VISUALIZATION_TOOL_FOR_ELECTRIC_ VECHILE_CHARGE_AND_RANGE_ANALYSIS

1. INTRODUCTION

1.1 OVERVIEW

An EV includes both a vehicle that can only be powered by an electric motor that draws electricity from a battery and a vehicle that can be powered by an electric motor that draws electricity from a battery and by an internal combustion engine (plug-in hybrid electric vehicle).

Charging stations are also called electric vehicle supply equipment (EVSE) and are provided in municipal parking locations by electric utility companies are at retail shopping centers by private companies.

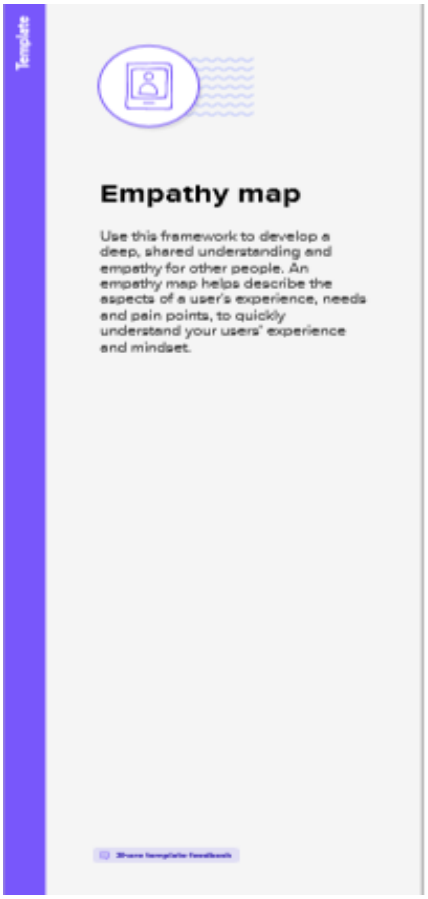
1.2 PURPOSE

Electric vehicle charging is equipment that connects an electric vehicle (EV) to a source of electricity to recharge electric cars, neighborhood electric vehicles and plug – in hybrids.

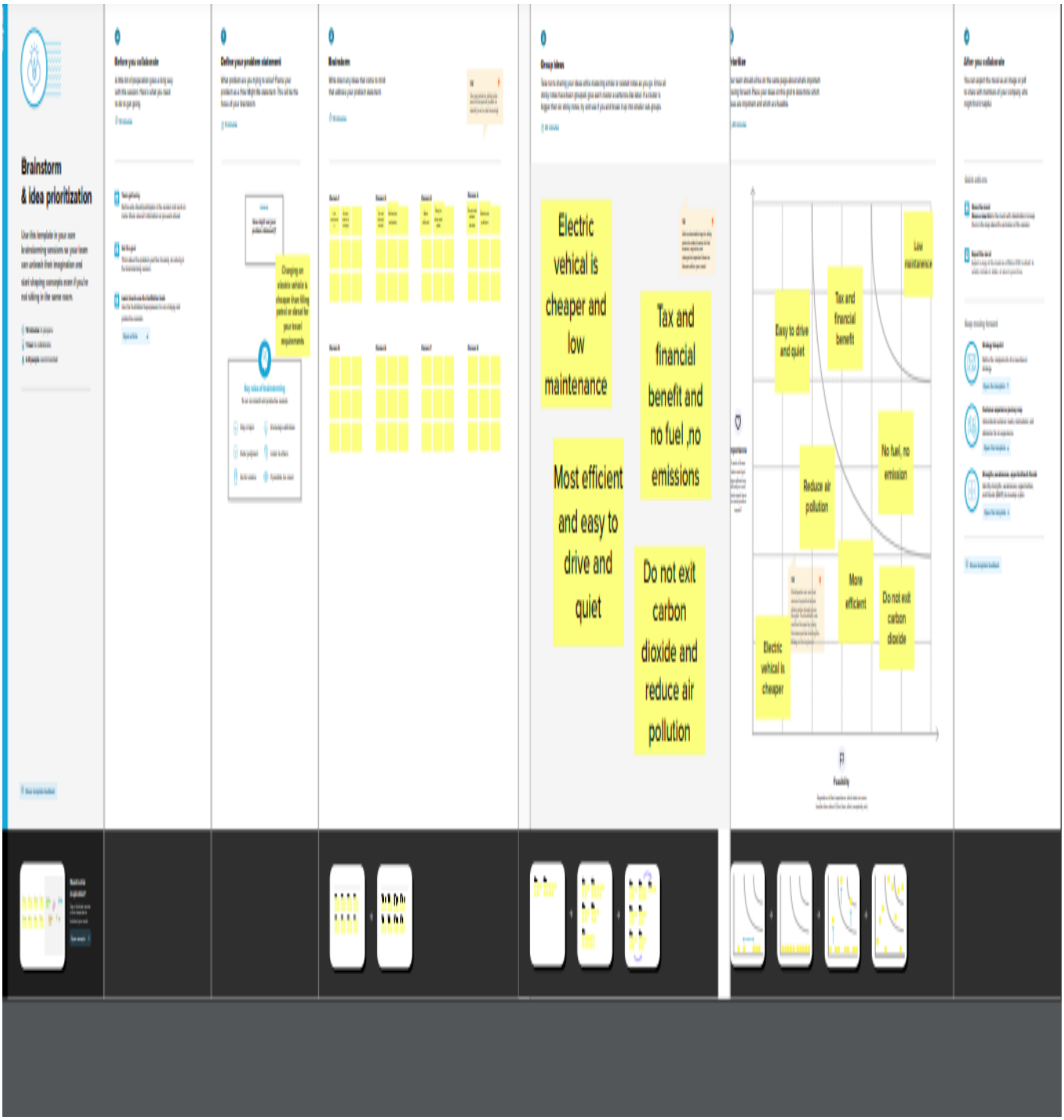
Electric vehicles are more efficient and that combined with the electricity cost means that charging an electric vehicle is cheaper than filling petrol or diesel for your Travel requirements.

2. PROBLEM DEFINITION AND DESIGN THINKING

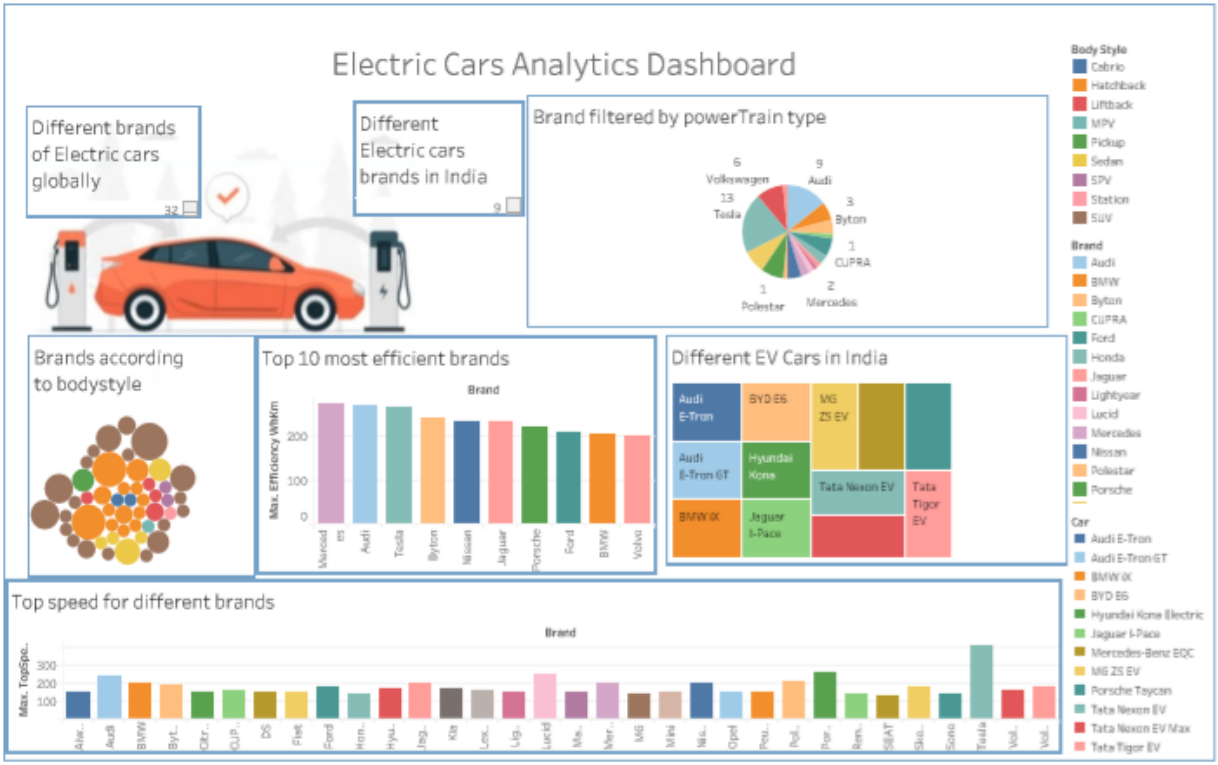
2.1 EMPATHY MAP



2.2 IDEATION AND BRAINSTOMING MAP

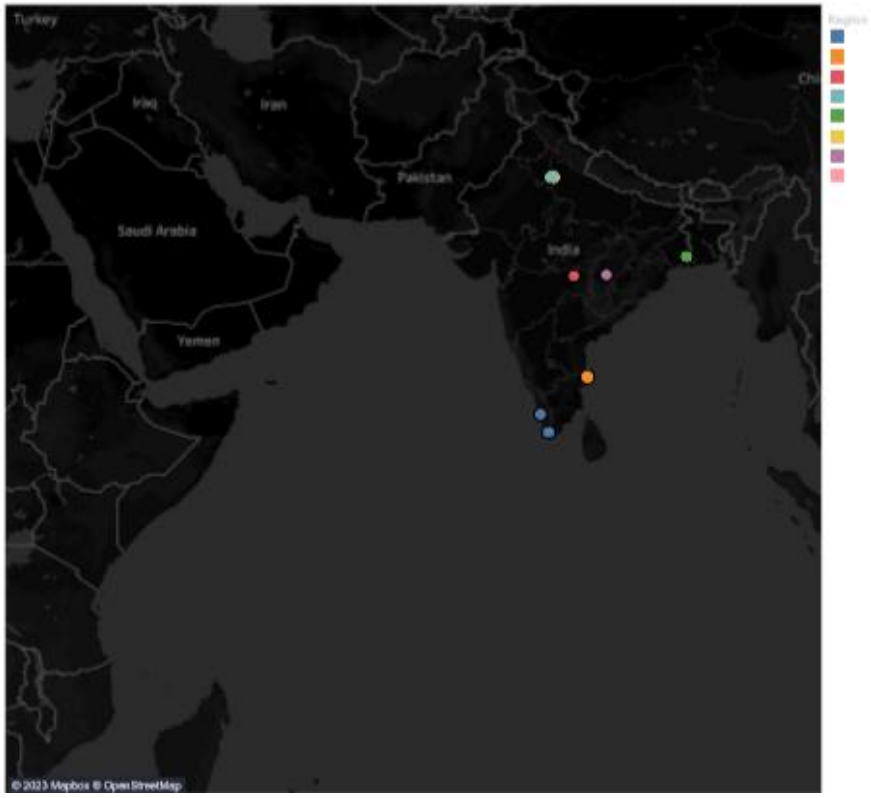


3. RESULT


Electric Cars Analytics Dashboard
Different brands of Electric cars globally
32
Different Electric cars brands in India
9
Brand filtered by powerTrain type
6 Volkswagen
9 Audi
13 Tesla
3 Byton
1 CUPRA
1 Polestar
2 Mercedes
Brands according to bodystyle
Top 10 most efficient brands
Brand
Max. Efficiency WhKm
200
100
0
Marcedes
Audi
Tesla
Byton
Nissan
Jaguar
Porsche
Ford
BMW
Volvo
Different EV Cars in India
Audi E-Tron
BYD E6
MG ZS EV
Audi E-Tron GT
Hyundai Kona
Tata Nexon EV
Tata Tigor EV
BMW iX
Jaguar I-Pace
Top speed for different brands
Brand
Max. TopSpe..
300
200
100
Body Style
Cabrio
Hatchback
Liftback
MPV
Pickup
Sedan
SPV
Station
SUV
Brand
Audi
BMW
Byton
CUPRA
Ford
Honda
Jaguar
Lightyear
Lucid
Mercedes
Nissan
Polestar
Porsche
Car
Audi E-Tron
Audi E-Tron GT
BMW iX
BYD E6
Hyundai Kona Electric
Jaguar I-Pace
Mercedes-Benz EQC
MG ZS EV
Porsche Taycan
Tata Nexon EV
Tata Nexon EV Max
Tata Tigor EV

Story of Electric Cars in India

Charging stations in India	Charging station by region and type	Price of Electric Cars by different Brands	Different Brands and No.of models



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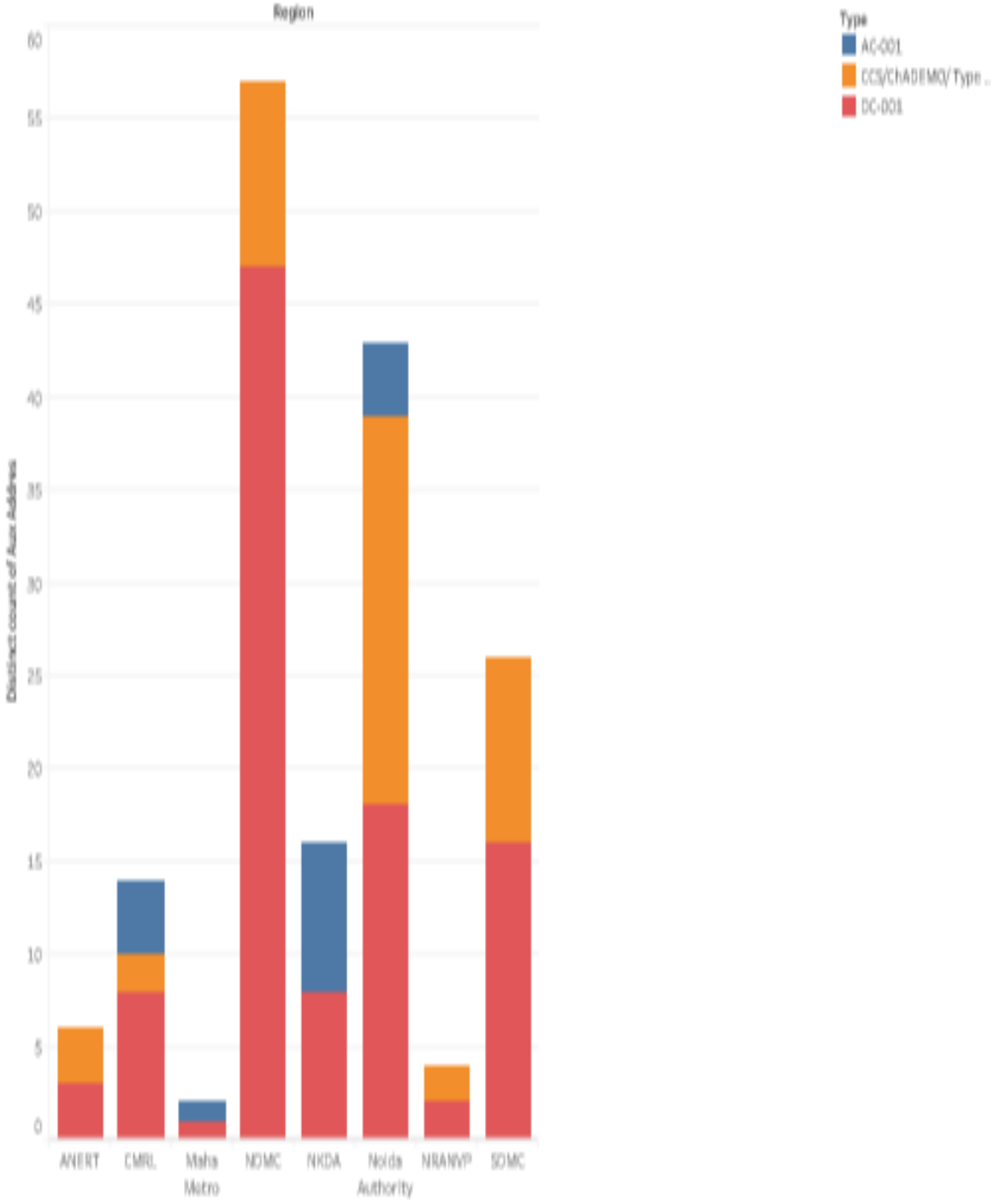

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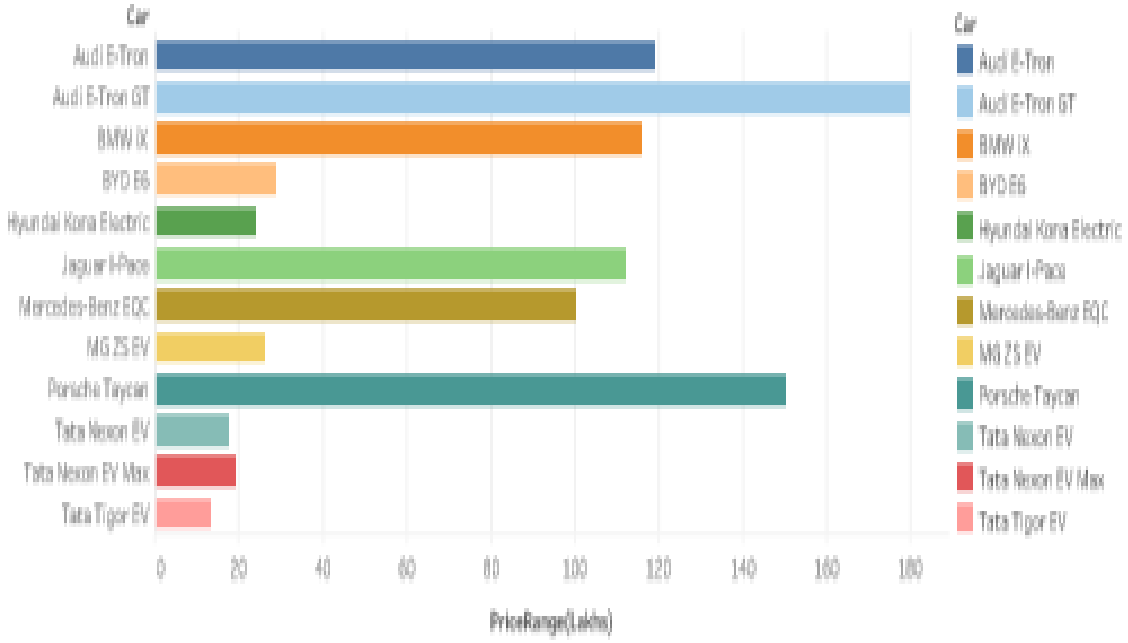

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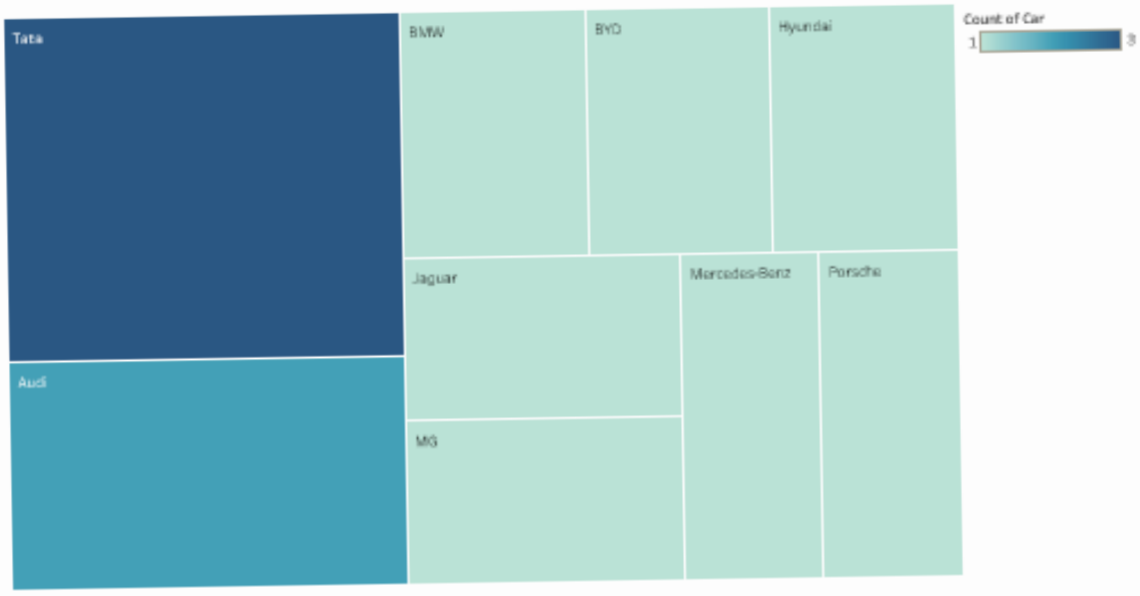

4. ADVANTAGES AND DISADVANTAGES

ADVANTAGES

- Lower running costs.
- Low maintenance costs.
- Tax and financial benefits.
- Easy to drive and quiet.
- No fuel, no emissions.
- Better performance.

DISADVANTAGES

- Limited Battery Range.
- Battery Lifespan Concerns.
- Charging Infrastructure Worries.
- Long Charging Times.
- Low Top Speeds.
- More Expensive to Buy.
- Environmental Impact.

APPLICATIONS

Electric vehicles are used in the Electric motors, batteries, inventors, wiring and in charging stations because of durability, malleability, reliability and superior electrical conductivity.

Electric vehicle charging includes

- Monitoring charger availability.
- Managing user access.
- Providing real – time updates on charger status.
- Motor coil that drives the engine.
- Cabling and charging stations.
- Produces lower tailpipe emissions than a comparably sized gasoline car.
- Fuel Cell Electric Vehicle (FCEV).

6. CONCLUSION

In developing countries, the government has led the promotion of next-generation Environment friendly vehicle. In the industrial world, not only conventional auto manufactures but also large and small enterprises have joined the EV business as new business opportunities.

It is not necessary for Lao PDR to participate to the production and sales of EVs, but Lao PDR needs to prepare to introduce various EVs and related infrastructures appropriately which appear in the global market.

7.FUTURE SCOPE

India is the world's third-largest EV market. This competitive market which grew by 23% in 2022, is set to transform the Indian automotive sector in 2023.

The Electric Charging market is expected to grow 5 to 7 times in the next 5 years.

Electric Vehicle is expected to grow from 8.1 million units to 39.21 million units by 2030.

By 2030, about 40-45% of all two –wheelers (2W) and 15-20% of all four –wheelers sold in India.