

Data Analysis Report:

Team Members:

- vivek
- chakritha
- meghana
- parth prabune
- aswanth

Fermi Estimation (Breakdown of Problem Statement):

1. Estimate total vehicles in India.
2. Estimate percentage of electric vehicles.
3. Multiply to find size of EV market in India.
4. Segment the EV market based on geographic, demographic, psychographic, and behavioral factors.
5. Identify optimal market segments.

Data Sources (Data Collection):

- Census reports for demographic data.
- Government databases for geographic data.
- Surveys and research reports for psychographic and behavioral data.
- Electric vehicle sales data.

Data Pre-processing:

1. Loaded the dataset using Pandas.
2. Checked for missing values and handled them appropriately.
3. Converted data types as needed.
4. Utilized libraries such as Pandas and NumPy for data manipulation.

Segment Extraction (ML Techniques Used):

1. Conducted exploratory data analysis to understand the dataset.
2. Used clustering techniques such as K-means to extract segments based on features like electric range, base MSRP, and geographic location.

Profiling and Describing Potential Segments:

1. Identified segments based on geographic location, demographic characteristics, and purchasing behaviour.
2. Described each segment's preferences, needs, and behaviours using descriptive statistics and visualization.

Selection of Target Segment:

1. Selected the segment with the highest potential for growth and profitability.

2. Chose a segment that showed a high concentration of electric vehicle adoption and favourable purchasing behaviour.

Customizing the Marketing Mix:

1. Developed the sales, vehicles sold strategies for the chosen segment.
2. Adapted product offerings, pricing strategies, promotion channels, and distribution methods to align with the segment's preferences and needs.

Potential Customer Base and Profit Calculation:

1. Calculated the potential customer base in the early market and income generated by selling the ev
2. Estimated potential profit in the early market by multiplying the potential customer base with the target price range.

Based on market research and segmentation analysis, the most optimal market segments to open are those with:

- High concentration of electric vehicle adoption.
- Favorable demographic and psychographic characteristics.
- Strong purchasing behavior indicative of potential growth and profitability.