DR. ZAKIR HUSAIN COLLEGE , ILAYANKUDI

PG DEPARTMENT OF MATHEMATICS

VISUALIZATION TOOL FOR ELECTRIC VEHICLE CHARGE AND RANGE ANALYSIS

Submitted by ,

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Dr.ZAKIR HUSAIN COLLEGE, ILLAYANGUDI. ,
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Project Report Template

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 externel source and have an electric motor instead of an internel combusion 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 ti increased automotive market share.However , this growth is not attributed to hardware alone.The modern machatronic vehicle marries electrical storage and propulsion systems with electronics sensors ,controls ,and actuators, intergrated closely with software , secure data transfer , and data analysis ,to fporm a compreshensive transportation solution.

1.2 Purpose

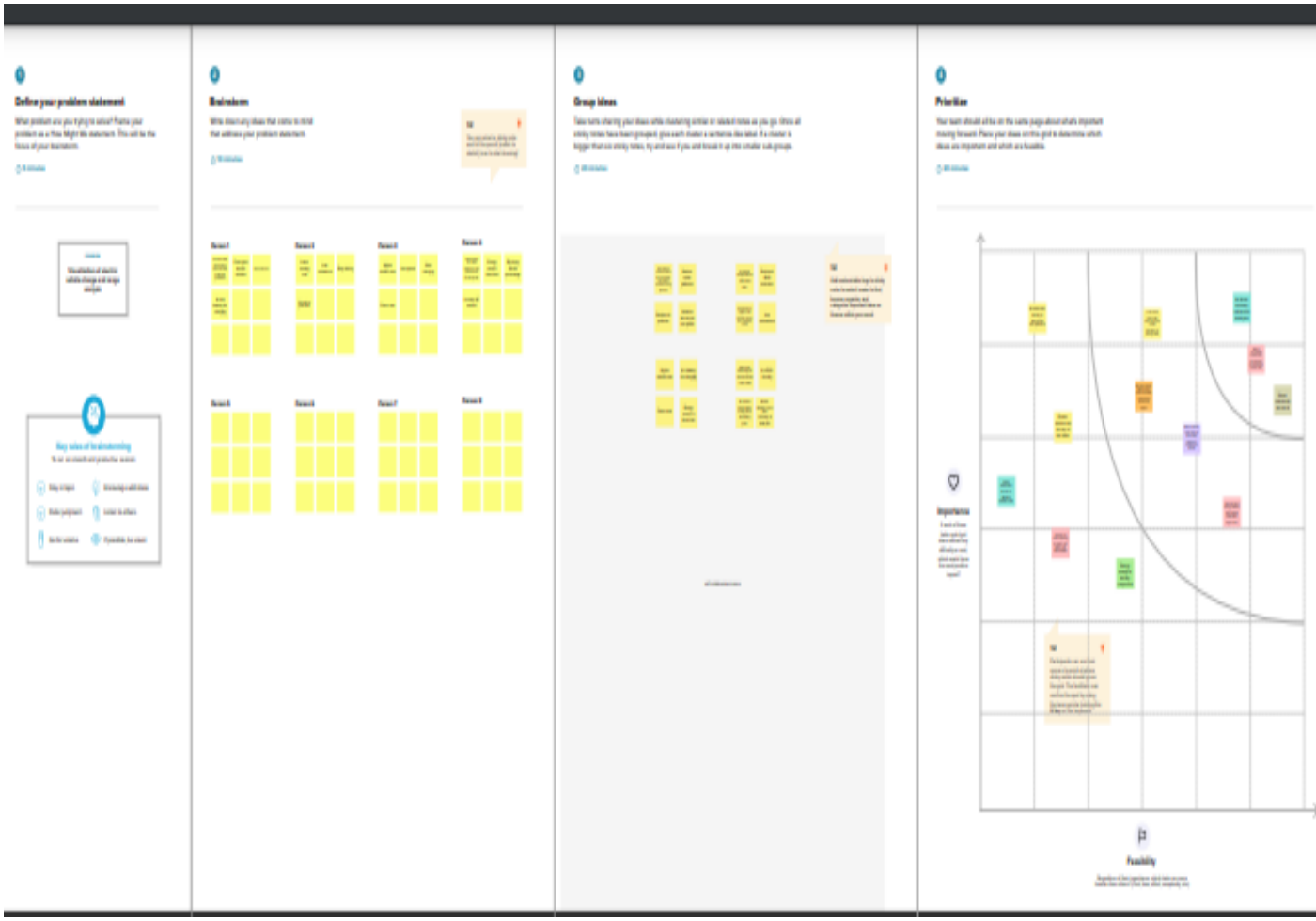
Advances in all these area have contributed to the overall rise of EV'S but the common thread that runs through all these elements is data analytics.

The new EV;S are combined storage and propulsion ststems with electronics sensors ,controls,and actuators , intergrated closely with software ,secure data transfers to forms a comprehensive transportation solution. Electric Vehicle use electricity to charge their batteries instead of using fossil fules likes petrol or diesel.Electric vehicles are more efficient, and that combined cost means that charging an electric vehicle is cheaper than fillingpetrol or diesel for your travel requirments.

2 Problems Definition & Design Thinking

2.1 Empathy Map

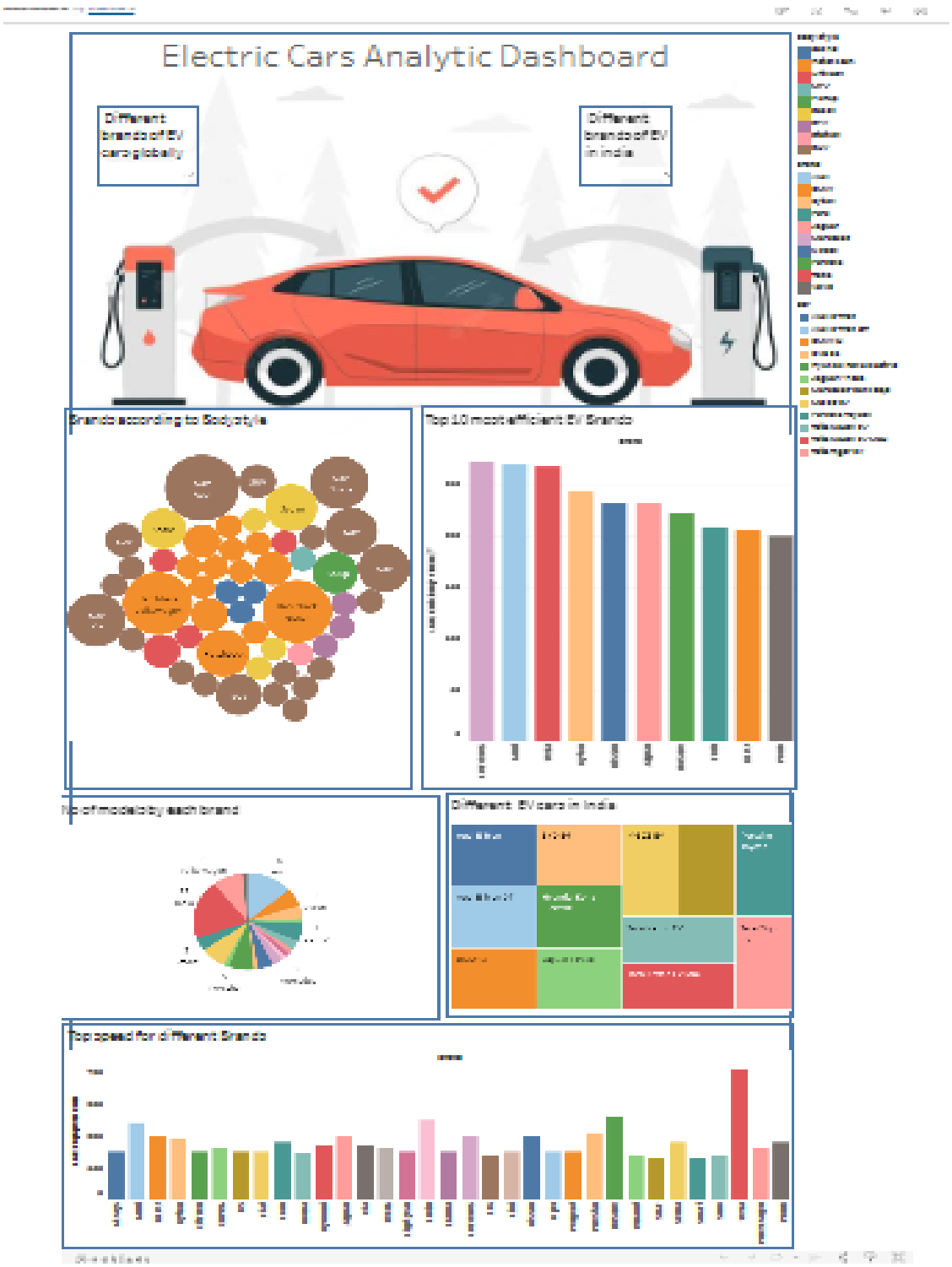
2.2 Ideation & Brainstrorming Map


1
Define your problem statement
What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm.
5 minutes
Key rules of brainstorming
To run an smooth and productive session
2
Brainstorm
Write down any ideas that come to mind that address your problem statement.
10 minutes
3
Group ideas
Take turns sharing your ideas while clustering similar or related notes as you go. Once all sticky notes have been grouped, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you and break it up into smaller sub-groups.
20 minutes
4
Prioritize
Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.
20 minutes
Importance
Feasibility

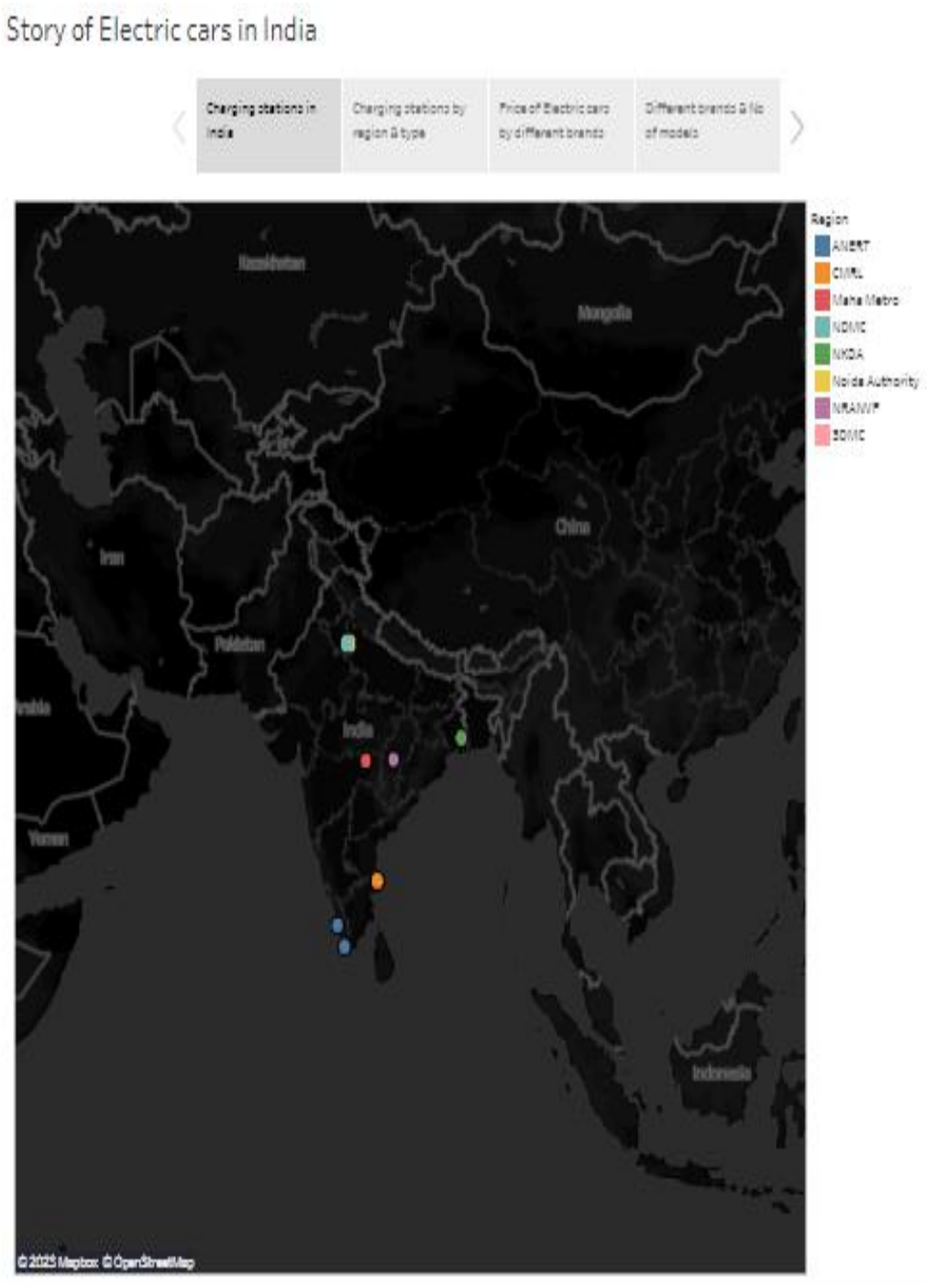
3

Result

Dashboard 1



Story 1


Story of Electric cars in India
Charging stations in India
Charging stations by region & type
Price of Electric cars by different brands
Different brands & No of models
Region
AMRT
CIIRL
Maha Metro
NDMC
NKDA
Noida Authority
NMAMP
SDMC
Kazakhstan
Mongolia
China
Iran
Pakistan
India
Yemen
Indonesia
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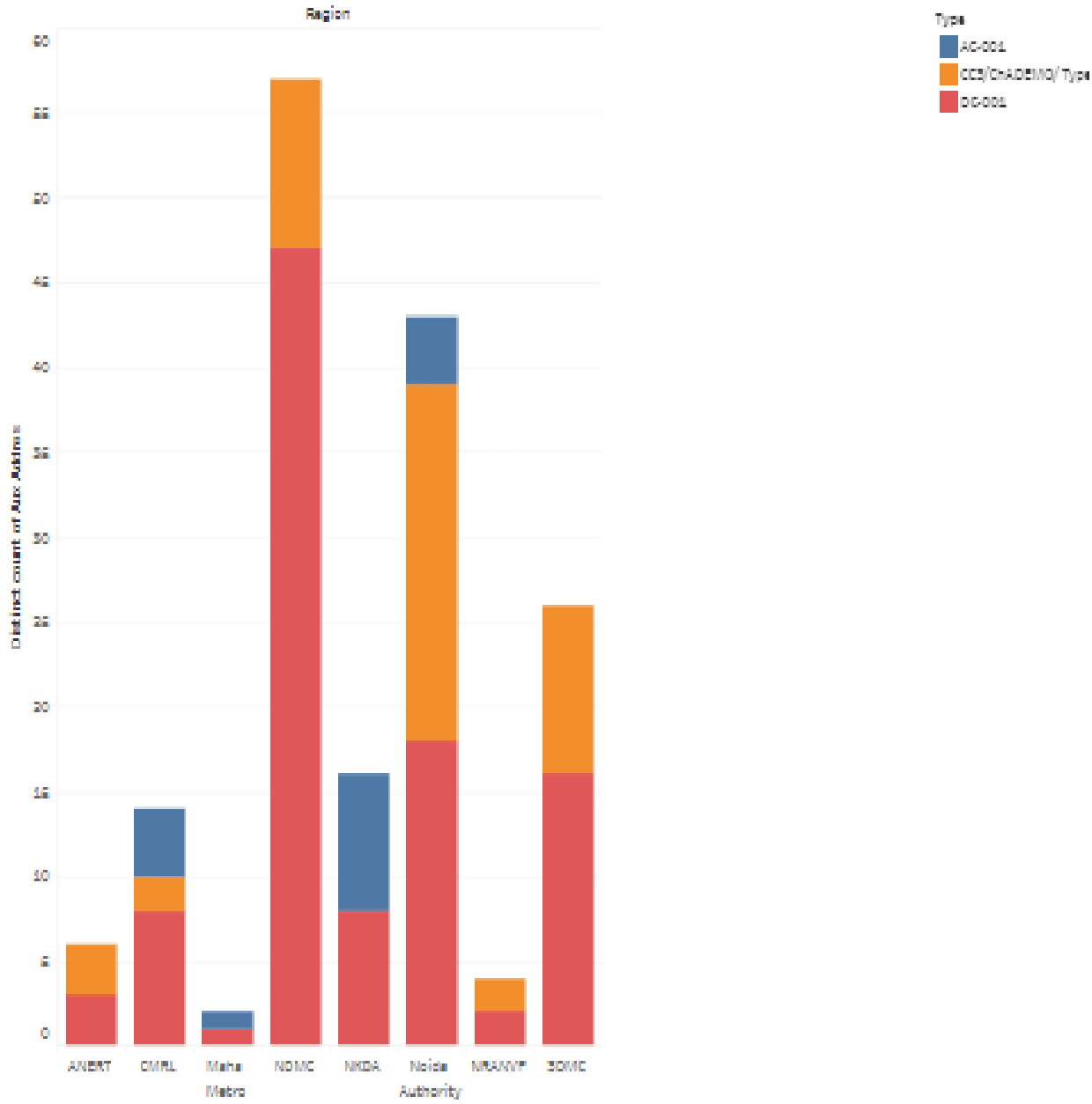
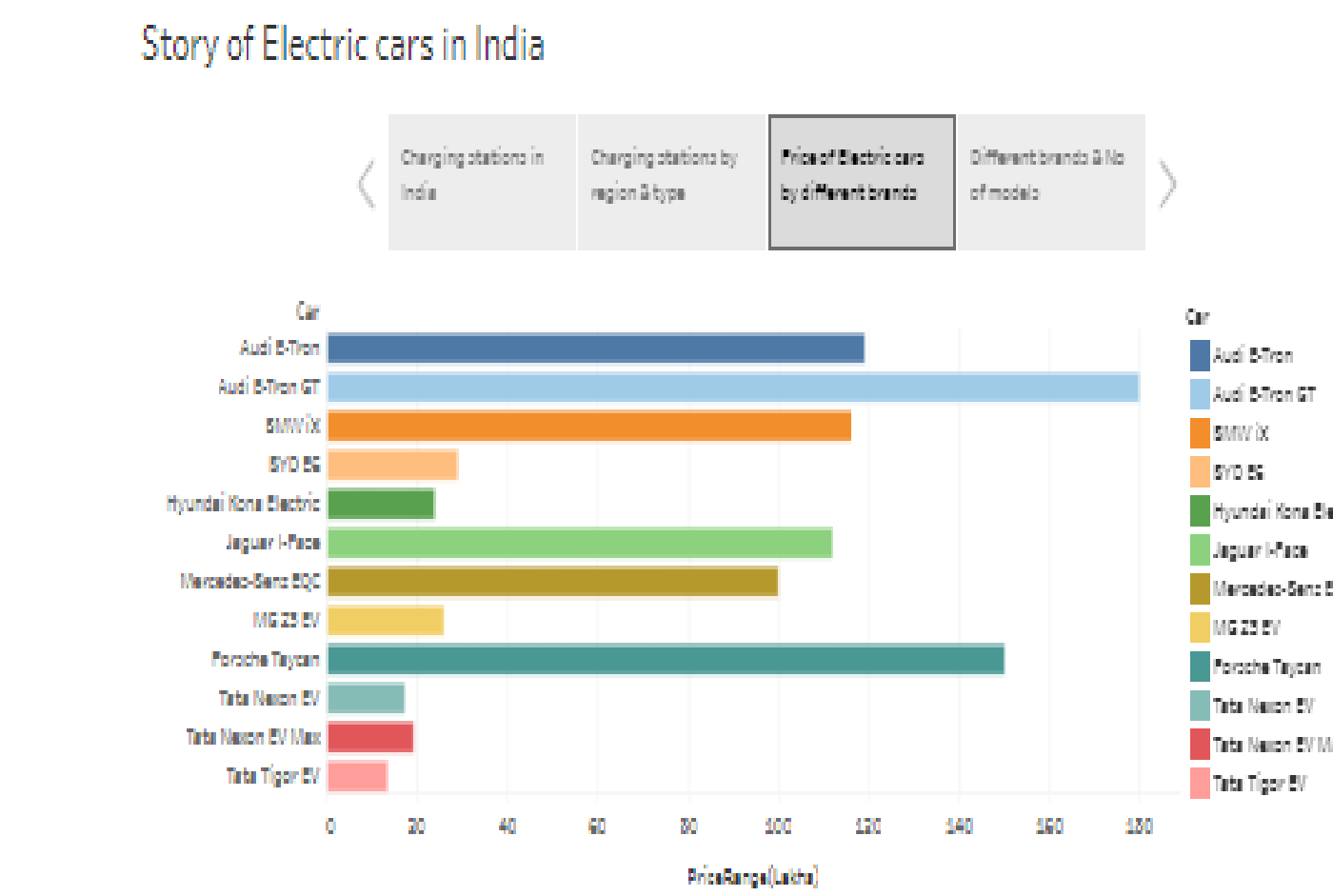
Story 1

Story of Electric cars in India

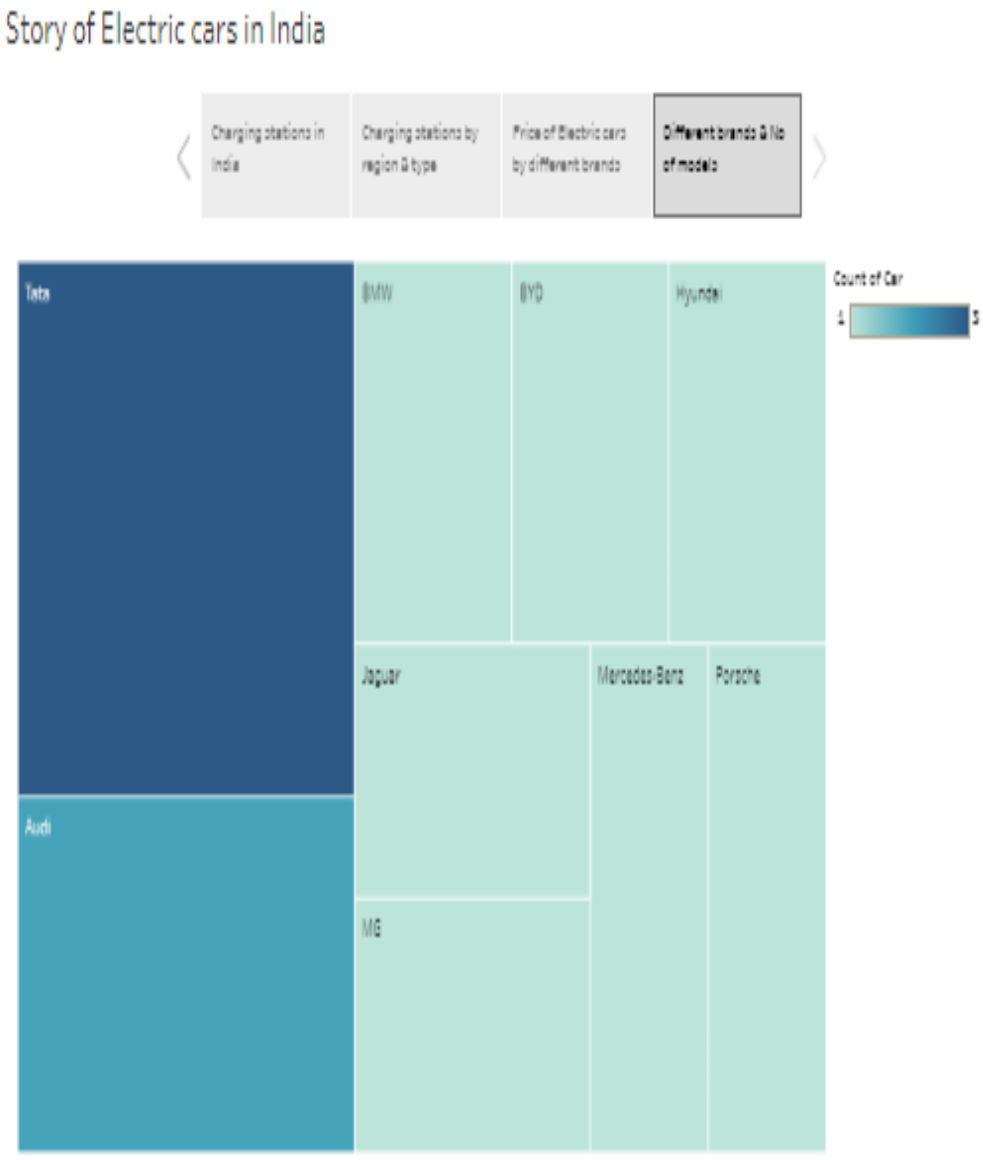
Charging stations in India | **Charging stations by region & type** | Price of Electric cars by different brands | Different brands & No of models



Story 1


Story of Electric cars in India
Charging stations in India
Charging stations by region & type
Price of Electric cars by different brands
Different brands & No of models
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
0
20
40
60
80
100
120
140
160
180
PriceRange(Lakhs)

Story 1


Story of Electric cars in India
Charging stations in India
Charging stations by region & type
Price of Electric cars by different brands
Different brands & No of models
Tata
BMW
BYD
Hyundai
Jaguar
Mercedes-Benz
Porsche
Audi
MG
Count of Car
1
3

4 ADVANTAGES & DISADVANTAGES

ADVANTAGES

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. Using renewable energy sources can make the use of electric vehicles more eco-friendly.

DISADVANTAGES

Electric cars can travel less distance. AEVs on average have a shorter range than gas-powered cars. ...

Electric cars can take a long time to recharge. Fueling an all-electric car can also be an issue. ...

Electric cars can be expensive

5 APPLICATIONS

A hybrid-electric produces lower tailpipe emissions than a comparably sized gasoline car since the hybrid's gasoline engine is usually smaller than that of a gasoline-powered vehicle. If the engine is not used to drive the car directly, it can be geared to run at maximum efficiency, further improving fuel economy.

6 CONCLUSIONS

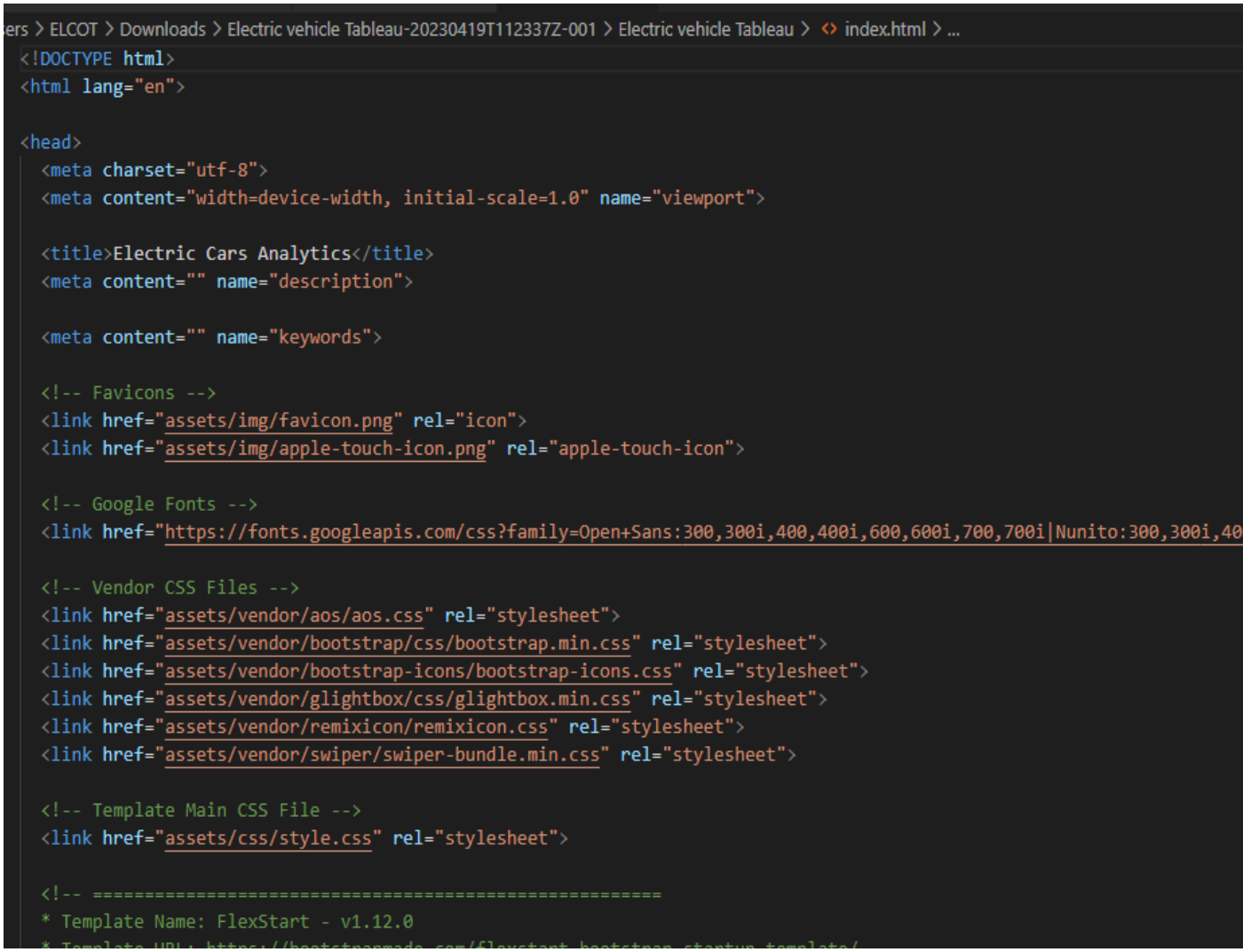
The progress that the electric vehicle industry has seen in recent years is not only extremely welcomed, but highly necessary in light of the increasing global greenhouse gas levels. As demonstrated within the economic, social, and environmental analysis sections of this webpage, the benefits of electric 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

7 FUTURE SCOPE

Most Indian buyers believe that an electric vehicle will be ready by 2023, but the majority also believe that it would no longer be available until 2025. Consumers in India are looking for a lower price for EVs than those in other countries, with the global average tipping price for EVs being $36,000.

8 APPENDIX

A.SOURCE CODE



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  <title>Electric Cars Analytics</title>
  <meta content="" name="description">

  <meta content="" name="keywords">

  <!-- Favicons -->
  <link href="assets/img/favicon.png" rel="icon">
  <link href="assets/img/apple-touch-icon.png" rel="apple-touch-icon">

  <!-- Google Fonts -->
  <link href="https://fonts.googleapis.com/css?family=Open+Sans:300,300i,400,400i,600,600i,700,700i|Nunito:300,300i,40

  <!-- Vendor CSS Files -->
  <link href="assets/vendor/aos/aos.css" rel="stylesheet">
  <link href="assets/vendor/bootstrap/css/bootstrap.min.css" rel="stylesheet">
  <link href="assets/vendor/bootstrap-icons/bootstrap-icons.css" rel="stylesheet">
  <link href="assets/vendor/glightbox/css/glightbox.min.css" rel="stylesheet">
  <link href="assets/vendor/remixicon/remixicon.css" rel="stylesheet">
  <link href="assets/vendor/swiper/swiper-bundle.min.css" rel="stylesheet">

  <!-- Template Main CSS File -->
  <link href="assets/css/style.css" rel="stylesheet">

  <!-- ======================================================
  * Template Name: FlexStart - v1.12.0
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