

ElectViz: Election Data Visualization For Media

- This project is based on analyzing the 2019 Indian General Election dataset and converting it into interactive Power BI dashboards.
- The main goal is to make election data easy to understand and visually appealing for media reporting and political research.

➤ **Presented by:** Mayur Raut

➤ **Technologies Used:**

- Microsoft Power BI
- Excel / CSV Data
- DAX (Data Analysis Expressions)
- Power Query

Project Overview

- This project was created to gain hands-on experience in analyzing large public datasets and building professional dashboards.
- It focuses on how data visualization and analytics can help in political reporting, research, and public understanding.
- The main purpose is to turn raw election data into visuals that anyone especially journalists can easily understand and use.

Objectives

Main Goal:

- To create an interactive Power BI dashboard that helps analyze nationwide election results and compare performance across states, parties, and candidates.

Specific Objectives:

- Organize and clean raw election data into a structured form.
- Visualize insights based on gender, education, and financial background.
- Build dashboards that show trends, vote share, and party performance.
- To encourage data transparency and fact-based analysis in election reporting.

Data Source & Contents

Primary Source:

- Official Election Commission of India public dataset.
- Data collected from verified sources in CSV / Excel format.

Dataset Contains:

- ❑ Candidate & party information
- ❑ Constituency and state details
- ❑ General and postal votes
- ❑ Assets & liabilities
- ❑ Criminal records
- ❑ Gender, age & education data

Data Preparation process

- Data was cleaned and prepared using Excel and Power Query to make it ready for Power BI analysis.

Steps performed:

- 1) Removed duplicates and unnecessary rows.
- 2) Standardized names of candidates and parties.
- 3) Converted all numeric columns into number format.
- 4) Cleaned and formatted assets/liabilities into ₹ values.
- 5) Fixed missing or inconsistent data.
- 6) Built structured tables to define relationships in Power BI.

Dashboard Features

Key Visuals:

- ❑ KPI summary cards showing total candidates, winners, and averages.
- ❑ Interactive state-wise map highlighting regional results.
- ❑ Party performance charts comparing votes and seats.
- ❑ Gender-wise and category-wise visualizations.
- ❑ Education-level distribution among candidates.
- ❑ Scatter plot of Assets vs Criminal Cases.
- ❑ Comparison of General Votes and Postal Votes.

Interactive Filters:

State, Party, Gender, and Candidate filters for detailed exploration.

Key Insights

- ❑ Most winners were male candidates.
- ❑ Candidates with higher assets had better success rates.
- ❑ Education level had a positive effect on winning chances.
- ❑ BJP dominated in both vote share and total winners.
- ❑ Postal voting patterns showed minor but noticeable regional differences.
- ❑ Some candidates with criminal cases also won elections.

Challenges & Solutions

Challenges faced	Solutions implemented
Raw data was inconsistent and unclean	Cleaned using Excel and Power Query
Complex relationships between tables	Built a structured star schema model
Visuals became cluttered with too much data	Designed a clean and minimal dashboard layout
Needed to ensure data accuracy	Cross-checked with official sources manually
DAX formulas were lengthy and confusing	Used modular and reusable DAX calculations

Internship Learnings

Technical Skills Gained:

- Power BI dashboard design
- Data modeling and star schema creation
- DAX (Data Analysis Expressions)
- Data cleaning with Power Query
- Visualization and KPI development
- Solving real-time dataset problems

Professional & Soft skills:

Effective presentation and reporting

Storytelling using data

Time management in project delivery

Independent problem-solving and decision-making

Future Scope

Future Enhancements:

- ☐ Add real-time data integration using APIs.
- ☐ Include machine learning for prediction and trend analysis.
- ☐ Create a web-based dashboard accessible online.
- ☐ Develop a mobile version of the BI dashboard.
- ☐ Add social media sentiment analysis to study public opinion..

Conclusion

- This project gave me practical experience in all stages of Business Intelligence — from raw data cleaning to dashboard creation.
- It enhanced my analytical mindset, data handling ability, and presentation skills.
- The ElectViz dashboard is a transparent and impactful election analysis tool that helps the media, researchers, and the public understand data clearly.



Thank you