

Project Report

Political Juggernauts: A Quantitative Analysis of Candidates in 2019 Lok Sabha Elections

Submitted By:

Team Members:

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1.Introduction

1.1 Overview

The project aims to conduct a quantitative analysis of the candidates who participated in the 2019 Lok Sabha elections in India. It involves collecting and analyzing various data points such as candidate profiles, electoral performance, campaign expenditures, and public sentiment. By applying statistical and data-driven techniques, the project seeks to gain insights into the political landscape during the election period.

The analysis will involve examining a wide range of data sources, including official election data, candidate profiles, campaign finance reports, and social media data. By utilizing statistical analysis techniques, data visualization, and sentiment analysis, the project will provide insights into the performance of candidates, the impact of campaign expenditures, the role of social media, and other factors that played a significant role in the 2019 Lok Sabha elections.

1.2 Purpose

The purpose of this project is to provide a comprehensive understanding of the 2019 Lok Sabha elections using quantitative analysis. By studying the data, we can identify patterns, correlations, and factors that influence electoral outcomes. The project aims to contribute to the field of political analysis by offering a data-driven approach to studying elections, which can be used by political analysts, researchers, and policymakers.

This analysis can help political analysts, researchers, and policymakers gain insights into the effectiveness of campaign strategies, the role of candidates' profiles, and the influence of various factors on voter behavior. The findings can contribute to evidence-based decision-making, policy formulation, and the development of effective electoral strategies.

2.Literature Survey

2.1 Existing Problem

The study of elections and electoral dynamics has been a subject of interest for political scientists, researchers, and policymakers. Traditional approaches to studying elections have predominantly relied on qualitative methods such as surveys, interviews, and case studies. While these approaches have provided valuable insights, they are often limited in their ability to analyze large-scale data and capture the complex interactions between multiple factors.

2.2 Proposed Solution

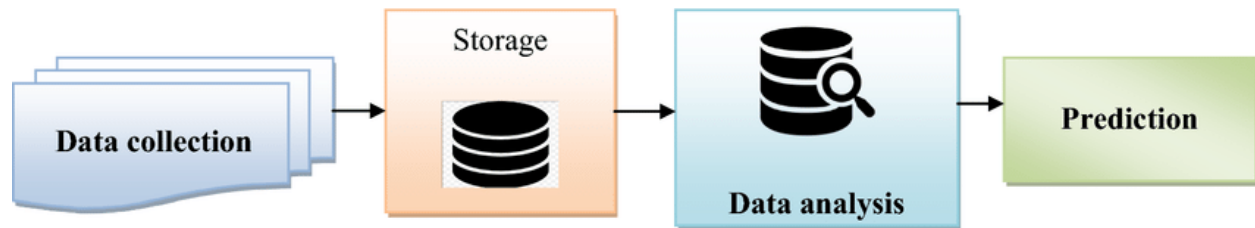
The proposed solution in this project is to leverage quantitative analysis techniques to address the limitations of traditional approaches. By utilizing statistical models, data visualization, and sentiment analysis, this project aims to provide a more comprehensive and objective understanding of the 2019 Lok Sabha elections. The use of quantitative methods allows for the analysis of large datasets, identification of patterns and correlations, and the exploration of relationships between various factors. By integrating different data sources and employing advanced analytical techniques, this project offers a more rigorous and data-driven approach to studying the electoral process.

By incorporating the proposed solution, this project aims to bridge the gap between qualitative observations and quantitative analysis in the study of elections. It seeks to provide a deeper understanding of the dynamics of the 2019 Lok Sabha elections and contribute to the existing literature on electoral analysis and political science research.

By combining the project's quantitative analysis with the existing qualitative research and theories in the field, a more comprehensive and nuanced understanding of the political landscape during the 2019 Lok Sabha elections can be achieved.

3.Theoretical Analysis

3.1Block Diagram



3.2 Hardware/Software Requirement

The project can be implemented using software tools such as the Python programming language, data analysis libraries (e.g., Pandas, NumPy), visualization libraries

- **Operating System:** A multi-core processor (e.g., Intel Core i5 or i7) that can efficiently handle data analysis and visualisation tasks.
- **Memory (RAM):** A minimum of 8 GB of RAM is required to handle large datasets and avoid performance issues.
- **Storage:** Enough storage space for your dataset, software tools, and project files. For faster data access, consider using a solid-state drive (SSD).
- **Graphics Card:** A dedicated graphics card with sufficient memory can improve Tableau's performance and provide smoother rendering of visual elements.

3.2.2 Software Requirements

Microsoft Excel is a software tool that is used for tasks such as cleaning, manipulating, and formatting data.

Tableau is a software tool that is utilized to create visually appealing and interactive visualizations, dashboards, and stories.

Flask is a web framework based on Python, used for deploying web applications. It enables the creation of a web server to host Tableau visualizations and provides users with an interface to interact with the data.

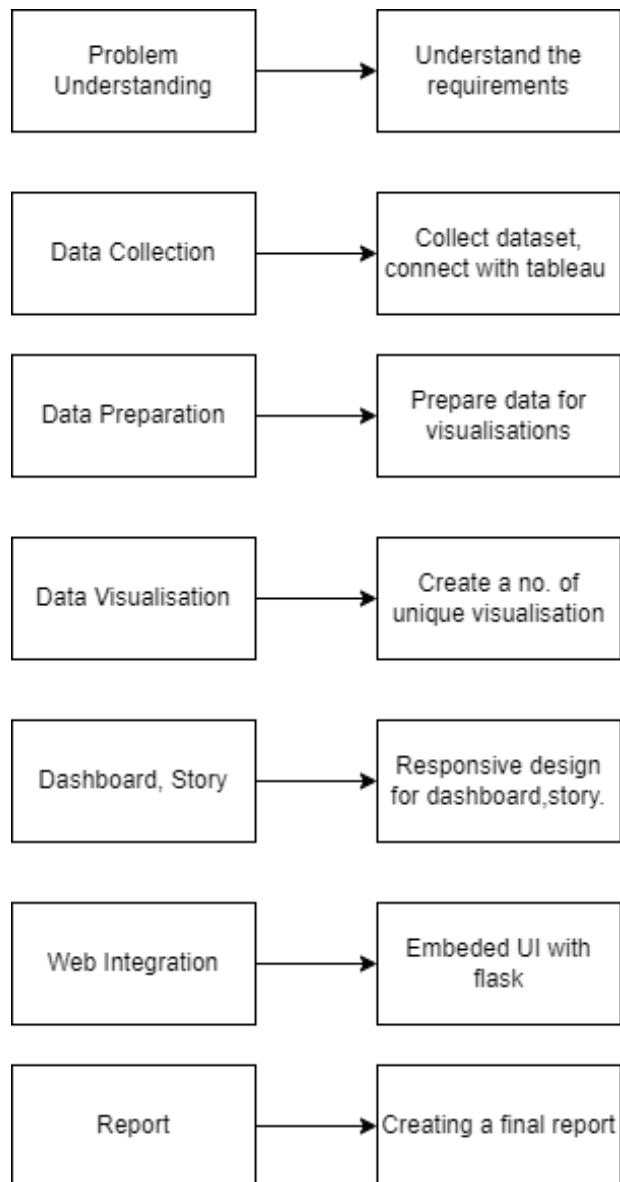
Bootstrap is a framework that offers pre-designed templates, responsive components, and styling options. It allows the development of visually appealing and mobile-friendly user interfaces for Flask applications.

HTML, CSS, and JavaScript are essential web development languages. HTML is used for structuring web pages, CSS is employed for styling and layout, and JavaScript adds interactivity and dynamic behavior to web applications.

4. Experimental Investigation

During the project, various investigations are conducted to analyze the data and derive meaningful insights. These investigations may include data preprocessing steps such as cleaning and transforming the data, exploratory data analysis to understand the distribution and relationships between variables, statistical modeling techniques to identify significant factors influencing electoral outcomes, sentiment analysis of social media data to gauge public sentiment towards candidates, and visualization of results using graphs, charts, and other visual representations.

5. Flowchart



6. Result

The results of the project include the final findings derived from the data analysis. This may include quantitative insights into candidate performance, analysis of campaign expenditures and their impact on electoral outcomes, correlations between candidate characteristics and voting patterns, and sentiment analysis of public discourse related to the elections. The results are presented with relevant screenshots and visualizations to aid in the interpretation and understanding of the findings.

Activity 1: Data and SQL

We have got the dataset from Kaggle and uploaded that on MySQL Server. The data is all about Political parties and candidates in 2019 Lok Sabha elections.

https://drive.google.com/file/d/1iyZ-f0l7GoWBldGQgMdp2HlkEEgiXce/view?usp=drive_link

Activity 2: Connect MySQL and Tableaus

Explanation video link:

https://drive.google.com/file/d/1NaGmCbhOtCeNdzmu4EDZ-SNwYVM8s5ur/view?usp=drive_link

Data Preparation

Data preparation is the process of organising, cleaning, and transforming raw data into a format that can be effectively visualised and analysed using Tableau software. Such tasks include data cleaning, data integration, data formatting, and data aggregation. The goal is to ensure that the data is correct, consistent, and structured so that Tableau can provide meaningful insights and visualisations.

Data Visualization

Data visualisation is the process of creating graphical representations of data to help people understand and explore the information. The goal of data visualisation is to make complex datasets more accessible, intuitive, and understandable. Data visualisations, which employ visual elements such as charts, graphs, and maps, can assist users in quickly identifying patterns, trends, and outliers in data.

Data visualisations that are commonly used to analyse data include bar charts, line charts, heat maps, scatter plots, pie charts, maps, and so on. These visualisations can be used to compare performance, track changes over time, display distribution, and demonstrate variable relationships.

Here are the visualisations we created:

Activity: Constituency distribution

Explanation video link:

https://drive.google.com/file/d/1KdoJrAr-6jdYuRpbCh8pHnWUD2L3fGG/view?usp=drive_link

Activity: Constituencies Count

Explanation video link:

https://drive.google.com/file/d/1CWoqSmR0THI1t8Pbew1XacRz7-0PE1fw/view?usp=drive_link

Activity: Vote Share Top 5

Explanation video link:

https://drive.google.com/file/d/1JEtiRWe38K3jzM7G8zNQfuv-OVFDK5y/view?usp=drive_link

Activity: Total Votes Polled

Explanation video link:

https://drive.google.com/file/d/13AO2i_QQi0kvoM-n5-mzraYlpI7xgYiW/view?usp=drive_link

Activity: Seats won by parties

Explanation video link:

https://drive.google.com/file/d/1nY4tAfSngwAhMfZlw8ZKUgcZi0-WcUER/view?usp=drive_link

Activity: Category wise winner

Explanation video link:

https://drive.google.com/file/d/1HxAd-xGuYjXdWIElBoR-jUExEjmGHY_w/view?usp=sharing

Activity: Criminal Cases v/s winner

Explanation video link:

https://drive.google.com/file/d/1IN7EvIHkr3ipnqdRiSeNJ1AnX0QFxrqA/view?usp=drive_link

Activity: Education category (contesting/won)

Explanation video link:

https://drive.google.com/file/d/11R-TkgDhBd7-VFpPDPL7soiWXvN1-HWe/view?usp=drive_link

Activity: Gender distribution

Explanation video link:

https://drive.google.com/file/d/1MIFcZ-PgtzoEO7ORSCS5oNtT9xs-DbqC/view?usp=drive_link

Activity: Participation v/s win (male/female)

Explanation video link:

https://drive.google.com/file/d/1WSOB3s8EPfNVFm2IH5UZ_QdMERKonXwv/vi-ew?usp=drive_link

Activity: Seats won by parties in each state

Explanation video link:

https://drive.google.com/file/d/1mdhHPfYLwADavjJzDdFtlpPE7BEXilcA/view?usp=drive_link

Activity: State-Wise Voters

Explanation video link:

https://drive.google.com/file/d/1FligEiRIOm8L_6ULLF1zuYnXBporqZX5/view?usp=drive_link

Dashboard

A dashboard is a graphical user interface (GUI) that organises and displays information and data in a user-friendly manner. Dashboards are commonly used to provide real-time monitoring and data analysis and are typically designed for a specific purpose or use case.

Dashboards can be used in a variety of contexts, including business, finance, manufacturing, healthcare, and many more. They can be used to track key performance indicators (KPIs), monitor performance metrics, and display data in the form of charts, graphs, and tables.

Activity: Dashboard 1

Explanation video link:

https://drive.google.com/file/d/1G_jl_aFMkAN_0gNn6KCICyIYLlulbmR-/view?usp=drive_link

Activity: Dashboard 2

Explanation video link:

https://drive.google.com/file/d/1oP5HAKmQj3K9EQ6pZ7qYNWb9qJVtDHkf/view?usp=drive_link

Activity: Dashboard 3

Explanation video link:

https://drive.google.com/file/d/1p8yFaPUT4lrMF1pBWCpnKBnt64KpsWar/view?usp=drive_link

Story

A data story is a narrative format for presenting data and analysis with the goal of making the information more engaging and easier to understand. A data story

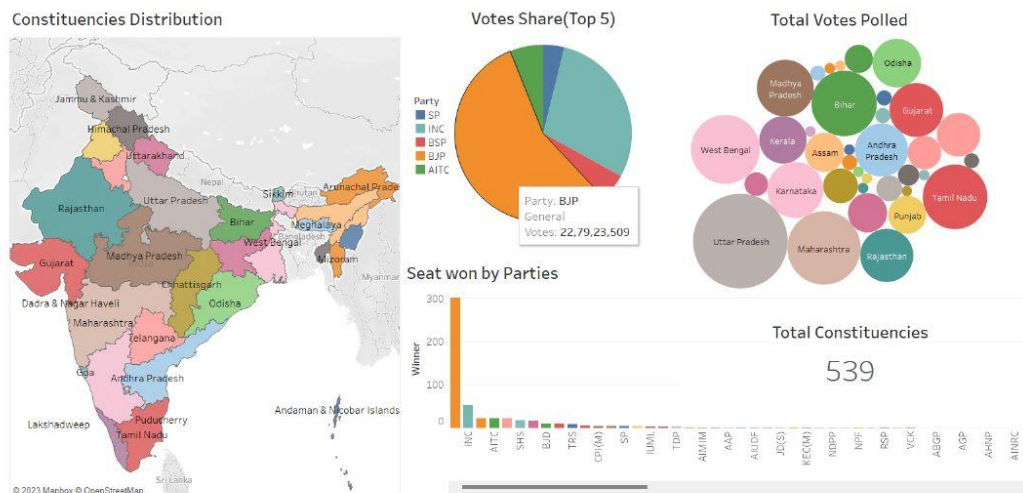
typically consists of a clear introduction that sets the stage and explains the context for the data, a body that presents the data and analysis logically and methodically, and a conclusion that summaries the key findings and highlights their implications. Reports, presentations, interactive visualizations, and videos can all be used to tell data stories.

Activity: Story

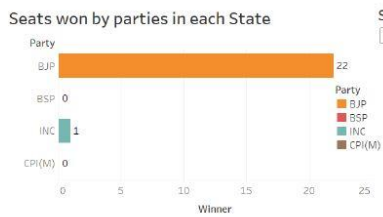
Explanation video link:

https://drive.google.com/file/d/1Rd4EtSC8q7HYrg0OI8AgBfCDJWG8-uCD/view?usp=drive_link

Dashboard Snips:



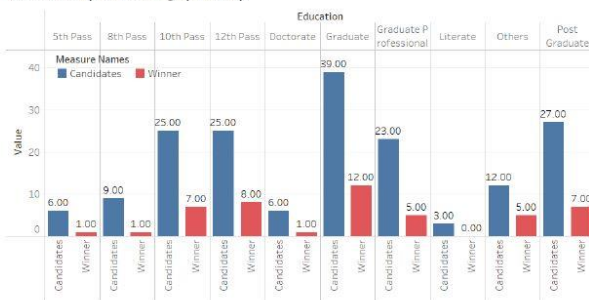
Seats won by parties in each State



State-wise Total voters (Male/Female)

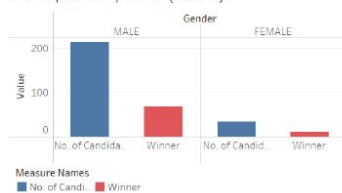


Education(Contesting v/s Won)

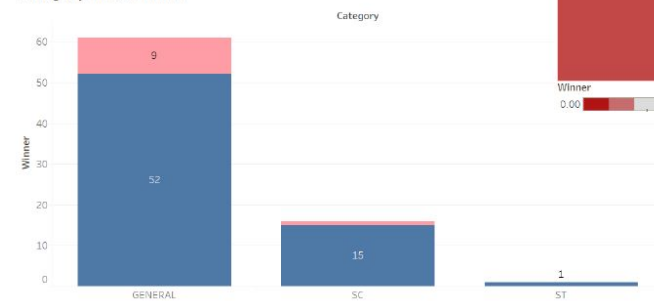


ties | constituencies distribution | total votel polled | constituencies count | votes share | Dashboard 1 | Political Juggernauts: A Quan... | Sheet 5 | Sheet 10 | Sheet 4 | Dashboard 2 | Sheet 12 | Sheet 11 | Sheet 13 | Sheet 14 | Dashboard 3

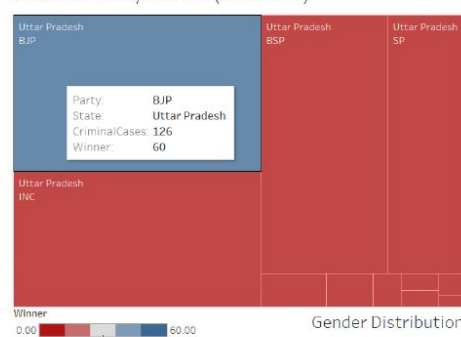
Participation v/s Win (Count)



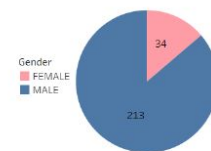
Category Wise Winner



Criminal Cases v/s Winner (State Wise)



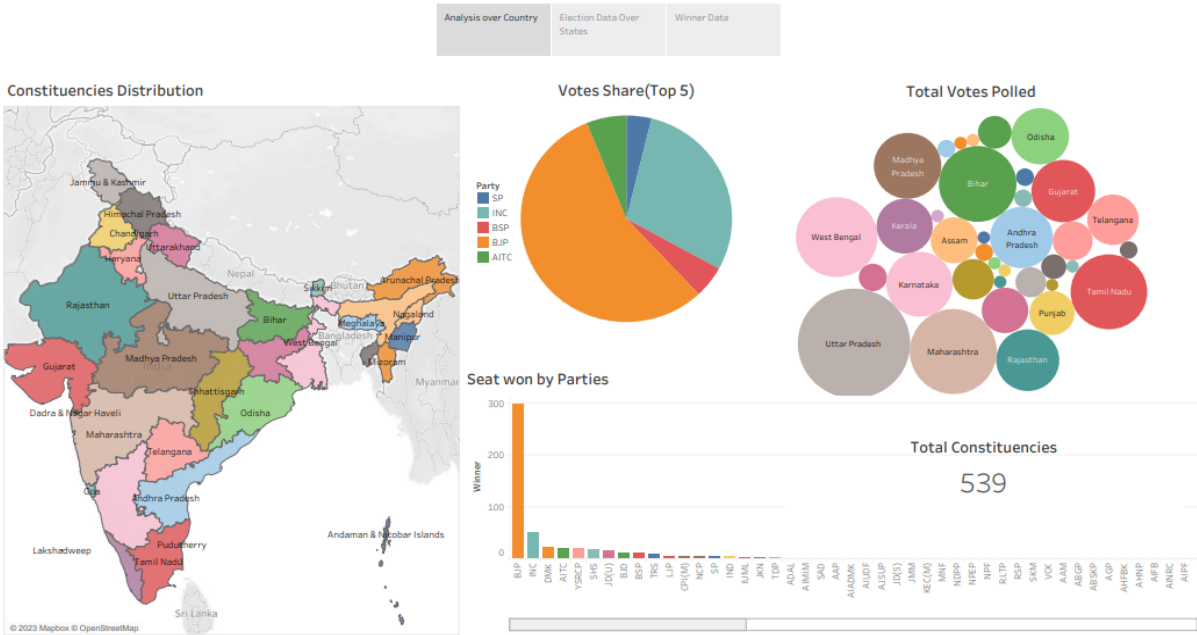
Gender Distribution



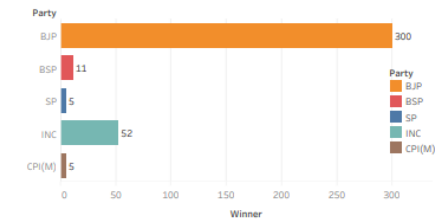
ties | constituencies distribution | total votel polled | constituencies count | votes share | Dashboard 1 | Political Juggernauts: A Quan... | Sheet 5 | Sheet 10 | Sheet 4 | Dashboard 2 | Sheet 12 | Sheet 11 | Sheet 13 | Sheet 14 | Dashboard 3

Story Snips:

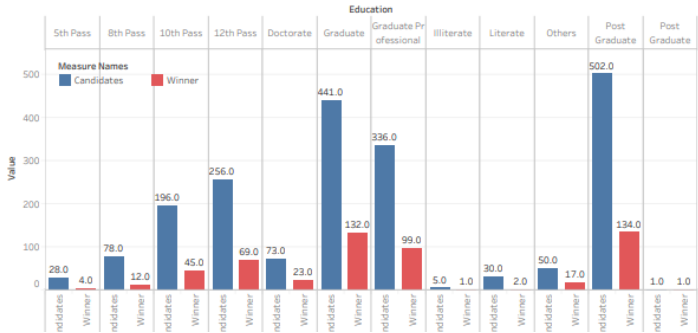
Political Juggernauts: A Quantitative Analysis of Candidates in the 2019 Lok Sabha Elections



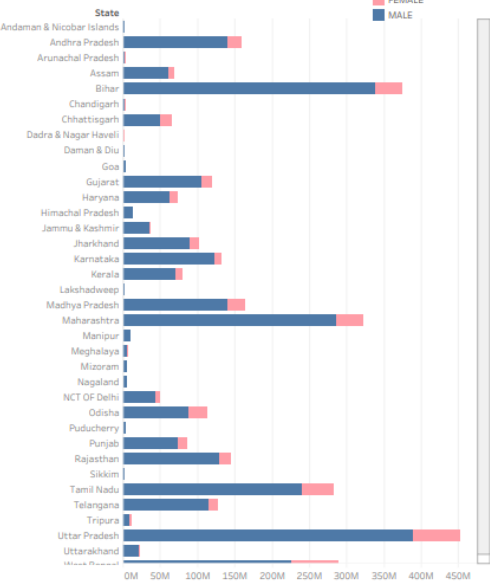
Seats won by parties in each State

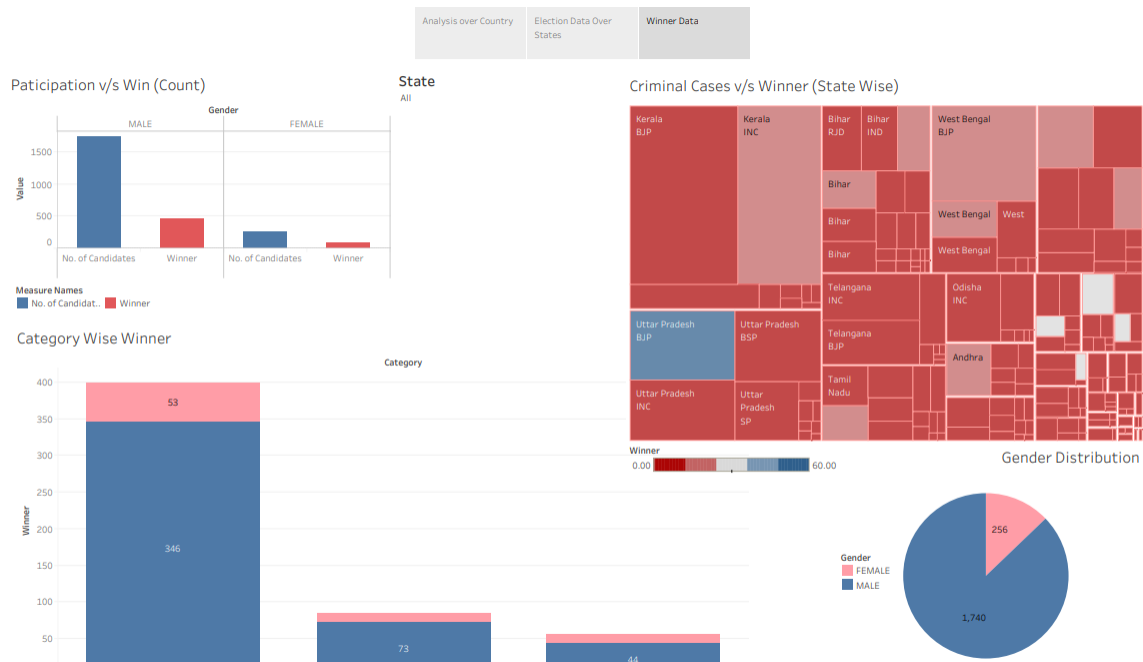


Education(Contesting v/s Won)



State-wise Total voters (Male/Female)



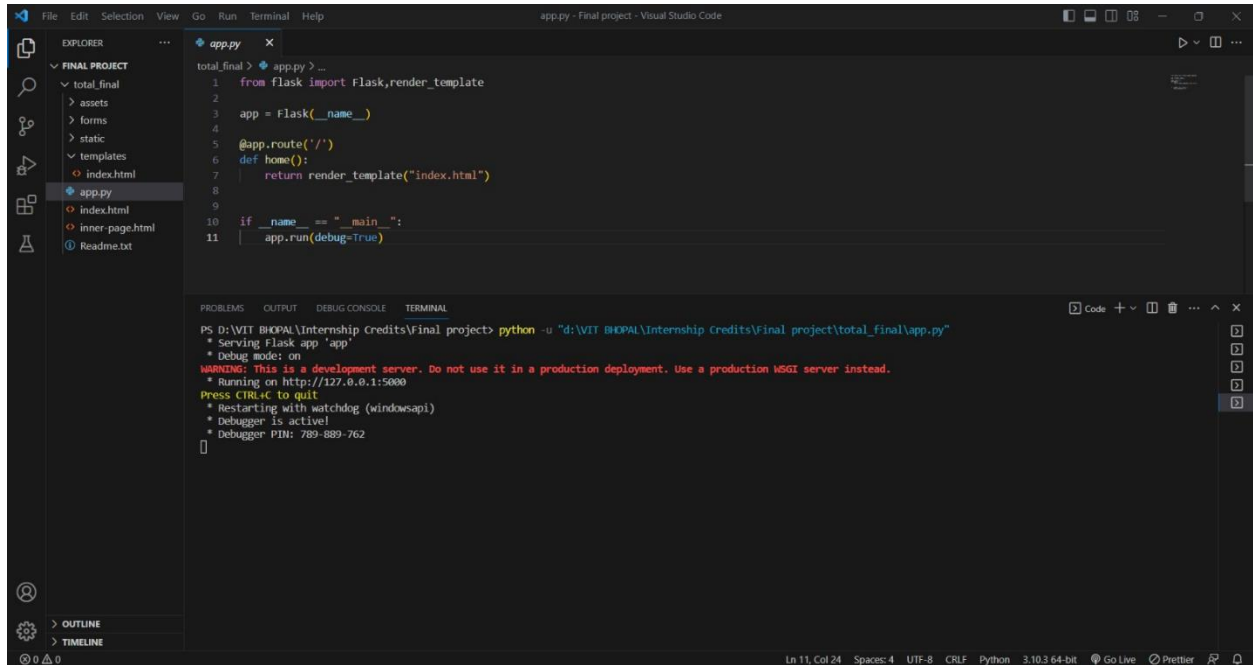


Performance Testing

Tableau performance testing focuses on determining the software's speed, responsiveness, and scalability under a variety of conditions and workloads. Key performance indicators such as query response time, data loading speed, dashboard rendering time, and concurrent user handling capacity are measured and analyzed. The testing process aids in the identification of performance bottlenecks, the optimization of system configurations, and the assurance that Tableau can handle the expected workload efficiently, providing users with a smooth and responsive experience while working with large datasets and complex visualizations.

Web Integration

Publishing helps us track and monitor key performance metrics, to communicate results and progress. Help a publisher stay informed, make better decisions, and communicate their performance to others.

A screenshot of the Visual Studio Code interface. The Explorer panel on the left shows a project structure with folders 'total_final', 'assets', 'forms', 'static', and 'templates', and files 'index.html', 'app.py', 'index.html', 'inner-page.html', and 'Readme.txt'. The 'app.py' file is open in the editor, showing Python code for a Flask application. The code includes imports for Flask and render_template, a route for the home page, and a main block to run the application in debug mode. The Terminal panel at the bottom shows the command 'python -u "d:\VIT BHOPAL\Internship Credits\Final project\total_final\app.py"' being executed, and the output indicating that the Flask app is running on http://127.0.0.1:5000. The status bar at the bottom shows 'Ln 11, Col 24', 'Spaces: 4', 'UTF-8', 'CRLF', 'Python', '3.10.3 64-bit', 'Go Live', 'Prettier', and a search icon.

Activity: Integrating with web

Explanation video link:

https://drive.google.com/file/d/1kjiK4G5od_G2_PTtQCZf9ZePCfa5lo8s/view?usp=drive_link

Activity: Project Demo Video

Explanation video link:

https://drive.google.com/file/d/1enRjnfy9G-Y-clKErqwaPcyMJUASsSk5/view?usp=drive_link

Web Implementation Snips

Political Juggernauts

Home About Dashboard Storyboard Team

Political Juggernauts: A Quantitative Analysis Of Candidates In 2019 Lok Sabha Elections

We are team of data analysts creating dashboards for easy visualization of data regarding Lok Sabha elections 2019

Get Started



Political Juggernauts

Home About Dashboard Storyboard Team

The Lok Sabha Election 2019 was a significant event in Indian politics. It took place in seven phases from April 11, 2019, to May 19, 2019. The election determined the composition of the 17th Lok Sabha, the lower house of the Indian Parliament. The Bharatiya Janata Party (BJP) emerged as the single largest party with a majority, and its leader, Narendra Modi, was re-elected as the Prime Minister of India. The election witnessed intense political campaigning, with various parties and alliances vying for seats across the country. It saw a high voter turnout, and the results had a profound impact on the country's political landscape.

All 543 elected MPs are elected from single-member constituencies using first-past-the-post voting. The President of India appoints an additional two members from the Anglo-Indian community if he believes that community is under-represented. Eligible voters must be Indian citizens, 18 or older than 18, an ordinary resident of the polling area of the constituency and registered to vote (name included in the electoral rolls), possess a valid voter identification card issued by the Election Commission of India or an equivalent. Some people convicted of electoral or other offences are barred from voting. The elections are held on schedule and as per the Constitution of India that mandates parliamentary elections once every five years.

Understanding the analysis

SOCIAL IMPACT ELECTORAL LANDSCAPE STRATEGIES

The utilization of data analytics with Tableau in the Lok Sabha Election 2019 had a significant social impact. By understanding voter demographics and tailoring campaigns accordingly, political parties were able to connect with specific segments of the population, addressing their concerns and aspirations more effectively. This personalized approach enhanced voter engagement and participation, ultimately strengthening the democratic process.



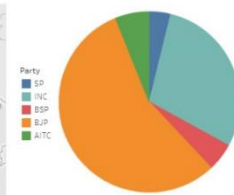
DASHBOARD

Visualizations based on Data

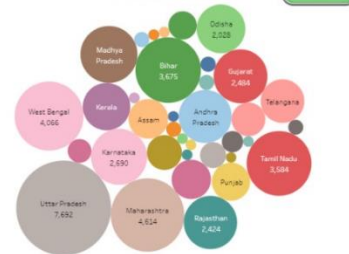
Constituencies Distribution



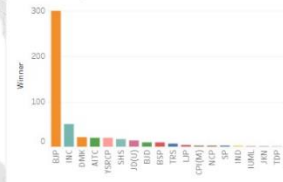
Votes Share(Top 5)



Total Votes Polled



Seat won by Parties



Total Constituencies

539

7.Advantages

- Provides a data-driven approach to analyze the 2019 Lok Sabha elections
- Offers insights into candidate profiles, electoral performance, and campaign expenditures
- Enables identification of correlations and patterns in the data
- Facilitates evidence-based decision making for political analysts and policymakers

Disadvantages:

- Relies heavily on data availability and quality
- Limited to analysing the 2019 Lok Sabha elections specifically
- Subject to limitations of quantitative analysis methods

8. Applications

The proposed solution can be applied in the following areas:

- Political research and analysis
- Election campaign strategy formulation
- Policy formulation based on electoral outcomes
- Academic research in the field of political science

9. Conclusion

In conclusion, this project provides a quantitative analysis of candidates in the 2019 Lok Sabha elections. By leveraging data-driven techniques, we have gained insights into various aspects of the elections. The findings contribute to a better understanding of the political landscape during that time and can aid in making informed decisions and formulating effective strategies.

10. Future Scope

There are several potential enhancements that can be made to this project, including:

- Extending the analysis to include multiple election cycles
- Incorporating real-time data and social media analysis
- Applying machine learning algorithms for prediction and forecasting
- Developing interactive visualizations and dashboards for better data exploration

BIBLIOGRAPHY:

Data set: <https://www.kaggle.com/datasets/prakrutchauhan/indian-candidates-for-general-election-2019>

Bootstrap: <https://bootstrapmade.com/flexstart-bootstrap-startup-template/download/>

APPENDIX

Source Codes

HTML File:

https://github.com/HarshitDwivedi02/SmartBridge_Data-Analytics-Project/blob/main/Final_Project_418/templates/index.html

CSS File:

https://github.com/HarshitDwivedi02/SmartBridge_Data-Analytics-Project/blob/main/Final_Project_418/static/style.css

JavaScript File:

https://github.com/HarshitDwivedi02/SmartBridge_Data-Analytics-Project/blob/main/Final_Project_418/static/main.js

Flask Integration File:

https://github.com/HarshitDwivedi02/SmartBridge_Data-Analytics-Project/blob/main/Final_Project_418/app.py