



## Democracy Data Analysis: Assembly Election Outcomes

### Data Sources:

Dataset path - <https://indiadataportal.com/>

Domain - Election

### Problem Statement:

To transform complex dataset into visually interactive way to understand candidate performance, party trends, and voter turnout and data-driven insights for analysts.

### Project Summary:

- This project focuses on analyzing **Assembly Election candidate-level data** using Excel and Power BI.
- It aims to understand **voting patterns, voter turnout, and party-wise performance** across states and years.
- The data is cleaned, transformed, and modelled to create an **interactive Power BI dashboard** and the insights support **data-driven electoral analysis and decision-making**.

### Attribute Details:

Attribute Name	Data Type	Description
Year	Integer	Election year
Month	Integer	Election month
State Name	Text	Name of the state
State Code	Integer	State identification code
Assembly No	Integer	Assembly session number
Assembly Constituency Name	Text	Name of the constituency
Assembly Constituency Type	Categorical	GEN / SC / ST
Candidate Name	Text	Name of the candidate
Sex	Categorical	Gender of candidate
Age	Integer	Age of the candidate
Candidate Type	Text	Candidate category



Attribute Name	Data Type	Description
Party	Text	Political party
Position	Integer	Election result rank
Total Electors	Numeric	Total registered voters
Total Votes Obtained	Numeric	Votes received by candidate
Total Valid Votes	Numeric	Valid votes in constituency
Vote Share Percentage	Decimal	Candidate's vote share
Margin	Numeric	Winning margin
Margin Percentage	Decimal	Margin percentage
Turnout Percentage	Decimal	Voter turnout
Poll No	Integer	Poll number
Delimit ID	Integer	Delimitation reference

## Tools & Technologies:

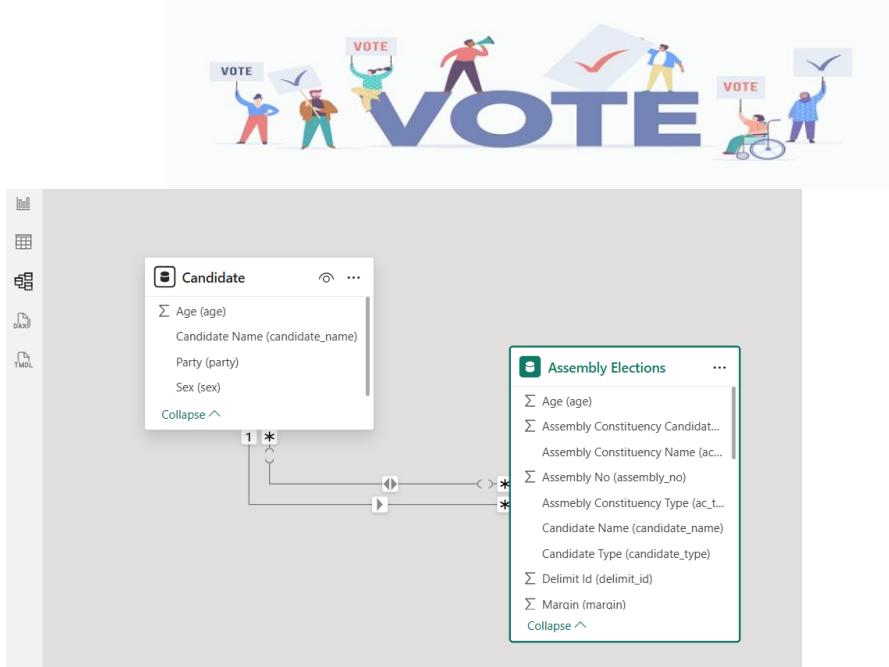
- **Excel / Power Query:**  
Data cleaning, Removing duplicates, Blank values, filtering, and calculated columns
- **Power BI:**  
Data modelling, DAX measures, interactive visualizations, and dashboard creation.

## Data Preprocessing:

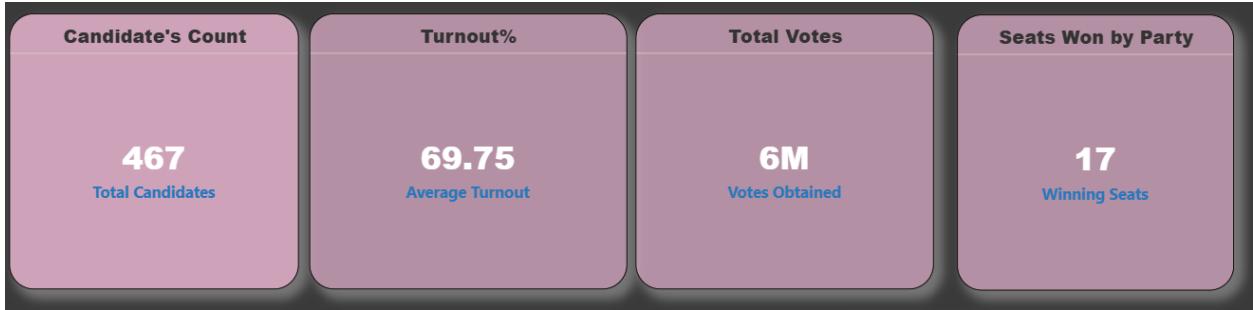
- Data cleaning, handling missing values, formatting, calculated columns, fact & pivot tables.

## Data Modeling & DAX:

- **Data Model:** Established relationships between tables, defined cardinality its come under star schema.



- **Measures:** Total Votes, Average Turnout, Seats Won, Total Vote.



- **Calculated Columns:** Vote turnout, Winning Status  
**Dax Functions:**

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```
1 Winning Status = IF('Assembly Elections'[Position (position)]=1,"Won","Lost")
```

---

```
. Winning Seats = CALCULATE(DISTINCTCOUNT('Assembly Elections'[Assembly Constituency Candidates (ac_total_candidates)]), 'Assembly Elections'[Winning Status]= "Won")
```

## Analysis & Visualizations:

- **Descriptive** - Candidate-level data highlights, Vote share distribution across parties/regions.



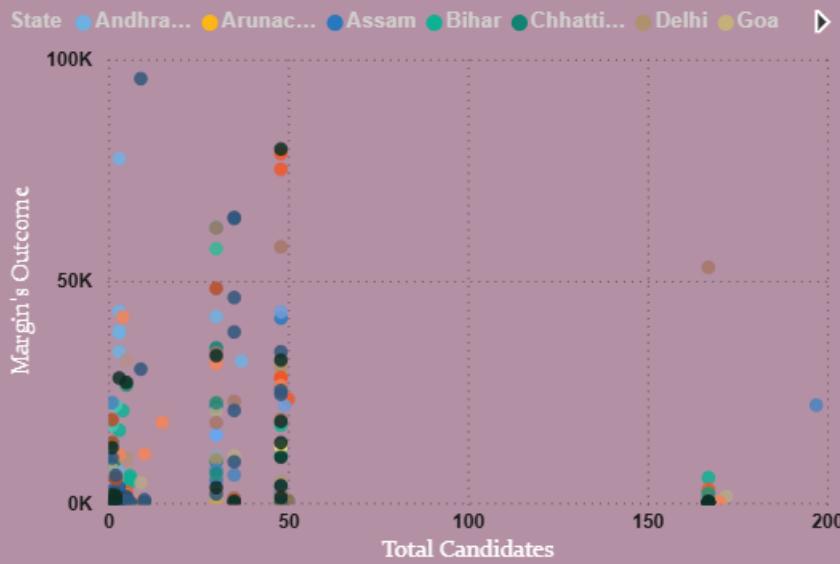
### Descriptive Analysis

Party (party)	Candidate Name (candidate_name)	State Name (state_name)	Total Votes Obtained (total_votes)	Sum of Vote Share Percentage (vote_share_percent age) ▾
BJP	Patel Sureshbhai Dhanjibhai Suresh Patel	Gujarat	116113	71.24
INC	S S Mallikarjuna	Karnataka	88101	65.53
BJP	Debananda Hazarika	Assam	66563	60.68
YSRCP	Silpa Chakrapani Reddy	Andhra Pradesh	92236	60.41
CPM	C Krishnan	Kerala	78116	59.78
INC	Mamta Bhupesh	Rajasthan	96454	57.04
BJP	Shapriya Chimanbhai Dharamshibhai	Gujarat	75395	55.45
INC	Ashis Marjit	West Bengal	88913	54.93
INC	Purnima Ghosh Majhi	Bihar	87887	54.63
<b>Total</b>				<b>4,119.55</b>

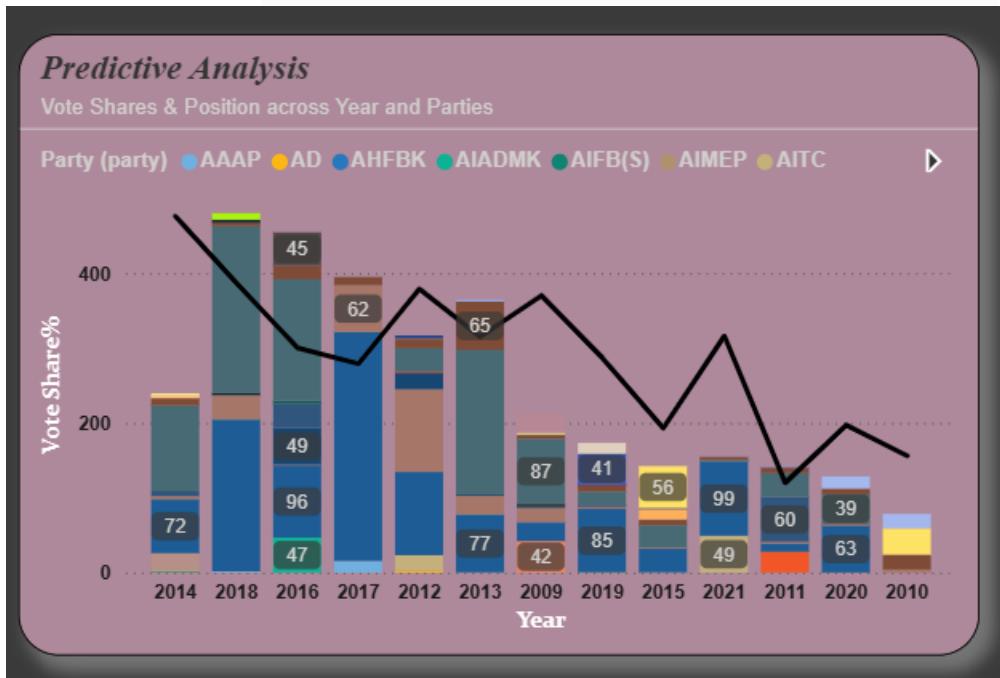
- **Diagnosis** - Why certain Parties performs better in specific regions varies by margin

### Diagnostic Analysis

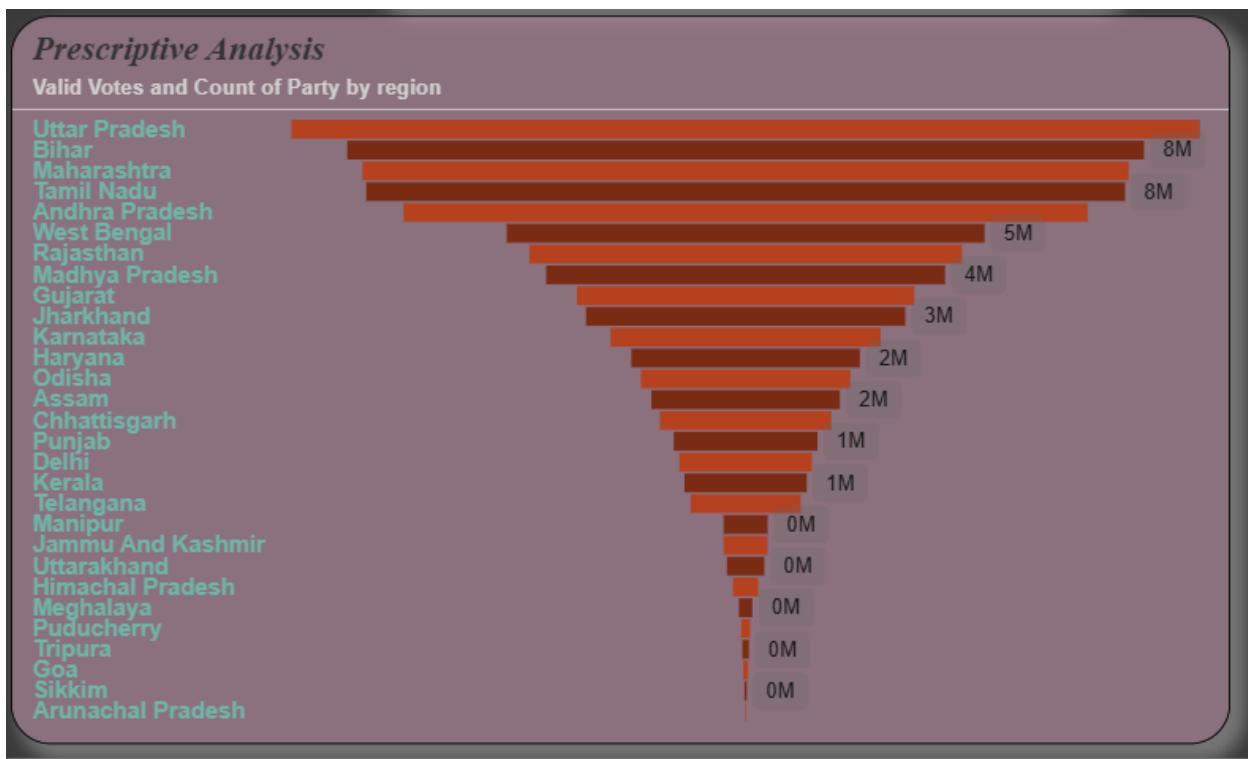
Party Performance on specific region



- **Predictive** - Political parties showing a steady increase in vote share across election years are expected to improve their performance in upcoming elections.



- **Prescriptive** - Data-driven targeting and constituency-level analysis can help optimize which regions need attention to improve election outcomes.





## Analysis Overview:

**Descriptive Analysis**

Candidate Name (candidate_name)	State Name (state_name)	Total Votes Obtained (total_votes)	Sum of Vote Share %
Tallikarjuna	Karnataka	88101	
Nanda Hazarika	Assam	66563	
Chakrapani Reddy	Andhra Pradesh	92236	
Shanm	Kerala	78116	
S. Bhupesh	Rajasthan	96454	
Riya Chimanbai Dharamshibhai	Gujarat	75395	
Marjit	West Bengal	88913	
P Singh Khachariyawas	Rajasthan	87937	

**Predictive Analysis**

Vote Shares & Position across Year and Parties

**Prescriptive Analysis**

Valid Votes and Count of Party by region

Measures    Matrix    Analysis    Dashboard    +

**Uttar Pradesh:** Across election years, candidates who consistently achieved higher election outcomes tend to have strong vote shares, larger margin percentages, and higher voter support.

**Descriptive Analysis**

Party (party)	Candidate Name (candidate_name)	State Name (state_name)	Total Obt (total)
SP	Waseem Ahmad	Uttar Pradesh	
SP	Mohammad Yusuf Ansari	Uttar Pradesh	
BJP	Sidharth Nath Singh	Uttar Pradesh	
BJP	Dr Ajai Kumar	Uttar Pradesh	
BSP	Moh Aleem Khan	Uttar Pradesh	
BSP	Kamlesh Chandra Divakar	Uttar Pradesh	
BSP	Mamata Pandey	Uttar Pradesh	
BSP	Devesh Kumar Palwal Kukku Bhaiya	Uttar Pradesh	
PRSD	Never Choudhary	Uttar Pradesh	
<b>Total</b>			

**Predictive Analysis**

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**Prescriptive Analysis**

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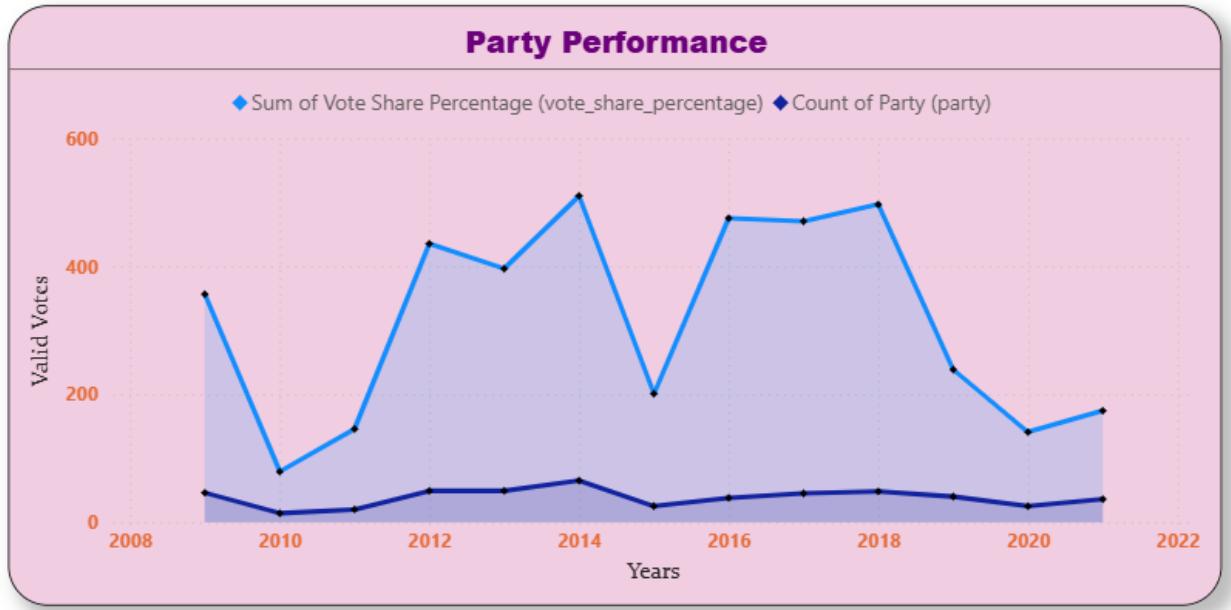


## Insights:

- **Key Findings:** Voter turnout varies significantly across states and election years, indicating differences in voter engagement. A few major political parties dominate most constituencies, while smaller parties perform strongly in specific regions.

Visualizations based on key findings:

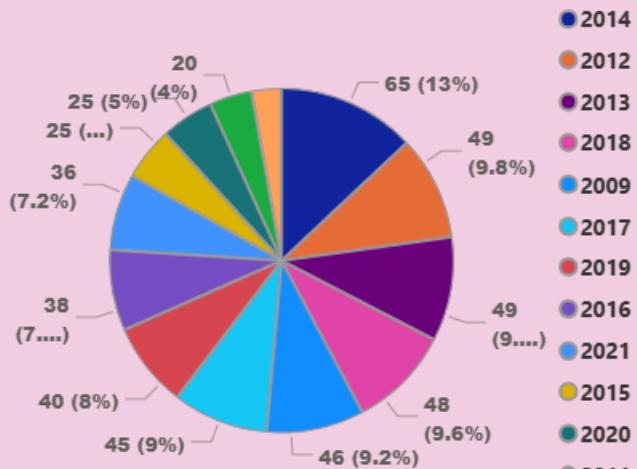
- Trends observed in party performance over time.



- Winning performance changes across different years.

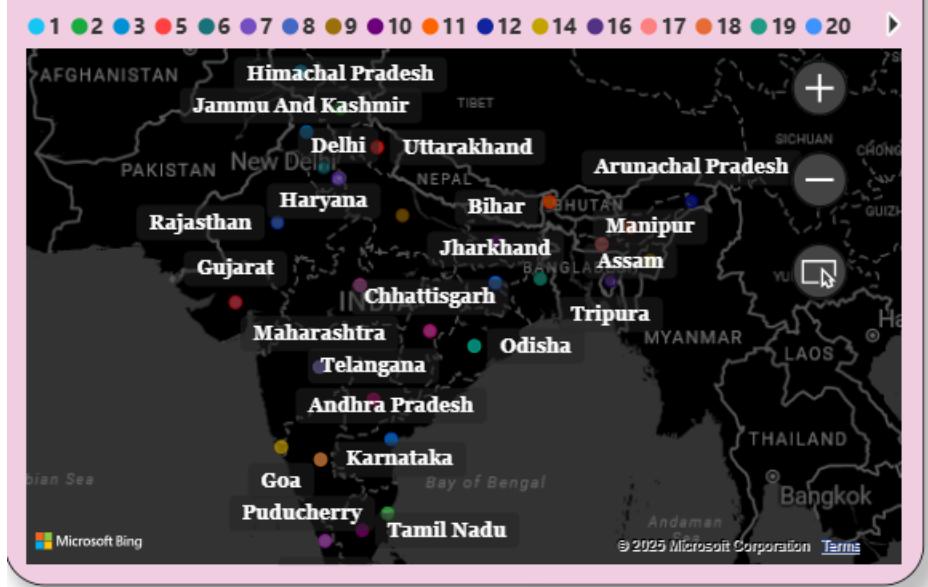


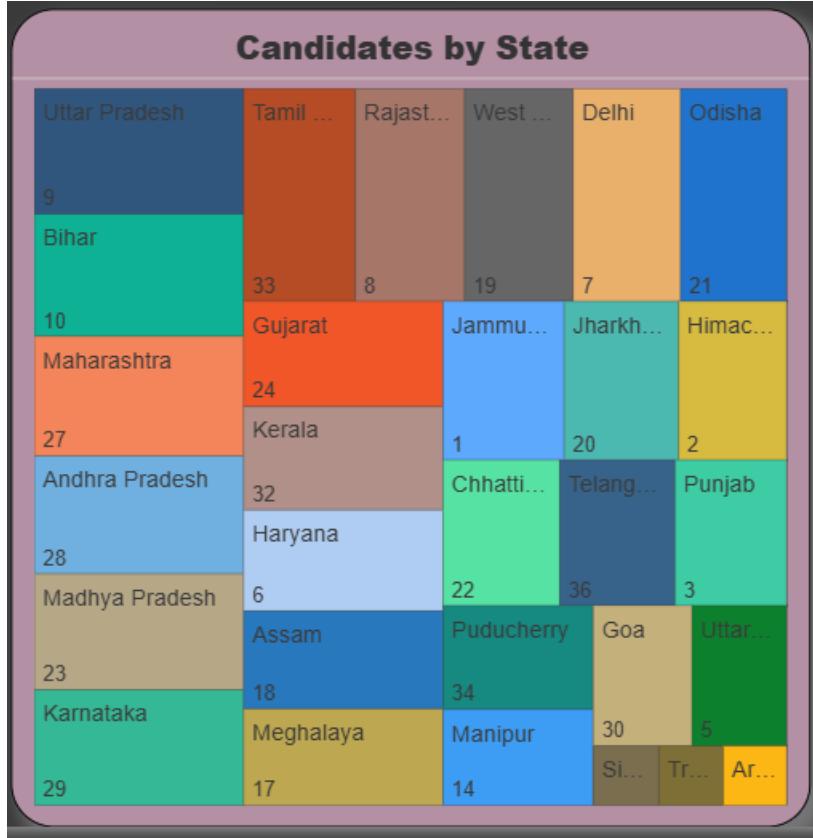
## Winning Trend Over Years



- A map-based visualization showing the geographic distribution and concentration of election candidates across states, helping quickly identify regions with higher or lower political participation.

## Candidates by State





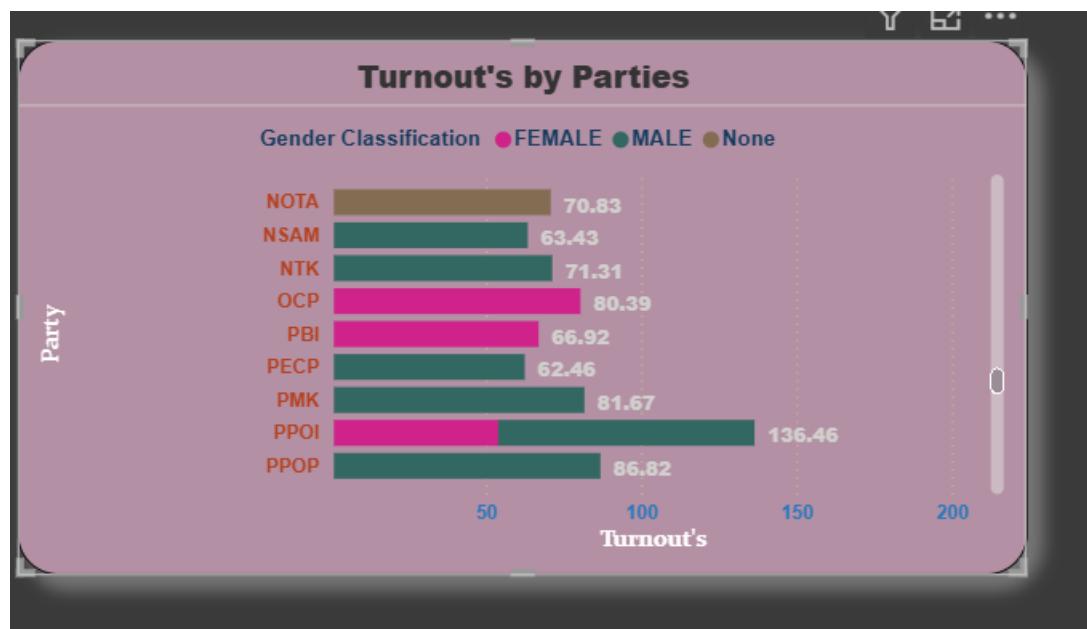
- Political parties won the highest number of seats across different states and years



#### Parties won across different states and years

State Name (state_name)	12	2013	2014	2015	2016	2017	2018	2019	2020	2021	Tot
West Bengal					★ Won					★ Won	Won
Uttarakhand	ost					★ Lost					Los
Uttar Pradesh	Von	★ Lost	★ Lost			★ Won					Won
Tripura		★ Lost					★ Lost				Los
Telangana			★ Lost		★ Lost		★ Lost				Los
Tamil Nadu				★ Lost	★ Won					★ Lost	Won
Sikkim								★ Lost			Los
Rajasthan	ost	★ Lost					★ Won				Won
Punjab	ost					★ Lost					Los
Puducherry					★ Won					★ Lost	Won
Odisha			★ Lost					★ Lost			Won
Meghalaya		★ Lost					★ Won				Won
Manipur	Von					★ Lost					Won
Maharashtra			★ Won					★ Lost			Won
Madhya Pradesh		★ Won	★ Lost				★ Won				Won
Kerala					★ Won					★ Lost	Won
Karnataka		★ Won					★ Lost				Won

✚ Voter's turnout varies based on Party.



✚ Which states have the highest number of Candidates (Q/A Analysis Card)



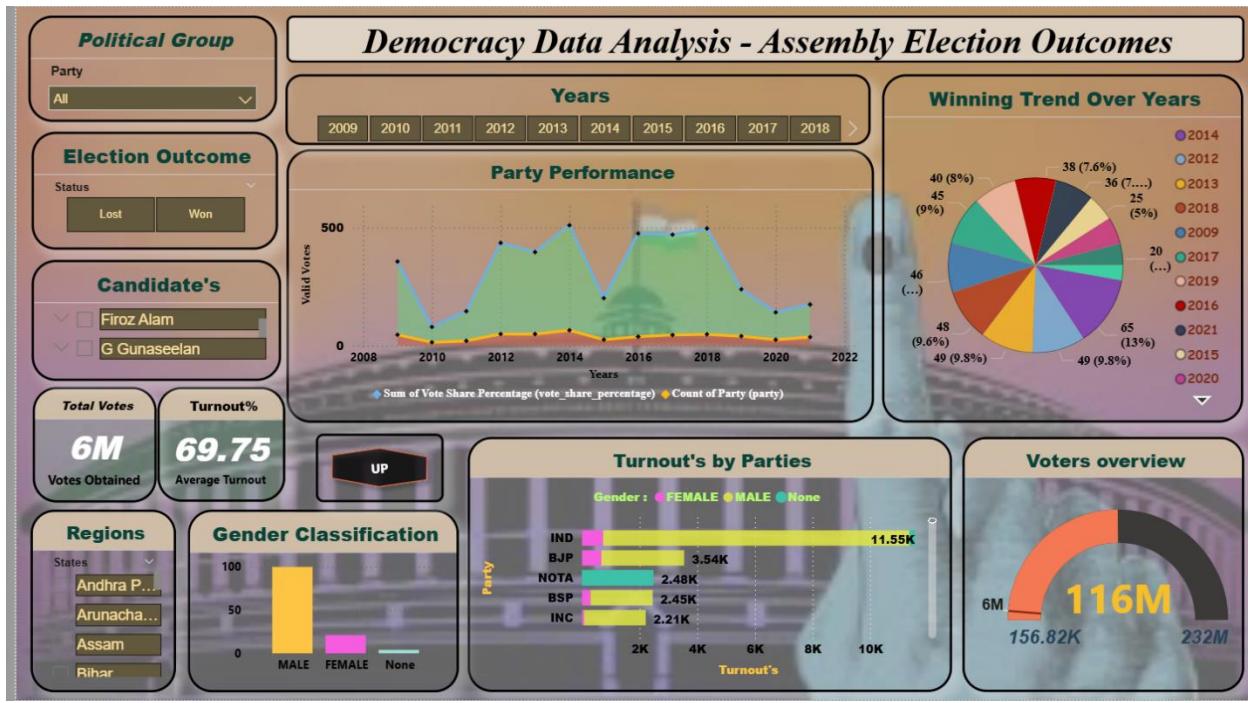
## Top State by Total Candidate

Uttar Pradesh

335

Total Candidates

## Dashboard Overview:



## Highlights:

- Overall voter engagement is strong, with an average turnout of 69.75% and total votes exceeding 6 million.
- Party performance varies across years, indicating shifting voter preferences.
- Regional patterns reveal that party success is highly **region-specific**, with strongholds in particular states driving overall performance.

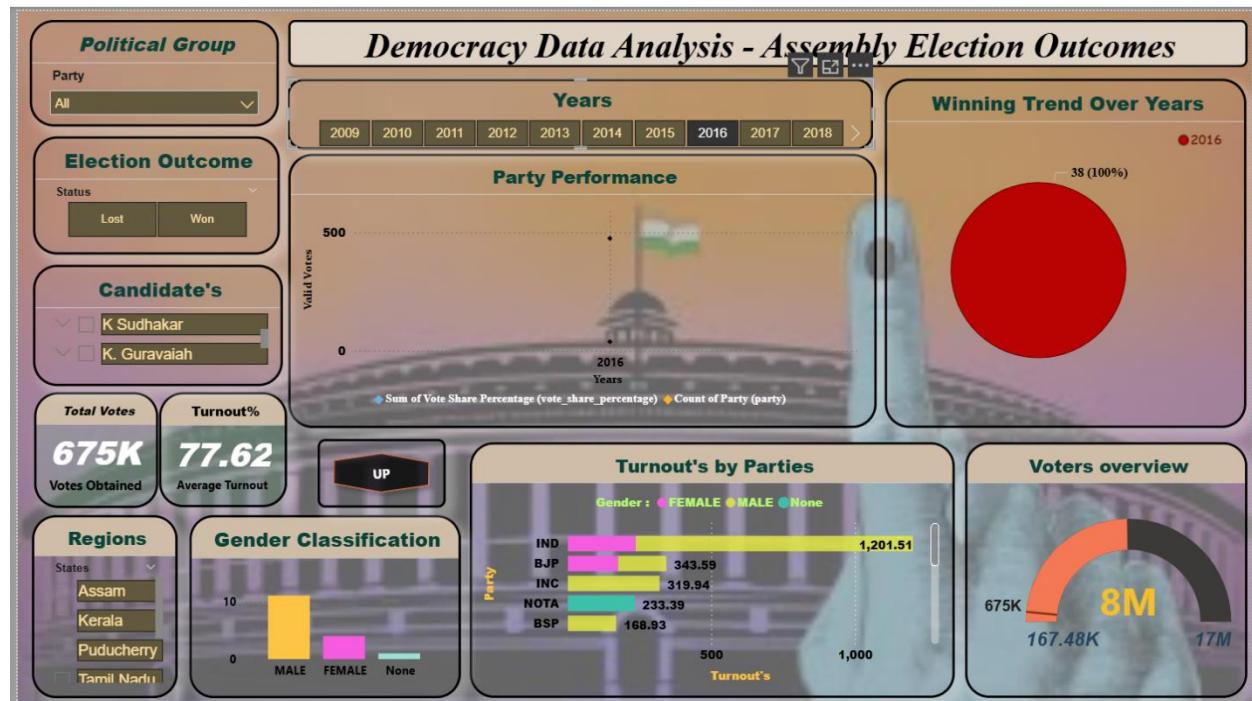


- Some parties show steady vote share growth, signaling stronger future potential.
- Constituency-level data shows a large number of assembly seats (19,185+), emphasizing the importance of micro-level targeting
- Data-driven constituency and regional targeting can significantly improve campaign efficiency and election outcomes.

## Overviews:

### **2016 Election Insights:**

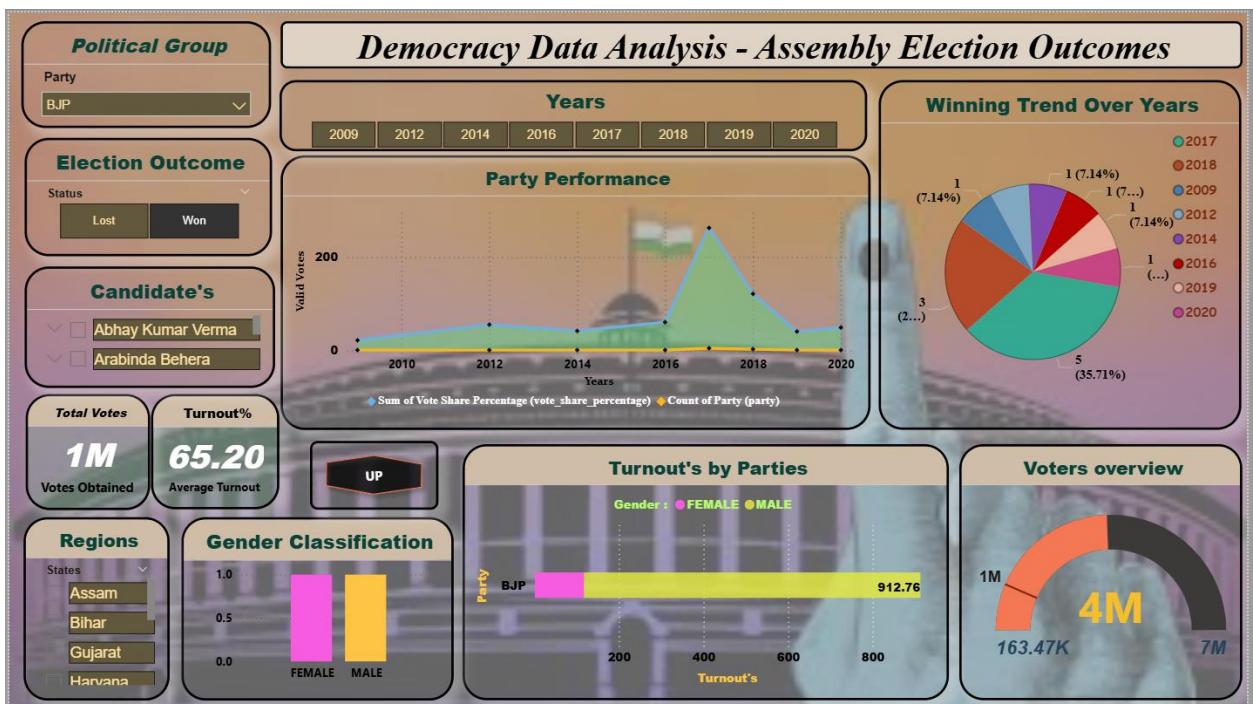
- + Voter turnout in **2016** remained strong, reflecting high public engagement in the electoral process.
- + Vote share distribution indicates noticeable shifts in voter preference compared to previous years.
- + Constituency-level outcomes highlight the importance of targeted, region-specific campaign strategies.





## Winning Trends & Performance – BJP:

- ✚ BJP demonstrates strong winning performance across selected election years, reflecting consistent electoral competitiveness.
- ✚ Vote share peaks around the mid-election period (notably 2016–2017), indicating a phase of maximum voter support.
- ✚ Winning trends show concentration in a few key years, highlighting critical election cycles for party success.
- ✚ Visuals show 1M+ total votes, underscoring a solid voter base.
- ✚ Average voter turnout of 65.20% indicates healthy voter engagement in BJP-winning constituencies.

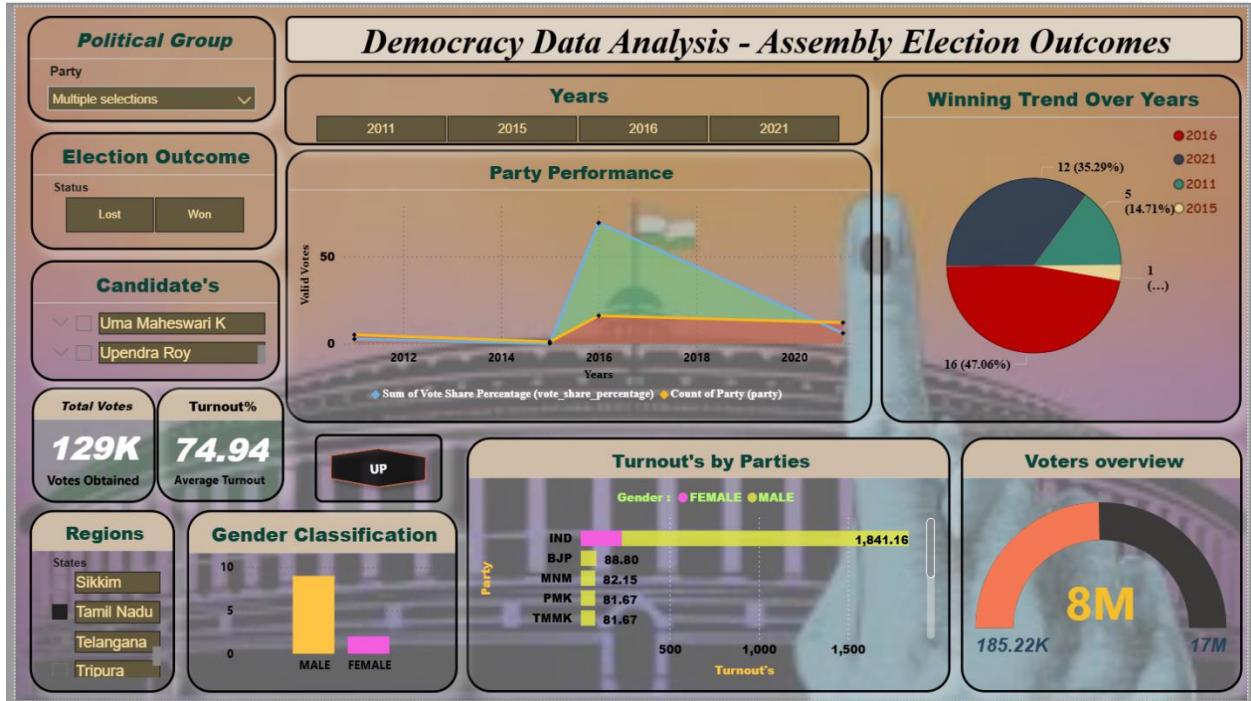


## Winning Insights – Tamil Nadu Assembly Elections

- ✚ Voter turnout is strong at **75.29%**, indicating high electoral engagement.
- ✚ Total votes exceed **125K**, reflecting active participation in winning constituencies.
- ✚ Winning trends peak around **2016**, marking a decisive election cycle.



- + Gender participation is skewed, but female candidates show competitive performance where represented.
- + Regional strength within Tamil Nadu plays a critical role in converting votes to wins.



## Conclusion:

The Assembly Election analysis effectively converts raw candidate-level data into actionable insights using Power BI. By applying data preprocessing, data modeling, and visual analytics, shows that vote share distribution explains past election outcomes, margin differences drive regional party performance, consistent vote share growth predicts future success, and data-driven targeting of key constituencies is essential to improve election outcomes.