

Visualization Tool for Electric Vehicle

Charge and Range Analysis

Project Report

1) INTRODUCTION

1.1 Overview

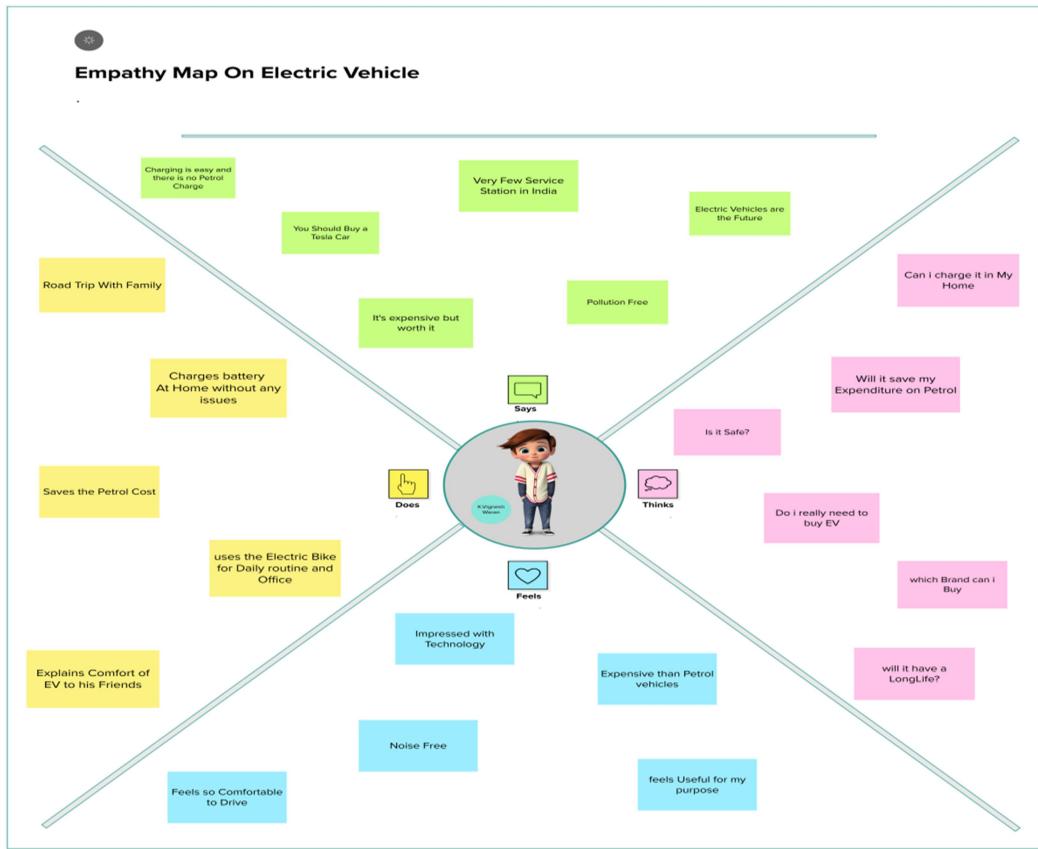
A vehicle that can be powered by an electric motor that draws electricity from a battery and is capable of being charged from an external source and have an electric motor instead of an internal combustion engine. The Electric Vehicle (EV) is not new, but it has been receiving significantly more attention 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

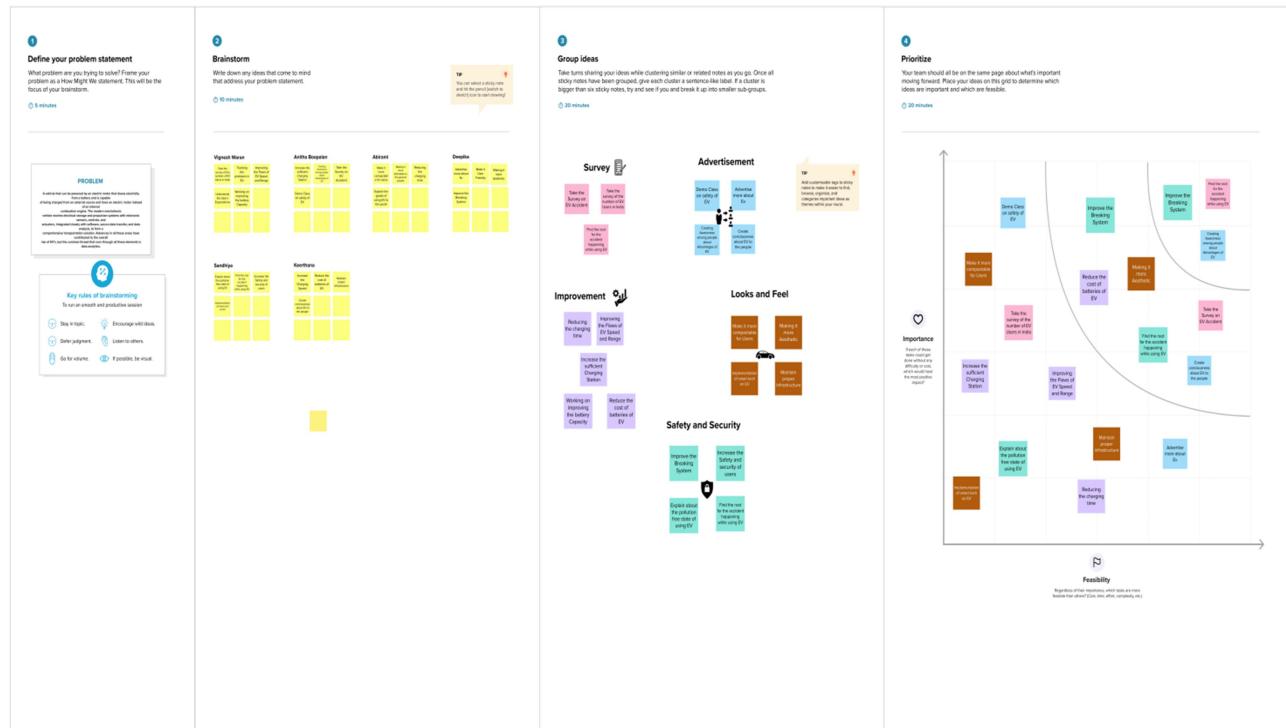
Data Visualization provides a quick and effective way to communicate information in a universal manner using visual information. Data visualization is the graphical representation of information and data in a pictorial or graphical format (Example: charts, graphs, and maps). Data visualization tools provide an accessible way to see and understand trends, patterns in data and outliers. Data visualization tools and technologies are essential to analyse massive amounts of information and make data driven decisions. The concept of using pictures is to understand data has been used since centuries. General types of data visualization are Charts, Tables, Graphs, Maps, Dashboard. Visualization of Electric Vehicles easily helps us to finds the full details on Electric Vehicles in India

2) Problem Definition and Design Thinking

2.1 Empathy Map

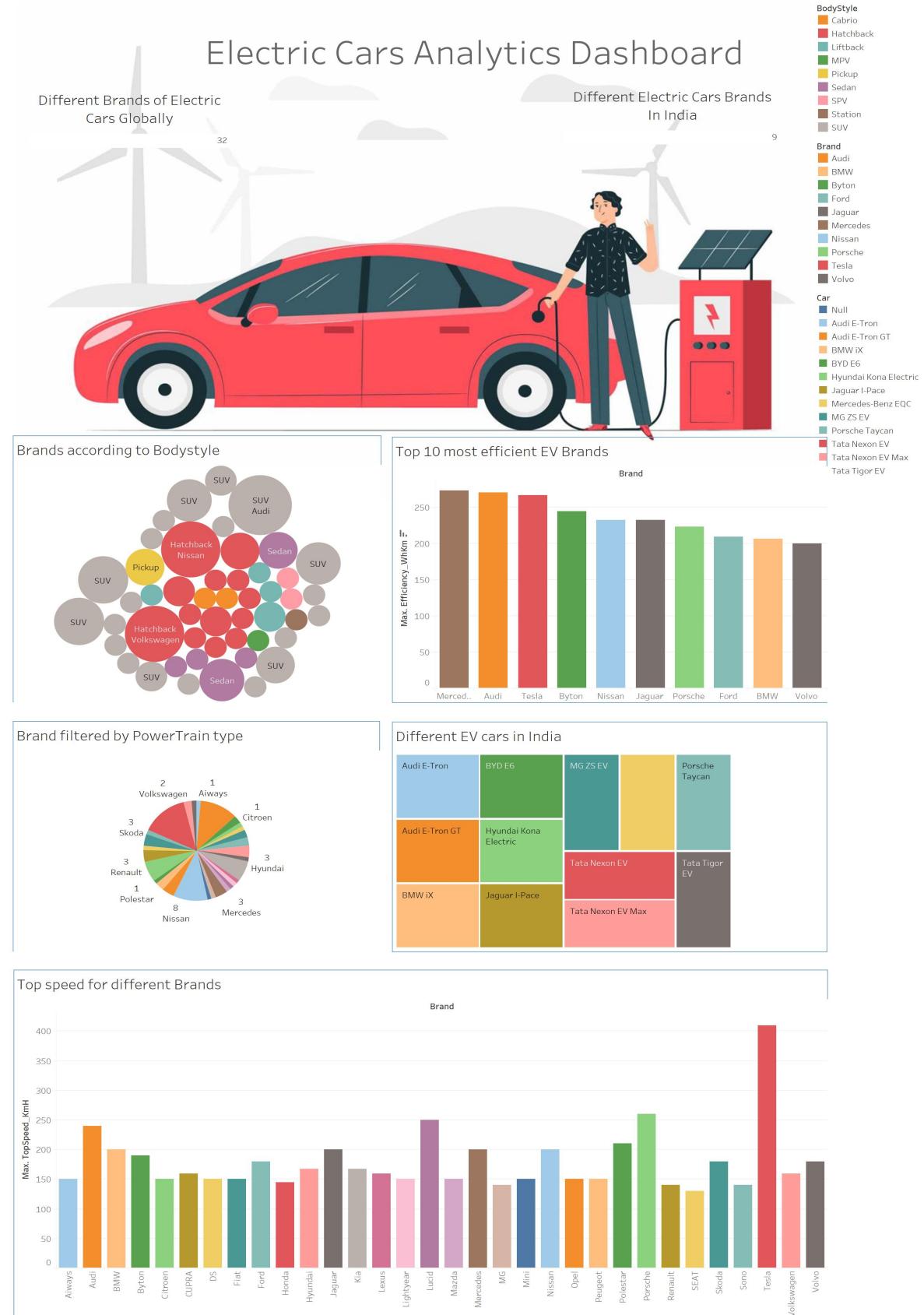


2.2 Ideation & Brainstorming Map

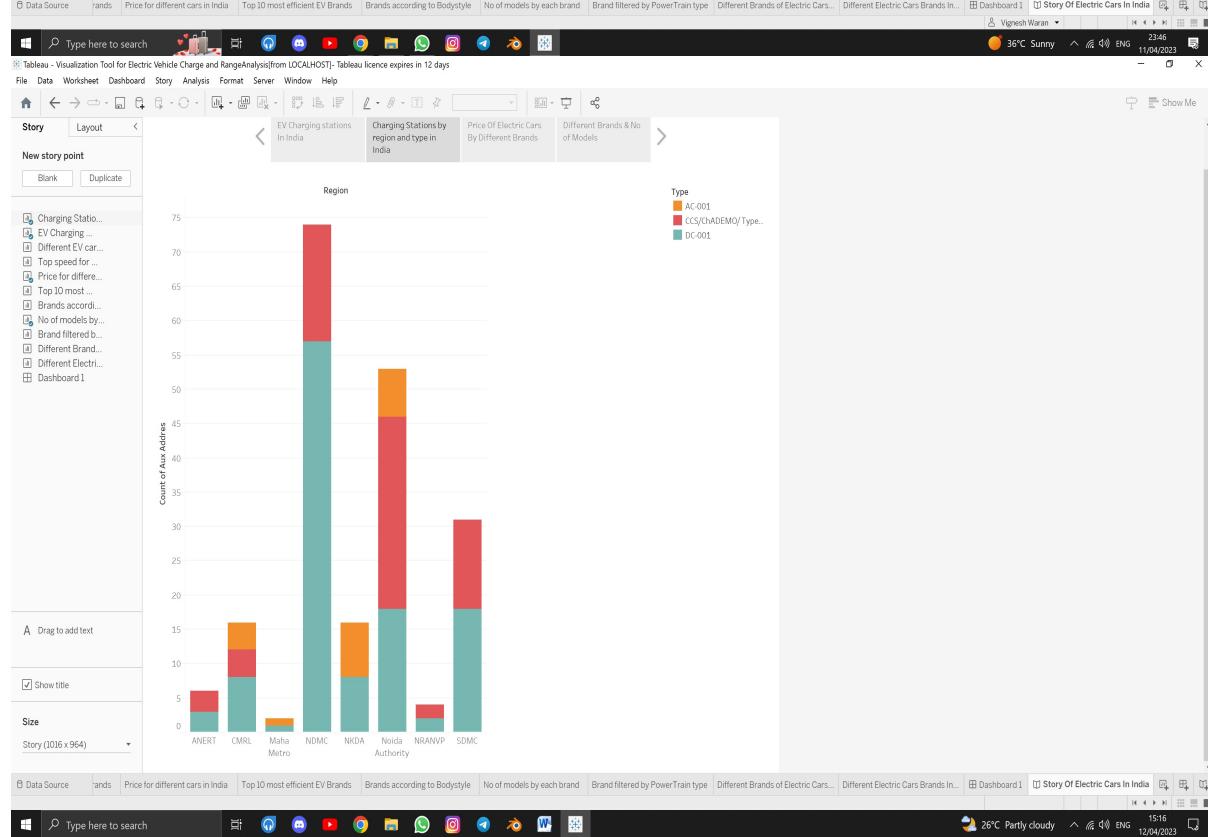
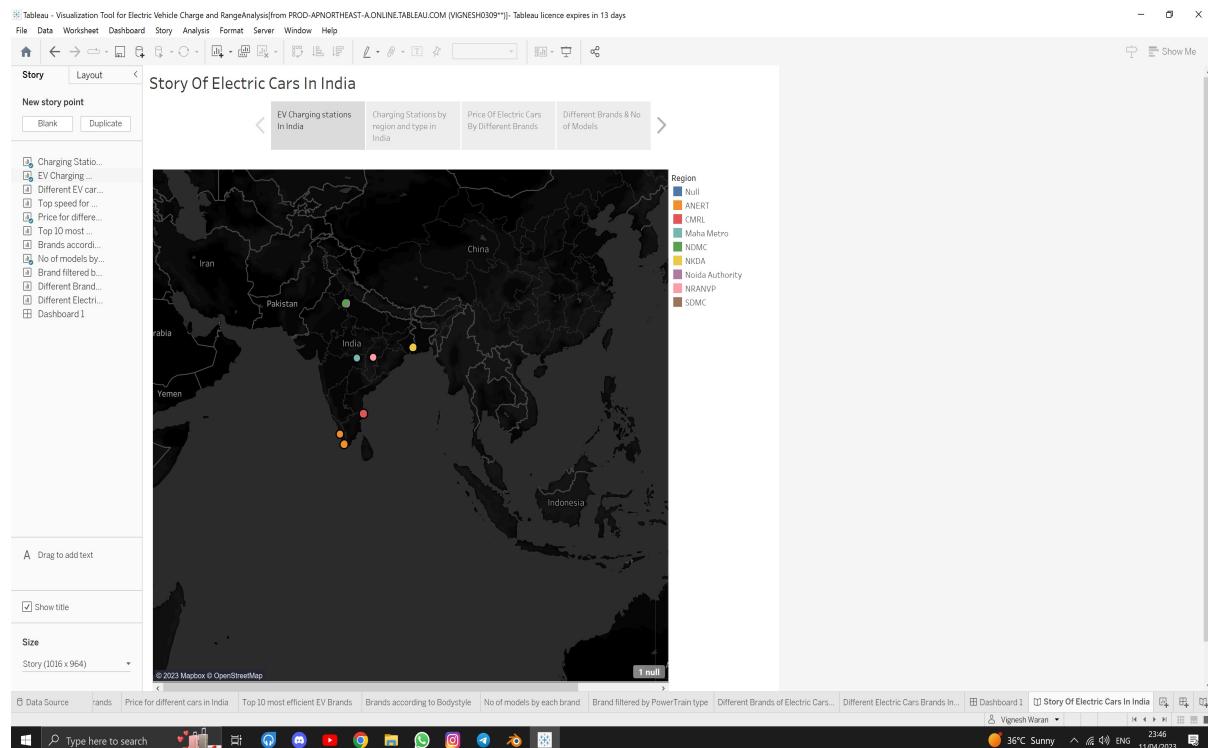


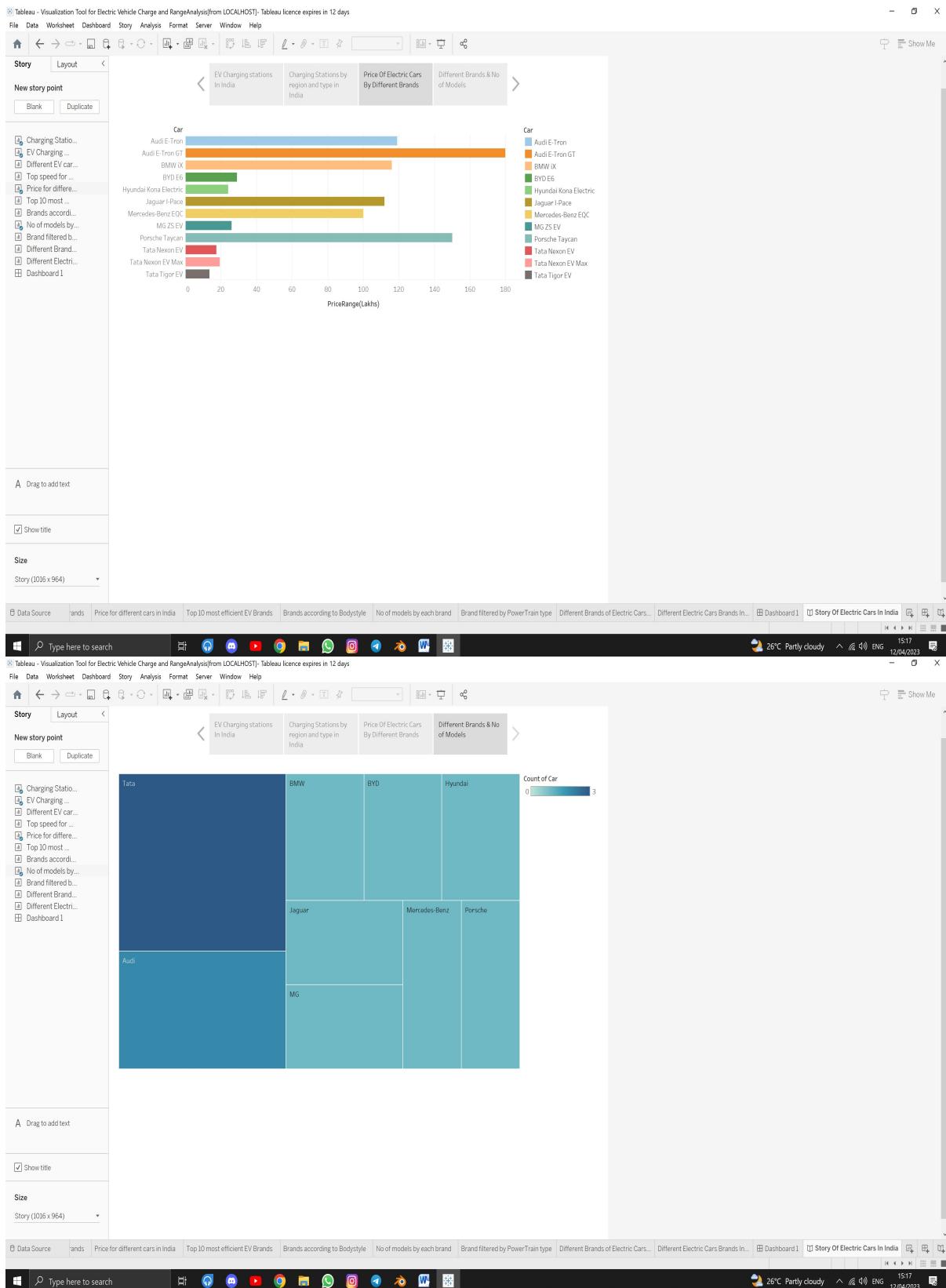
3) RESULT

Dash Board



Story Of Electric Vehicles In India





Web Application

E-CarStart

We offer modern Analytics solutions for Electric Vehicles

[Get Started →](#)



E-Car Start
E-Car Start is a innovative analytics tool for electric vehicles in the world. It has been receiving significantly more attention in recent years. Advances in battery technology, range, and performance have led to significant improvements in vehicle efficiency and range. In addition, the integration of advanced sensor and communication systems with electric vehicles, controls, and data processing has enabled the development of new transportation solutions. Advances in AI and machine learning have also contributed to the growth of this field.



E-Car Start Analytics Dashboard

Electric Cars Analytics Dashboard

Different Brands of Electric Cars Globally

Different Electric Cars Brands in India

Brands according to BodyType

Top 10 most efficient EV Brands

Brands Filtered by PowerTrain type

Different EV cars in India

Top speed for different Brands

E-Car Start

There are many different features of our project



- Analyze the correct stats
- Get to know EV more
- Know about Charging Stations
- Top performing Brands
- Different brands in India
- Different brands Globally

Overview of Electric Vehicle Sector

The supply of fossil fuels is constantly decreasing. The situation is very alarming. It's time for the world to slowly adapt to electric vehicles.

- A set of charge needs to happen
- Many companies like Tesla and Porsche manufacture many electric vehicles.
- The improvement of battery technology in recent years has led to the higher popularity of electric vehicles.
- Buying an EV vehicle can be a great choice for consumers. The drive quality, low noise levels, and convenience are really great.

ELECTRIC CAR



Electric vehicles Analytics Story

Story Of Electric Cars in India



TESTIMONIALS

What they are saying about us

★★★★★
From my own report due to severe climate change issue and the need for sustainable energy, I have decided to switch to electric vehicles and encourage my family members and friends to do the same.

★★★★★
Apture enim etiam quis cillum dolore dolor esse nulla culpa tempor nisi ut labore et dolore magna aliqua.

★★★★★
Quis situr enim quis quam legem fore sunt etiam utre.

E-CarStart
Innovative Analytics solutions for Electric Vehicles.

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- Marketing
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OUR SERVICES

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- Dashboard
- Marketing
- Story

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4) Advantages & Disadvantages of EV

Advantages:

Eco-friendly: Because electric vehicles do not utilize fuel for combustion, there are no emissions or gas exhaust. Vehicles that run on fossil fuels contribute significantly to hazardous gas accumulation in the environment, thus driving an electric car can help contribute to a cleaner environment.

Renewable energy source: Electric vehicles run on renewable power, whereas conventional automobiles function on the combustion of fossil fuels, which reduces the world's fossil-fuel stocks.

Less noise and smoother motion: Driving an electric car is significantly smoother. Because they lack fast-moving elements, they are quieter and produce less noise.

Cost-effective: Electricity is far less expensive than fuels such as gasoline and diesel, which are subject to regular price increases. When solar electricity is utilized at home, battery recharging is cost-effective.

Low maintenance: Because electric cars have fewer moving components, wear and tear is reduced when compared to traditional auto parts. Repairs are also simpler and less expensive than combustion engines.

Government support: Governments throughout the world have granted tax breaks to encourage people to drive electric vehicles as part of a green program.

Disadvantages:

High initial cost: Electric vehicles continue to be quite expensive, and many buyers believe they are not as inexpensive as traditional automobiles.

Charging station limitations: People who need to travel long distances are concerned about finding adequate charging stations in the middle of their journey, which are not always accessible.

Recharging takes time: Unlike conventional automobiles, which require only a few minutes to replenish their gas tanks, charging an electric vehicle takes many hours.

Limited options: Currently, there aren't many electric car models to pick from in terms of appearance, style, or customized variations.

Less driving range: When compared to conventional automobiles, electric vehicles have a shorter driving range. Electric cars can be convenient for short-distance travel but are inconvenient for long-distance travel.

5) APPLICATIONS

- This Visualization can be applied in my ways.
- It can be used in industry to analyse the data on Electric Vehicles.
- It helps the government to understand growth of EV in India.
- It gives full idea for the EV companies to develop their flaws and increase the infrastructures and build more EV stations around India.
- Very much helpful for a commoner to easily understand the current situation, types of brand, no of charging stations, Models of EV available in India.

6) CONCLUSION

The progress that the electric vehicle industry has seen in recent years is not only extremely welcomed, but highly necessary in light of the increasing global greenhouse gas levels. As demonstrated within the economic, social, and environmental analysis sections of this webpage, the benefits of electric vehicles far surpass the costs. The biggest obstacle to the widespread adoption of electric-powered transportation is cost related, as gasoline and the vehicles that run on it are readily available, convenient, and less costly. As is demonstrated in our timeline, we hope that over the course of the next decade technological advancements and policy changes will help ease the transition from traditional fuel-powered vehicles. Additionally, the realization and success of this industry relies heavily on the global population, and it is our hope that through mass marketing and environmental education programs people will feel incentivized and empowered to drive an electric-powered vehicle.

7) FUTURE SCOPE

This Visualization will serve a great scope for the future since it has many data on the EV it gives a better understanding and insight on EV in India, even after the much more developed stage of EV this Data will be much more useful to know about the Growth scale of Electric vehicles around India. Because of its Pollution free state and great features EV will place a major role in our Future and this data visualization will help us to reach that state. So this data has a great scope for the Future Of EV