Project Report

1 INTRODUCTION

1.1 Overview

A vehicle that can be powered by an electric motor that draws electricity from a battery and is capable of being charged from an external source and have an electric motor instead of an internal combustion engine.

The Electric Vehicle (EV) is not new, but it has been receiving significantly more attention in recent years. Advances in both EV analytics and battery technologies have led to increased automotive market share. However, this growth is not attributed to hardware alone. The modern mechatronic vehicle marries electrical storage and propulsion systems with electronic sensors, controls, and actuators, integrated closely with software, secure data transfer, and data analysis, to form a comprehensive transportation solution. Advances in all these areas have contributed to the overall rise of EV's, but the common thread that runs through all these elements is data analytics.

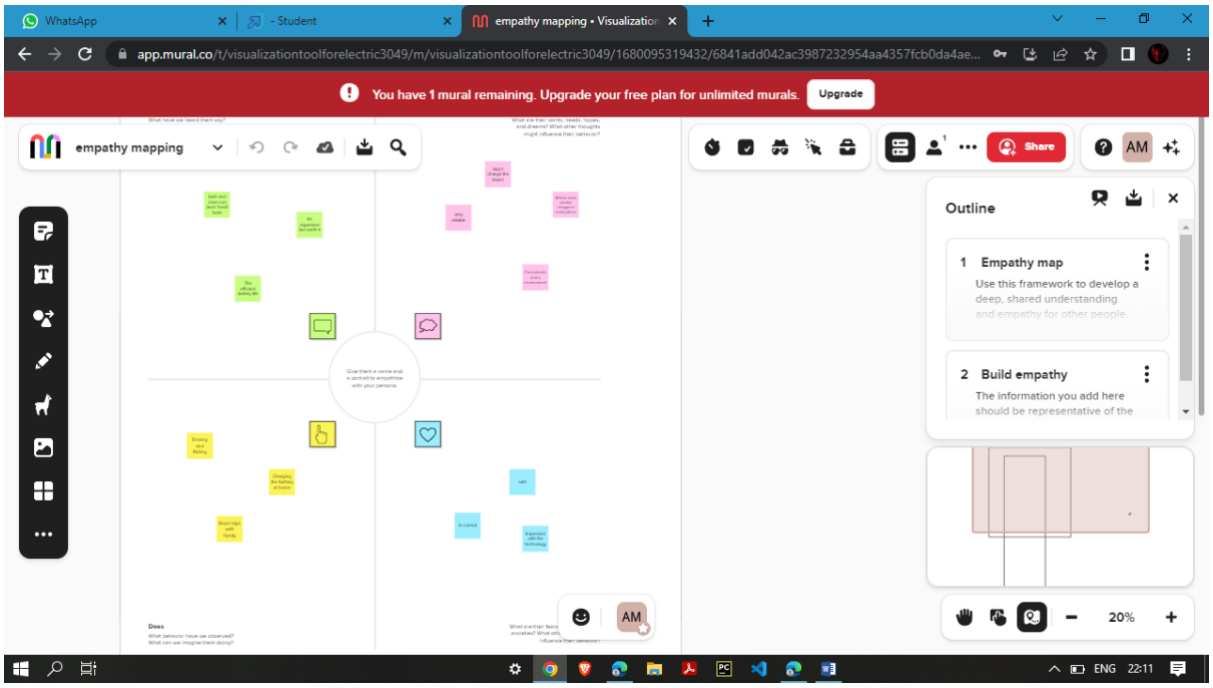
The new EV's are combined Electrical storage and propulsion systems with electronic sensors, controls, and actuators, integrated closely with software, secure data transfer to form a comprehensive transportation solution.

1.2 Purpose

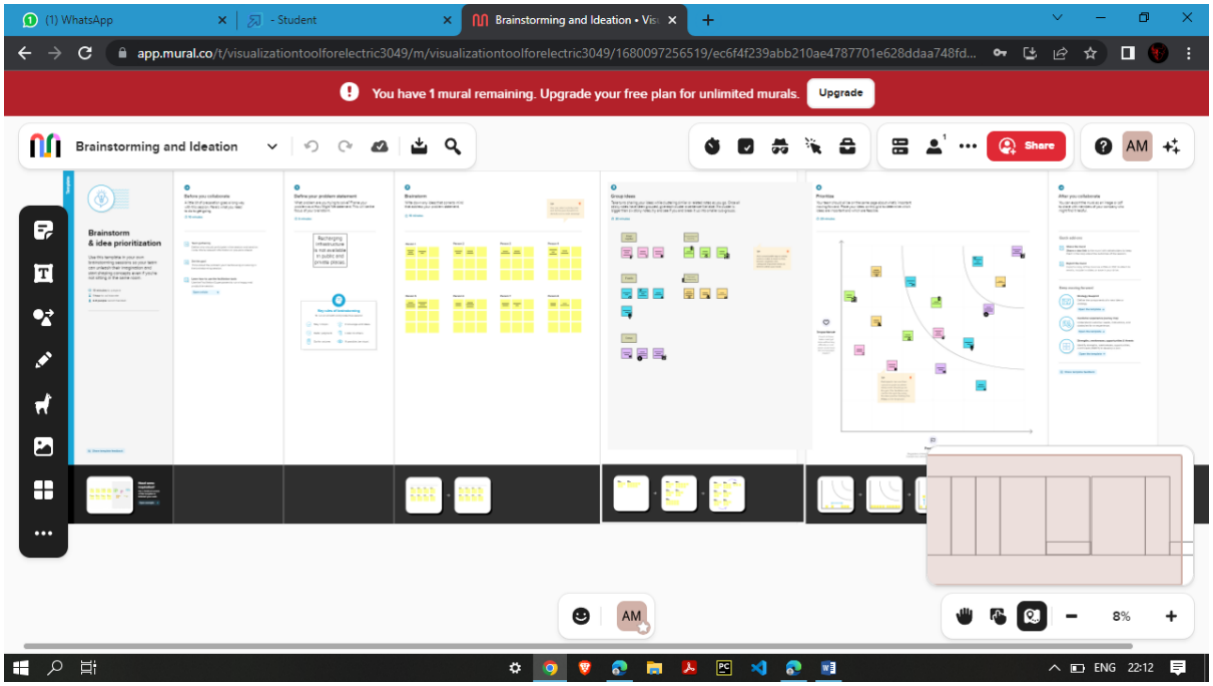
Vehicle power electronics primarily process and control the flow of electrical energy in hybrid and plug-in electric vehicles, including plug-in electric vehicles. They also control the speed of the motor, and the torque it produces.

2 Problem Definition & Design Thinking

2.1 Empathy Map

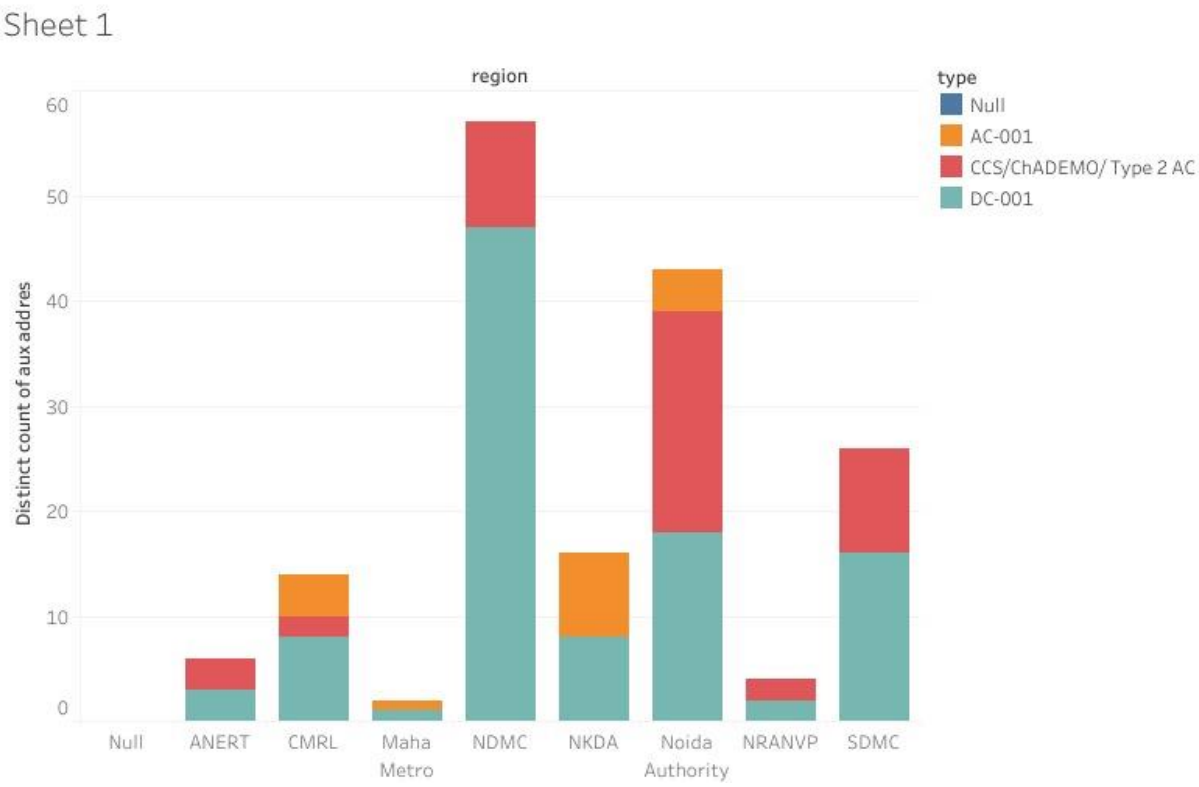


3.2 Ideation & Brainstorming Map

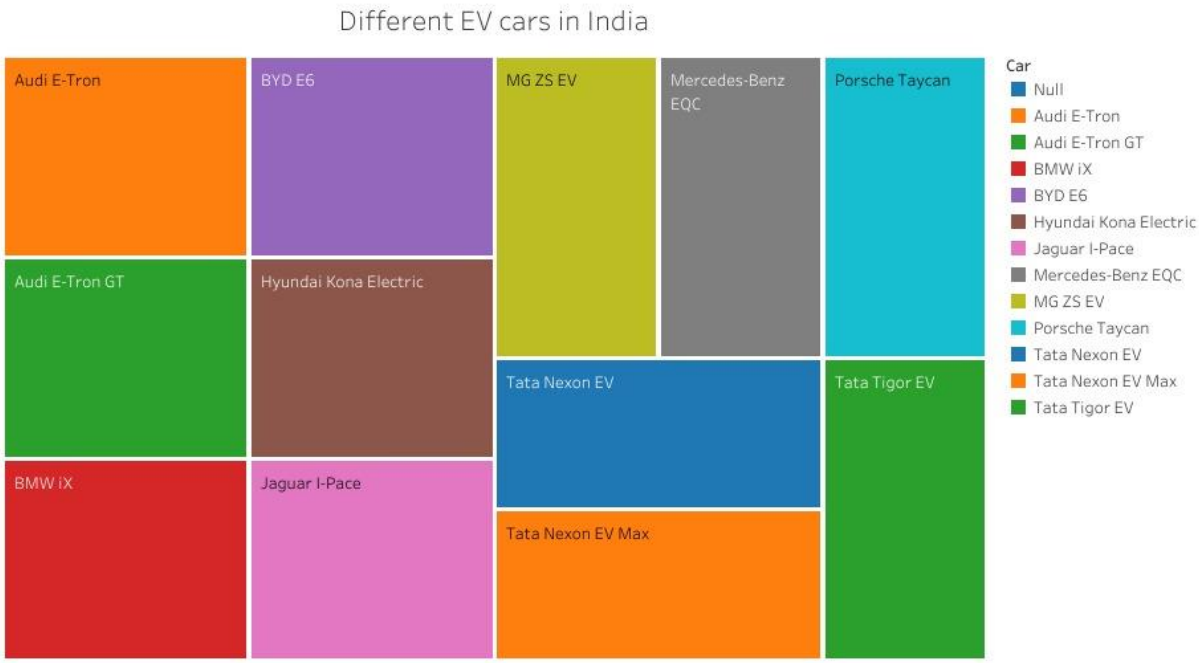


3 RESULT

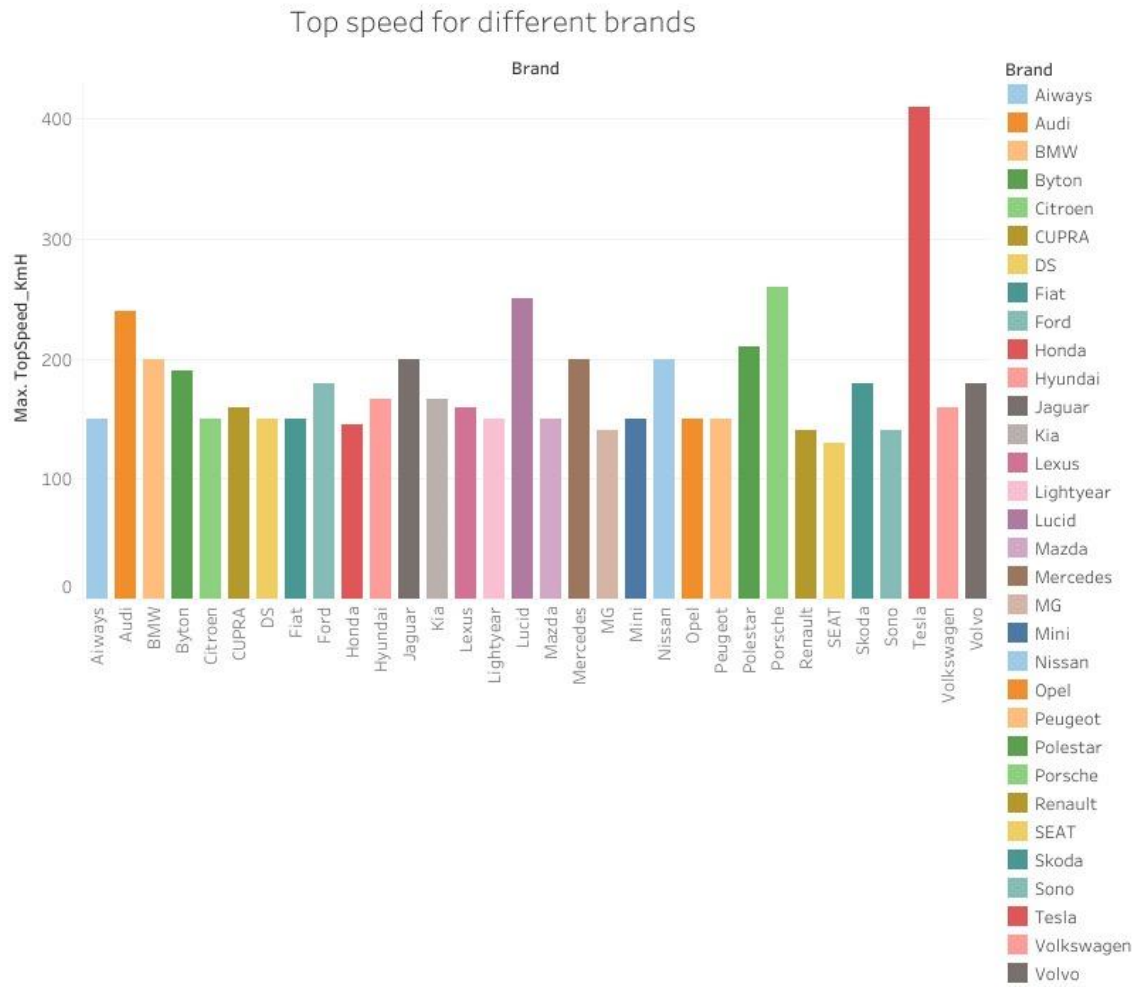
1.Charging stations by region and type in India



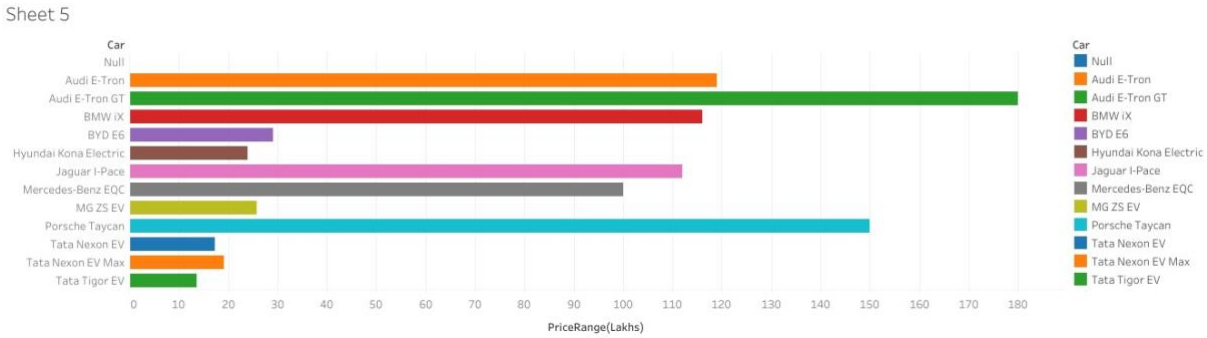
2.Different EV cars in India



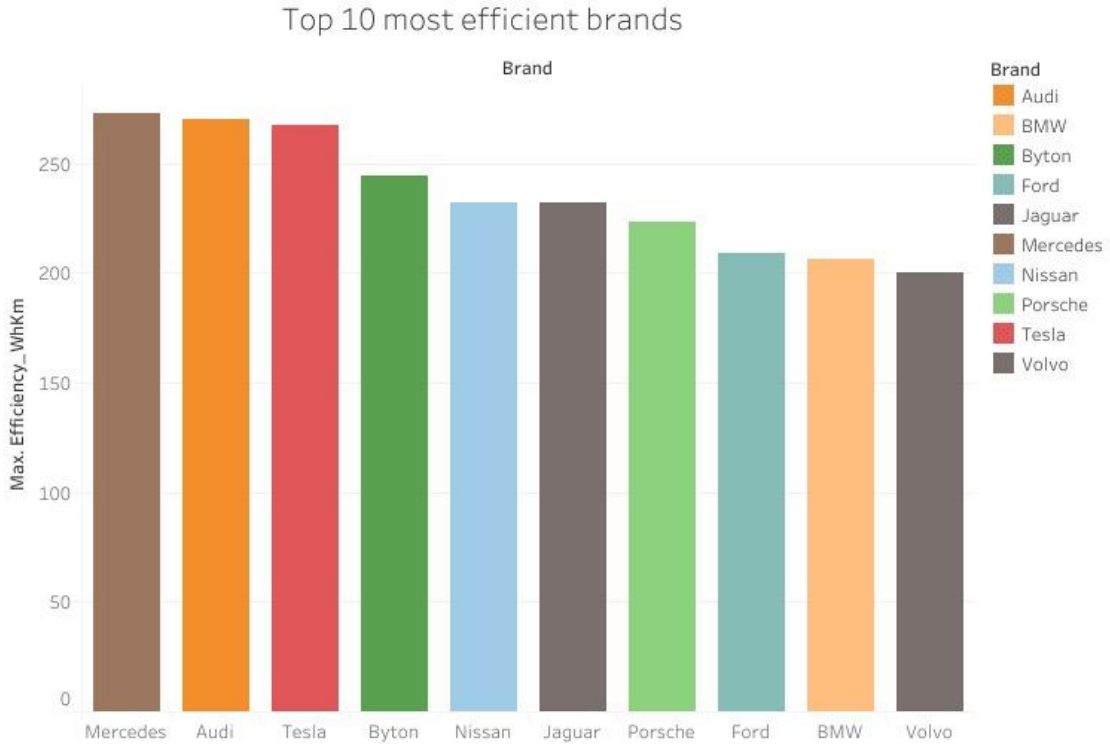
3.Top speed for different brands



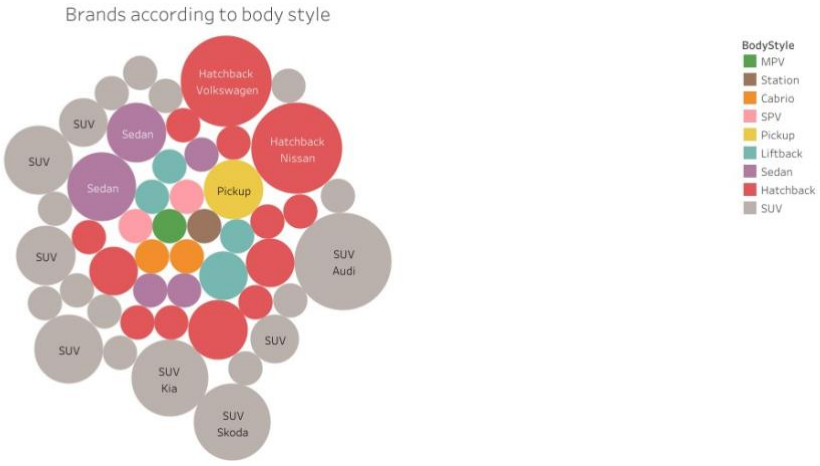
4.Price for different cars in India



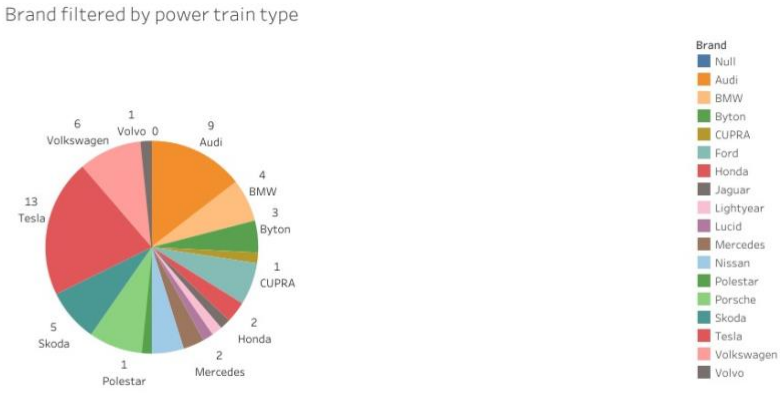
5.Top 10 most efficient EV brands



6.Brand according to body style



7.Brand filtered by Powertrain type



8.Summary card for different brands of EV cars globally

different brands of electric car globally

98

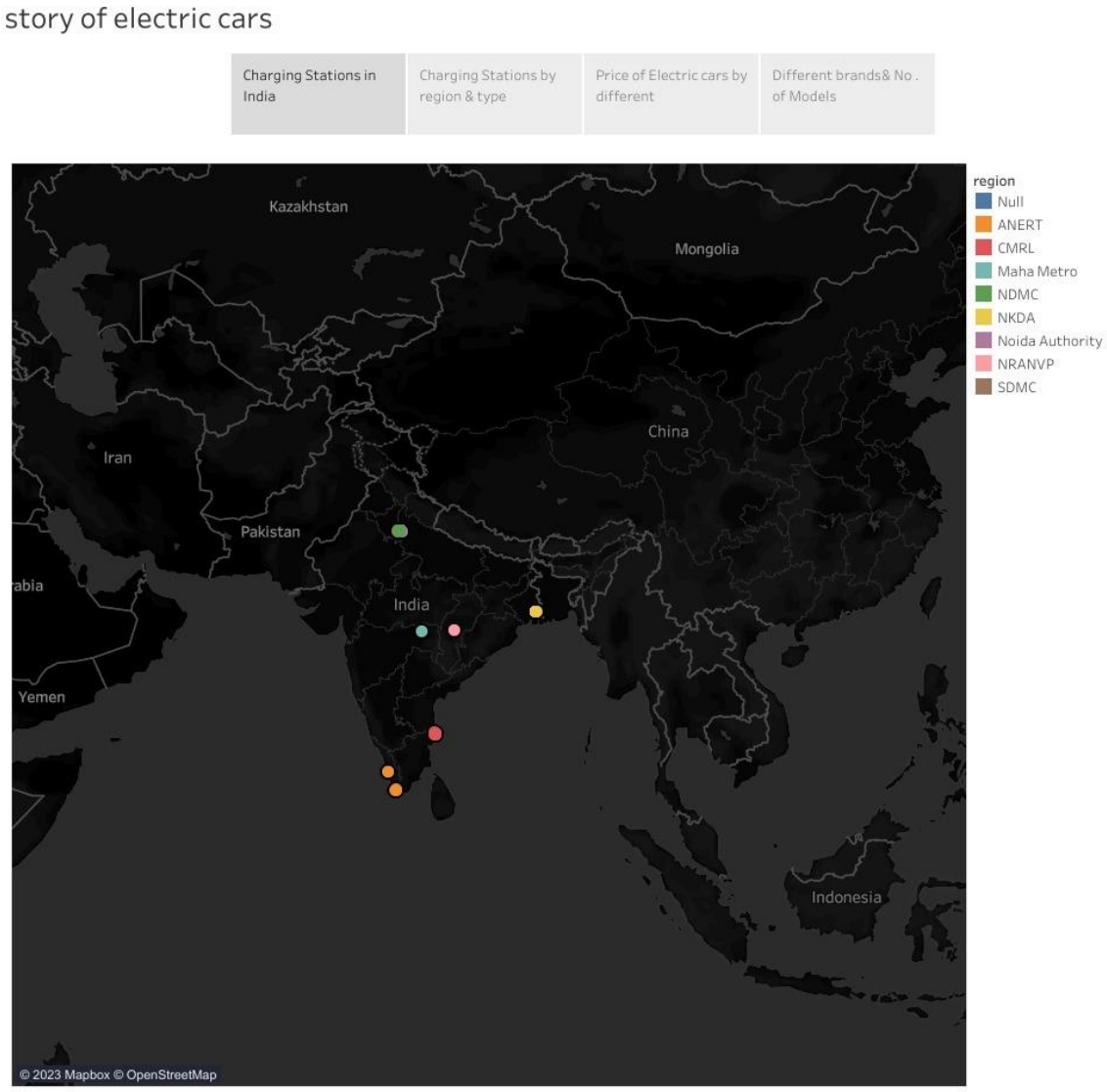
9.Summary card for different brands of EV cars in India

different electric car names in India

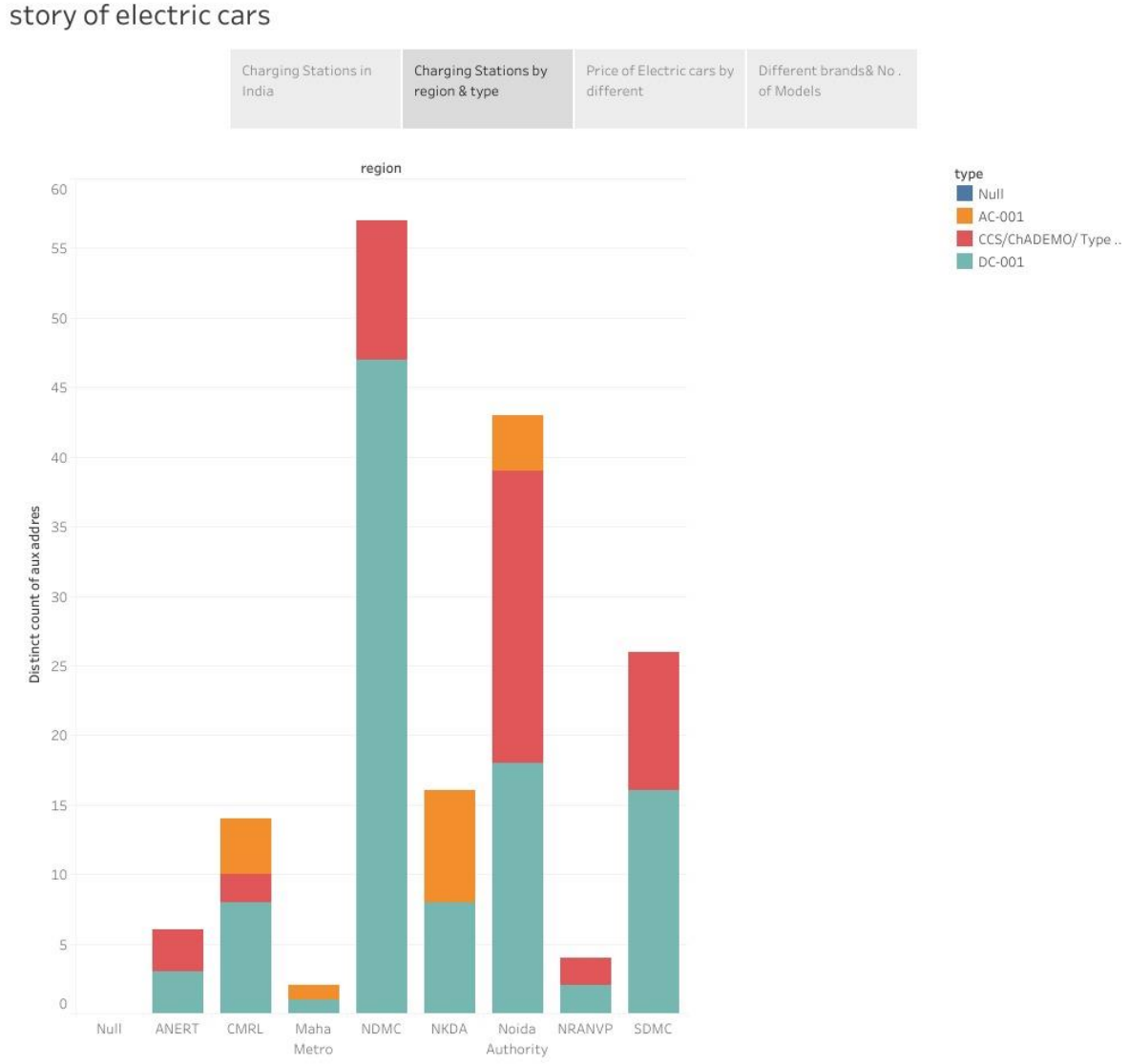
9

10.Story of electric vehicles

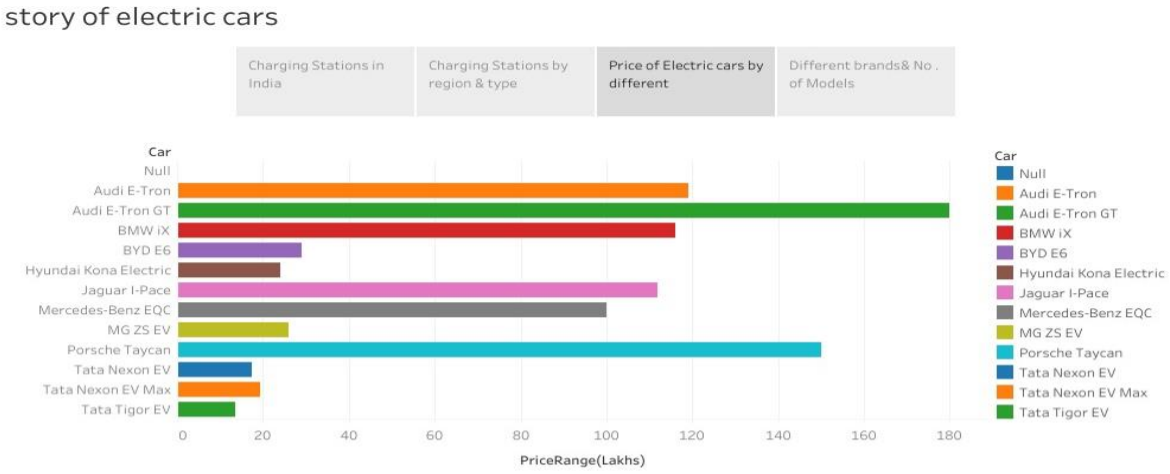
Charging stations in India



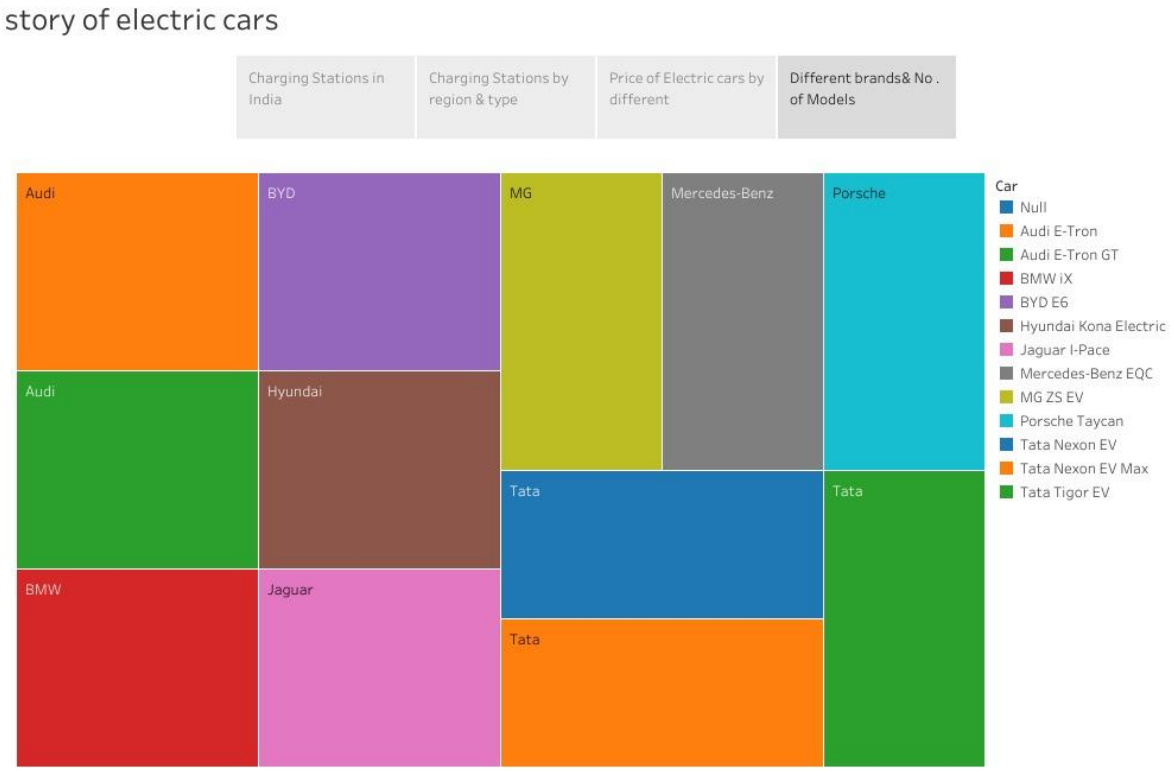
11.Charging stations by regions and type



12.Price of electric cars by different



13.Different brands and no of models



4 ADVANTAGES & DISADVANTAGES

ADVANTAGES

1. No fuel required so you save money on gas
2. Environmental friendly as they do not emit pollutants
3. Lower maintenance due to an efficient electric motor
4. Better performance

DISADVANTAGES

1. Travel less distance
2. Long charging times
3. Expensive

5 APPLICATIONS

EV technology is used in hybrid electric vehicles, or HEVs; plug-in hybrid electric vehicles, or PHEVs; and battery electric vehicles, or BEVs.

6 CONCLUSION

Vehicle-to-grid (V2G) is a promising technology that allows idle or parked EVs to act as distributed sources, which can store or release energy at appropriate times, thus allowing the exchange of power between the network and the EV.

7 FUTURE SCOPE

By 2022, India's GDP is predicted to increase by a staggering 25%. The best aspect is that, in addition to decreasing pollution, EVs can reduce oil imports by $60 billion by 2030. Currently, imports account for 82 per cent of India's oil requirement.