Electric Vehicle
Market Segmentation
India

Rahul Moolchandani

Introduction

In India the electric vehicle market is currently growing very fast and in future it is predicted to grow much more. Indians buy 40 lakh passenger vehicles every year. India has 21 crore two wheelers registered and 10 crore four wheelers registered.

As the stats suggest the two-wheeler market is very big as compared to others because in India two-wheeler is used for daily purposes and also it is a cost effective and efficient mode of transportation. Vahan's a government site data give insights that only 6 lakhs out of all two-wheeler are electric. So we can clearly see the potential of electric two-wheeler. This report focuses on electric two-wheelers.

Market Segmentation

Market segmentation is a marketing strategy in which select groups of consumers are identified so that certain products can be presented to them in a way that appeals to their interests.

Problem Statement

The challenge is to strategically position our EV business or startup in Indian market by using data driven insights and technical knowledge and customer reviews.

Objective

To take out insights for effectively segment the Indian market and recommend target segments for electric two-wheeler.

Idea Explanation

The EV India market is very big so to strategically position ourselves we can divide our customers in many way like two and four wheeler, capacity wise, riding range wise, etc.

In this report I have focused on the market segmentation based on price of electric two-wheeler that is known as pricing segmentation and other will based on reviews of consumer of electric two-wheeler that is known as behavioral segmentation. The main idea is to learn the pattern and predict according to that.

I'm using machine learning model k-means to make a cluster or group of same features consumer. The final output will be which segment to target if you are a new business in EV two-wheeler or to learn from existing businesses.

These machine learning models can also help existing EV companies to target the specific consumer for their products marketing and all and increase their sales.

Code

LINK - https://github.com/rahul70245/Market-Segmentation-EV-2-Wheeler-India

Code Explanation

- Dataset is based on sales of electric two-wheeler vehicles and the review of that particular customer using that vehicle. Data is collected through bikedekho and other platforms and also from Kaggle.
- Then the respective process is done of exploratory data analysis and pre-processing of data.

- For pricing segmentation we have excluded the review field from data and trained a k-means clustering machine learning algorithm which is creating a group or clusters of three that is low, medium and high price range vehicle with different features of vehicle.

- For behavioral segmentation we have excluded the price field from data and trained a k-means clustering machine learning algorithm which is creating a group or clusters of again three that is based on review of consumer as good, bad and ok with different features of vehicle.

- With these two models we have also segment the market on basis of some technical features also.

Conclusion

As mentioned in start the number of two-wheelers in India is very large and the low amount of EV in that but as Indian Government is working to spread the use of electric vehicle in India it will be a booming market in future. The business should choose their segment of consumers according to their products features. The ideal strategic segment for EV two-wheel to position in the market will be mid-price range with good riding range and medium weight and high power and many more as per the statistics and data.