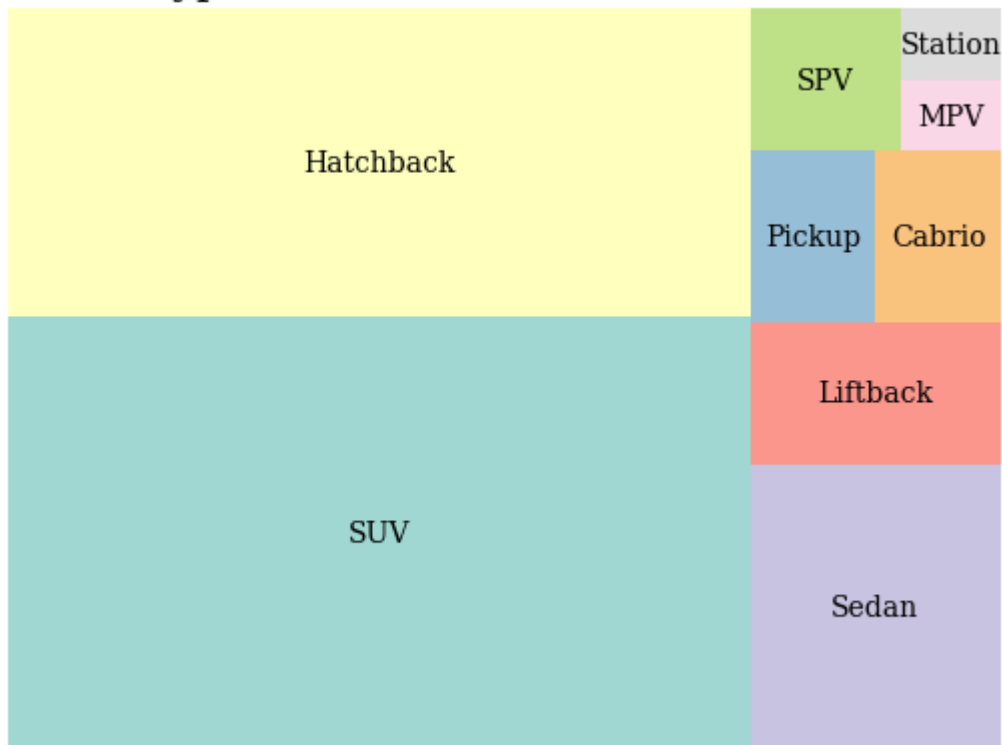
The analysis of the different types of EVs available in India offers a glimpse into the preferences and trends within the market. The data showcases a variety of body styles, including hatchbacks, sedans, SUVs, and two-wheelers, each catering to different segments of the population. The diversity in vehicle types indicates that manufacturers are attempting to meet a wide range of consumer needs, from urban commuters seeking compact and efficient vehicles to families and individuals desiring more spacious and versatile options. This variety also underscores the potential for segmentation strategies that focus on specific consumer needs, such as compact city cars for urban areas or robust SUVs for regions with more rugged terrain.

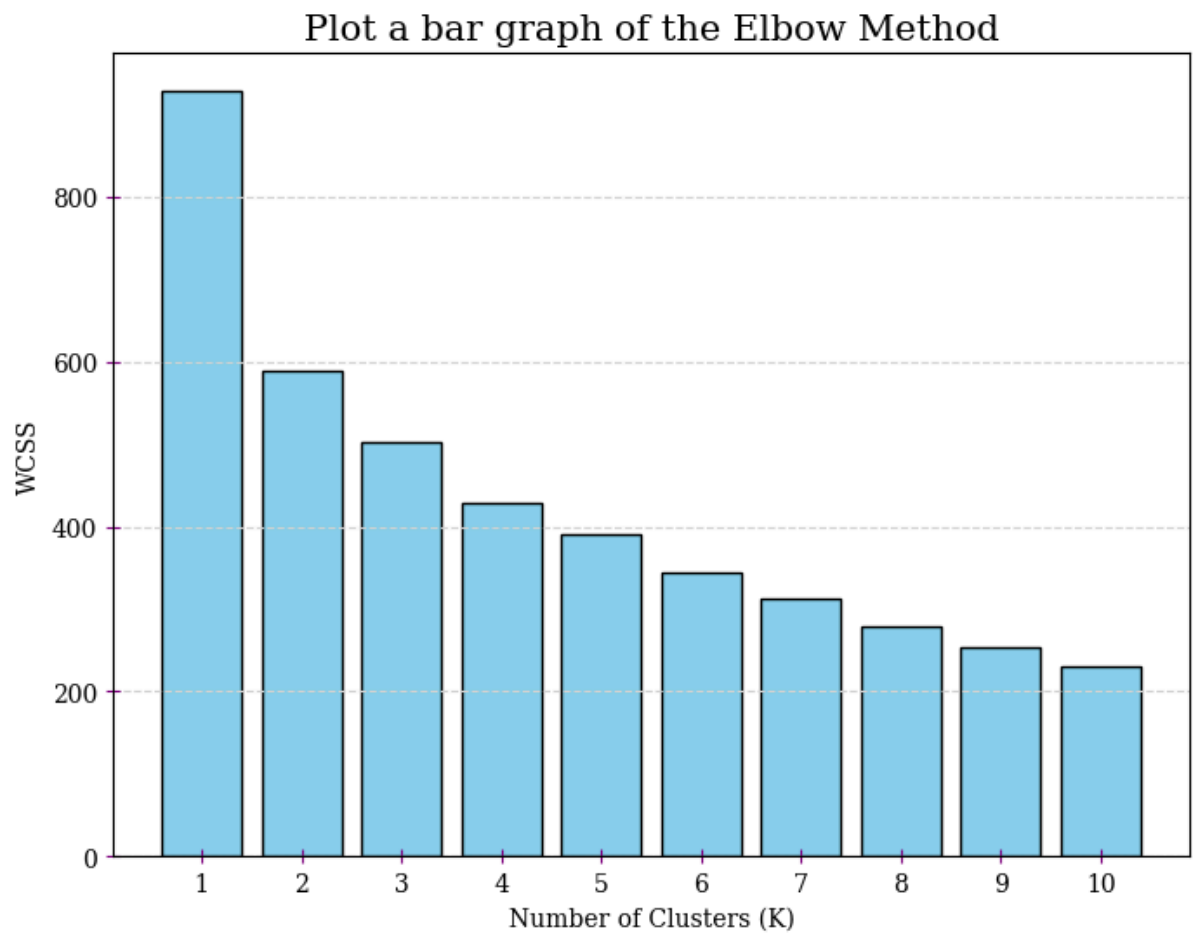
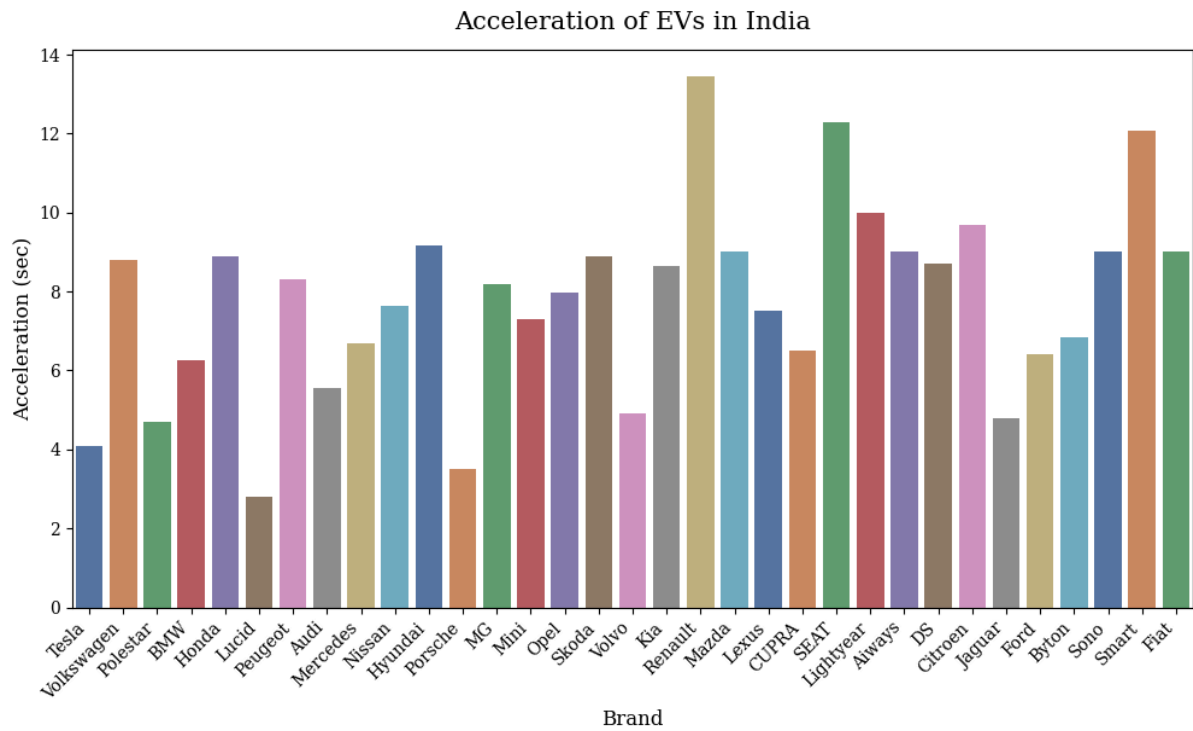
- **Acceleration of Electric Vehicles in India**

When examining the acceleration capabilities of EVs in India, the data reflects a broad spectrum of performance levels. This range demonstrates the market's attempt to cater to both performance-oriented consumers and those prioritizing efficiency and affordability. Some models offer quick acceleration, appealing to consumers who value speed and responsiveness, while others focus on moderate acceleration, likely targeting drivers more concerned with cost-effectiveness and range. The variation in acceleration also suggests that consumer segments with differing priorities, such as young professionals versus family-oriented buyers, are all being considered by manufacturers. This diversity in performance characteristics is crucial for addressing the diverse needs of the Indian market, where driving conditions and consumer expectations can vary widely across different regions.



Types of Electric Vehicles in India





K-Means Clustering Results

