

VISUALIZING ELECTION DATA FOR A NEWS COMPANY

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INTRODUCTION

Elections produce large and complex datasets with details on candidates, parties, constituencies, votes, turnout, and demographics. Analyzing this manually is slow and often inconsistent.

To address these challenges ,this project builds a Power BI dashboard that integrates, analyzes, and visualizes both historical and real-time election data. It helps users quickly understand party performance, voter participation, and regional trends through an interactive and easy-to-use platform.

PROBLEM: Large & Complex Datasets, Manual Analysis is Slow & Inconsistent



Power BI Project Solution

- Integrates Data (Kaggle, GitHub)
- Cleans & Standardizes
- Analyzes & Visualizes Historical & Real-Time Data



Interactive Power BI Dashboard:
Quick Insights, Party Performance, Regional Trends.





OBJECTIVES & GOALS

Integrate and standardize multi-year election datasets at national and state levels.

Analyze and present vote share trends, voter turnout, and demographic patterns.

Develop a scalable, reusable dashboard for future elections and datasets.

Enable real-time visualization of election results and key performance metrics.

Provide in-depth insights into party and candidate performance.

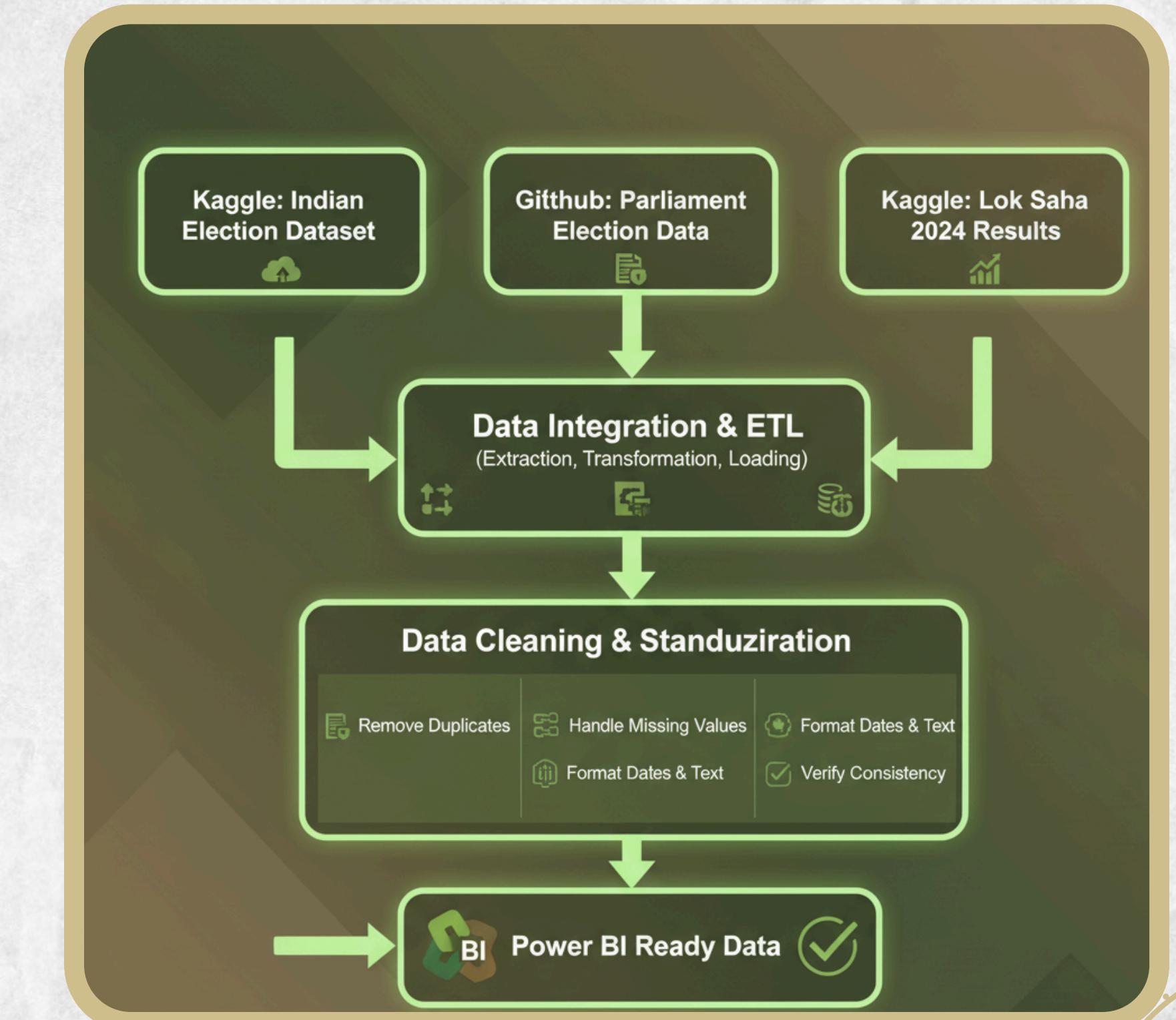
DATA ACQUISITION



- Collected verified, publicly available datasets: Indian Election Dataset (Kaggle), Parliament Election Data (GitHub), and Lok Sabha 2024 Results (Kaggle).
- Ensured accuracy and diversity by consolidating multiple sources.
- Performed initial cleaning and standardization for seamless Power BI integration.

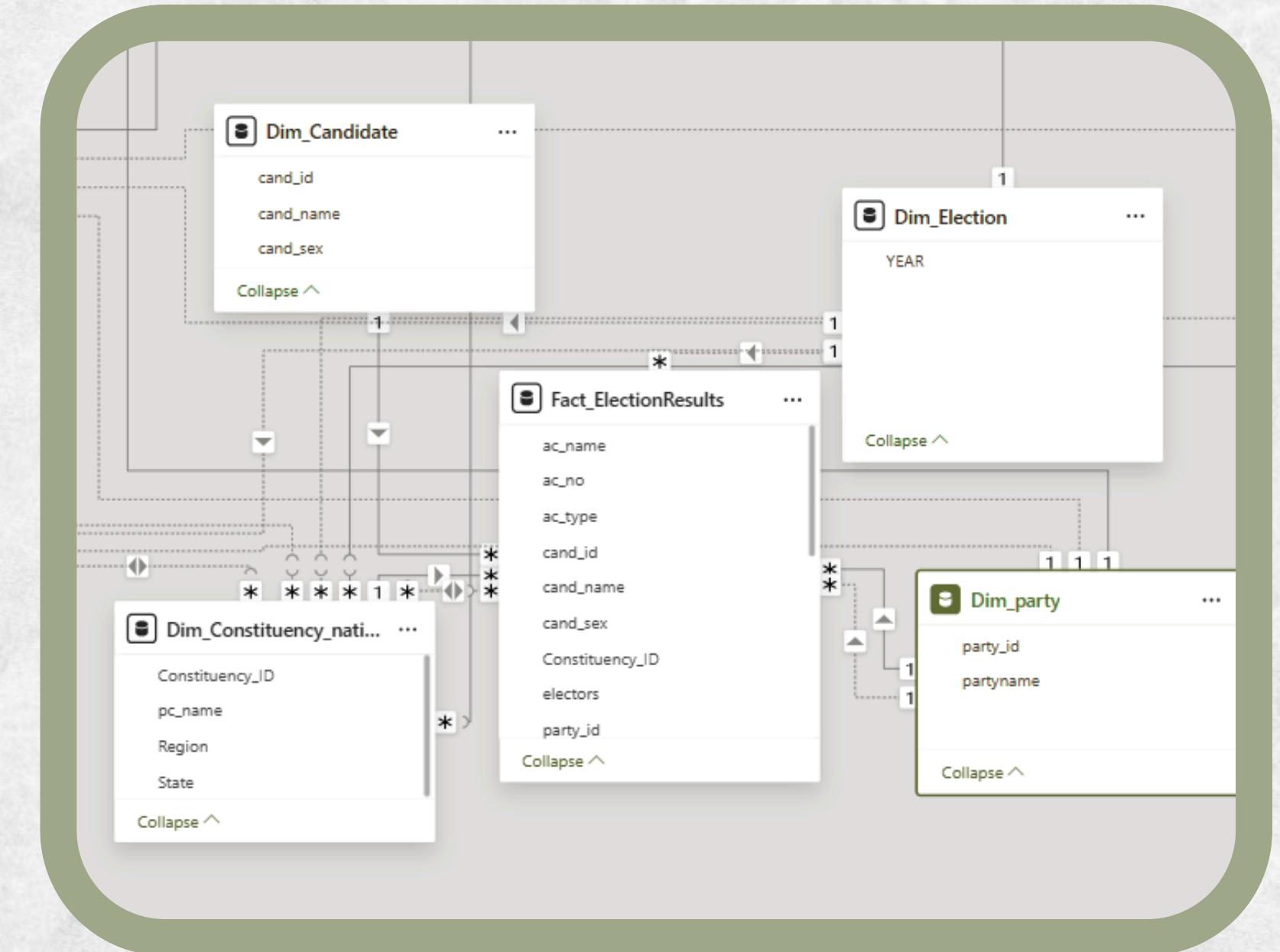
DATA INTEGRATION & CLEANING

- Cleaned and standardized datasets to remove inconsistencies, duplicates, and missing values.
- Integrated multiple datasets via API connections, creating a unified dataset for analysis.
- Ensured the data structure supported both historical trends and real-time simulation.



DATA MODELLING & STAR SCHEMA

- Implemented a Star Schema with ElectionResults as the Fact Table and Candidate, Constituency, Party, and Year as Dimension Tables.
- Created calculated columns and DAX measures: Vote %, Margin %, Turnout %.
- Defined relationships for drill-downs, cross-filtering, and interactive dashboard analysis.



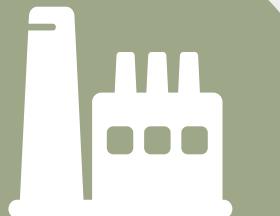
DASHBOARD OVERVIEW



Historical Trends – Multi-year analysis of vote share and turnout.



Demographics – Insights by gender, age, and region.



Real-Time Results – Live tracking of parties, seats, and margins.



Party & Candidate Insights – Detailed performance breakdowns.

Slicers & KPIs Overview



Integrated interactive slicers for Year, Party Name, State, and Region to enable flexible data exploration.



Designed top-level KPIs showing real-time metrics:

- Total Seats Won
- Total Votes Counted
- Turnout Percentage

The screenshot shows a user interface for data slicing. It features four main dropdown menus: 'YEAR' (with options 1951 and 2024), 'partyname' (with options Communist Party, Aa S P, and Andaman & Nicobar), 'State' (with options Andaman & Nicobar, Andhra Pradesh, and Andhra Pradesh), and 'Region' (with options Rural and Urban). Each menu has a list of additional items below the visible ones.

838

Total Seats KPI

4bn

Total Votes KPI

0.07

Turnout % KPI

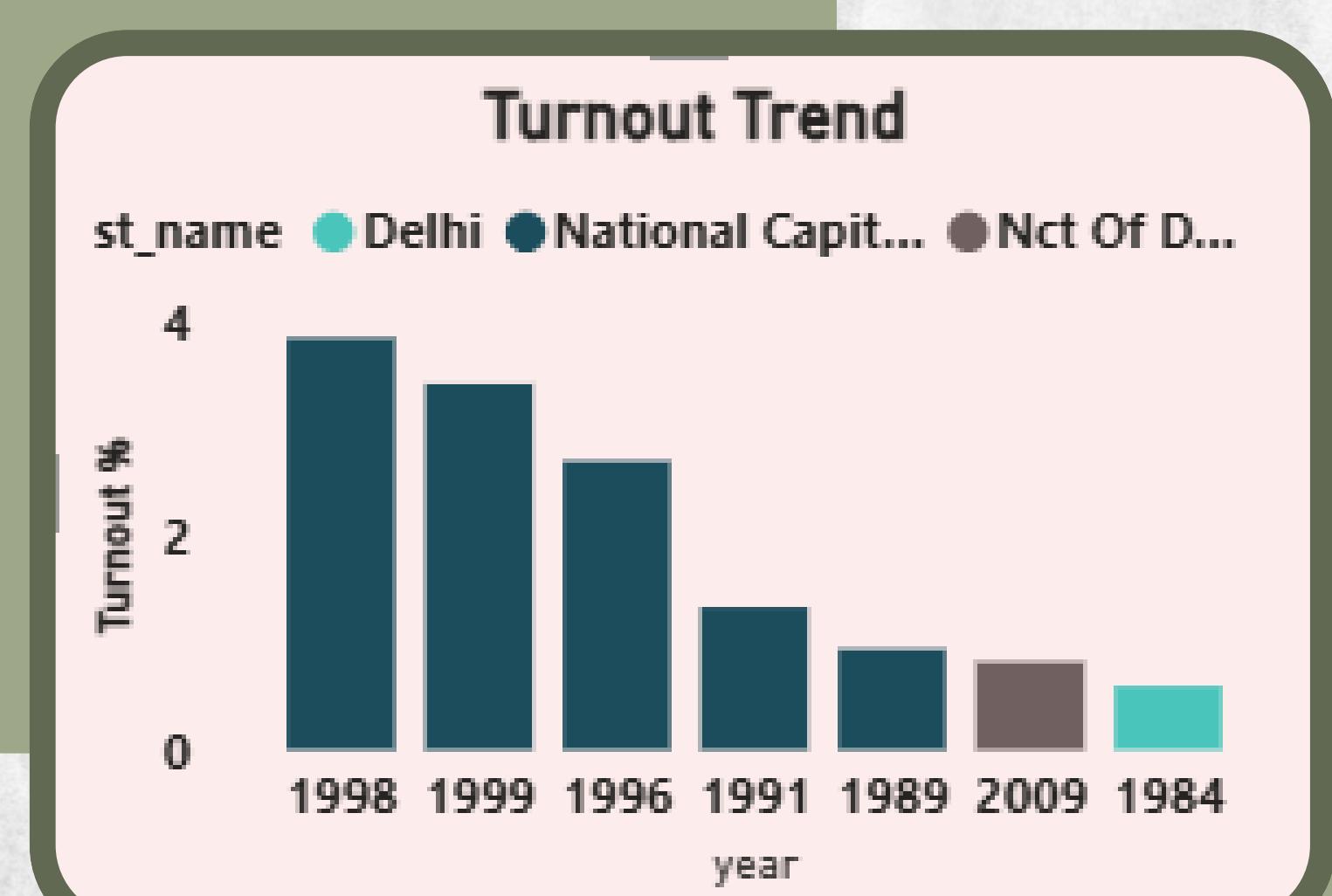
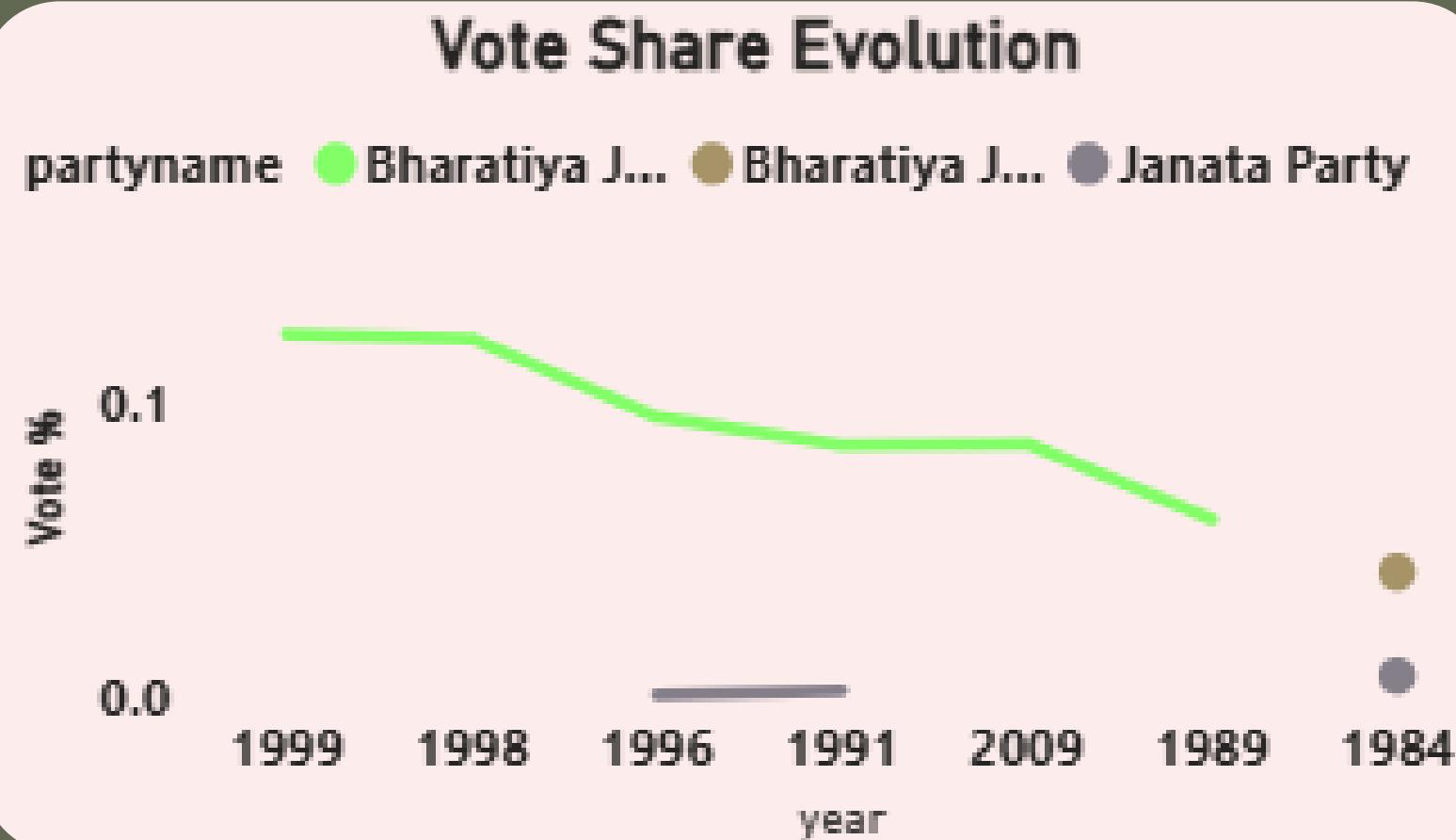
Historical Trends

Shows how vote share and turnout changed over the years, revealing shifts in party performance and voter engagement.

Vote Share %: Party popularity trends over time.

Turnout %: Tracks voter participation levels.

Visualization: Line & bar charts for year-wise comparison.



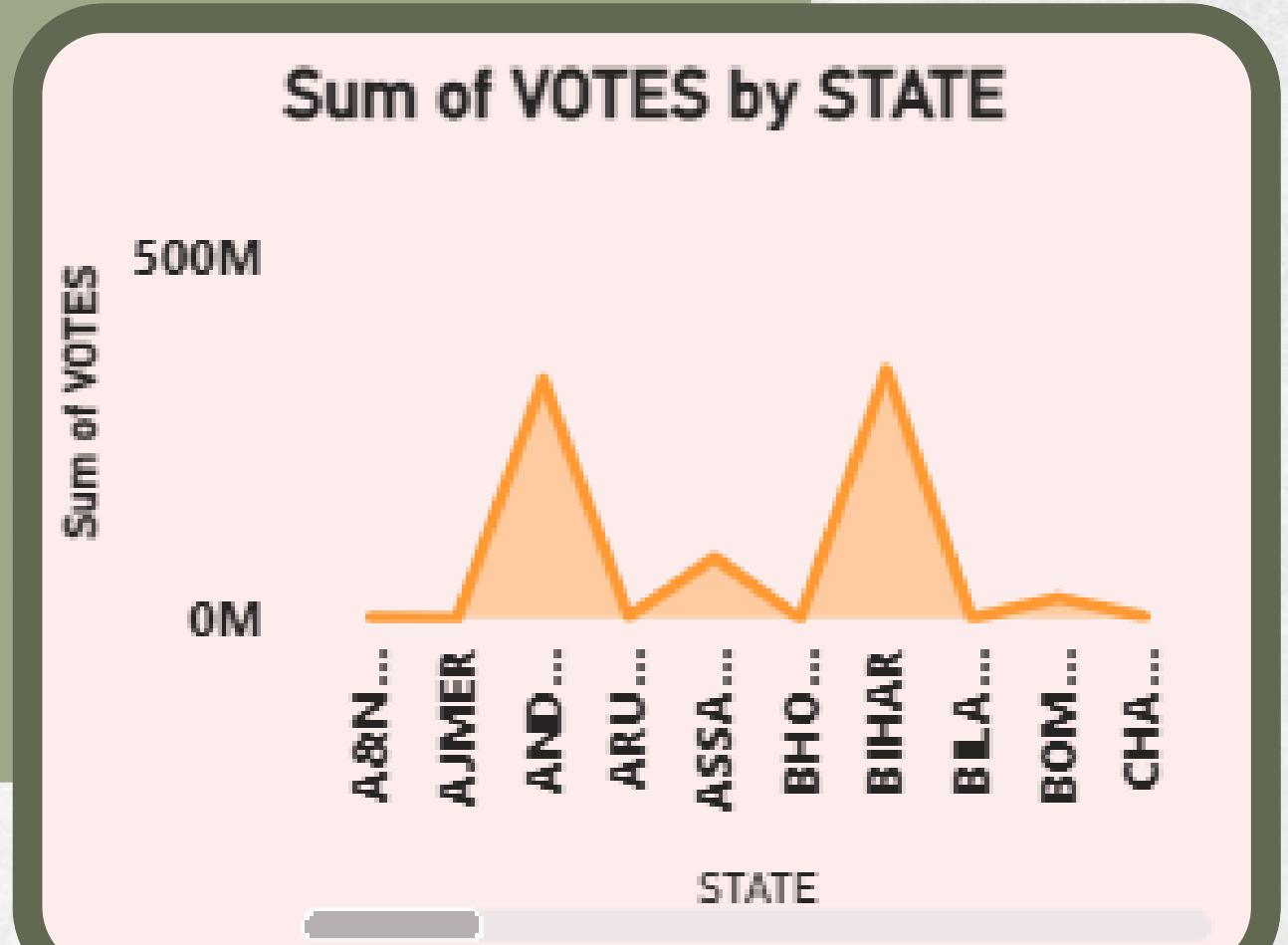
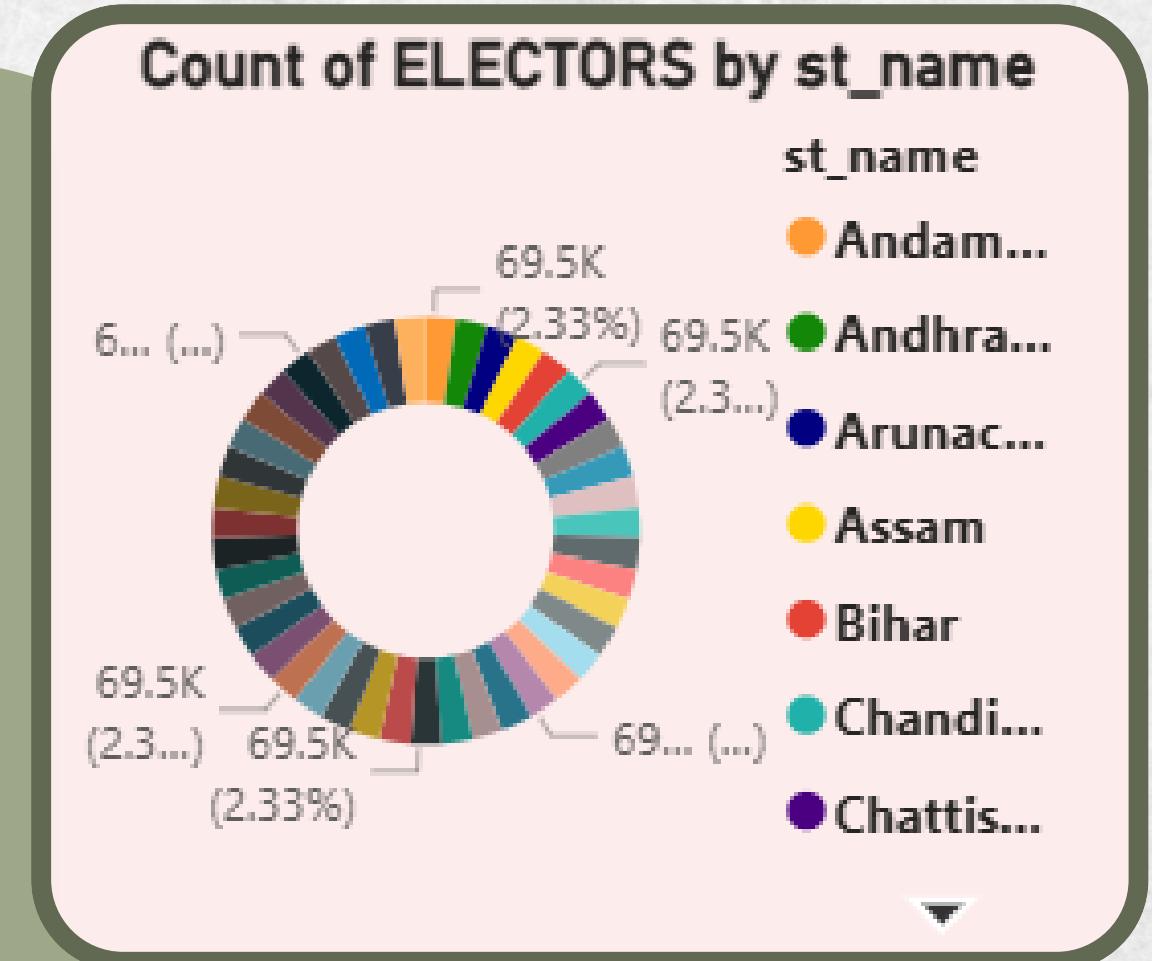
State-Level Insights

This section focuses on understanding how votes and electors are distributed across different states to identify key regions of voter concentration and performance.

Sum of Votes by State: Highlighted states with high and low voter turnout to show regional variations.

Count of Electors by State (Donut Chart):

Showed proportional representation of electors across states for easy comparison

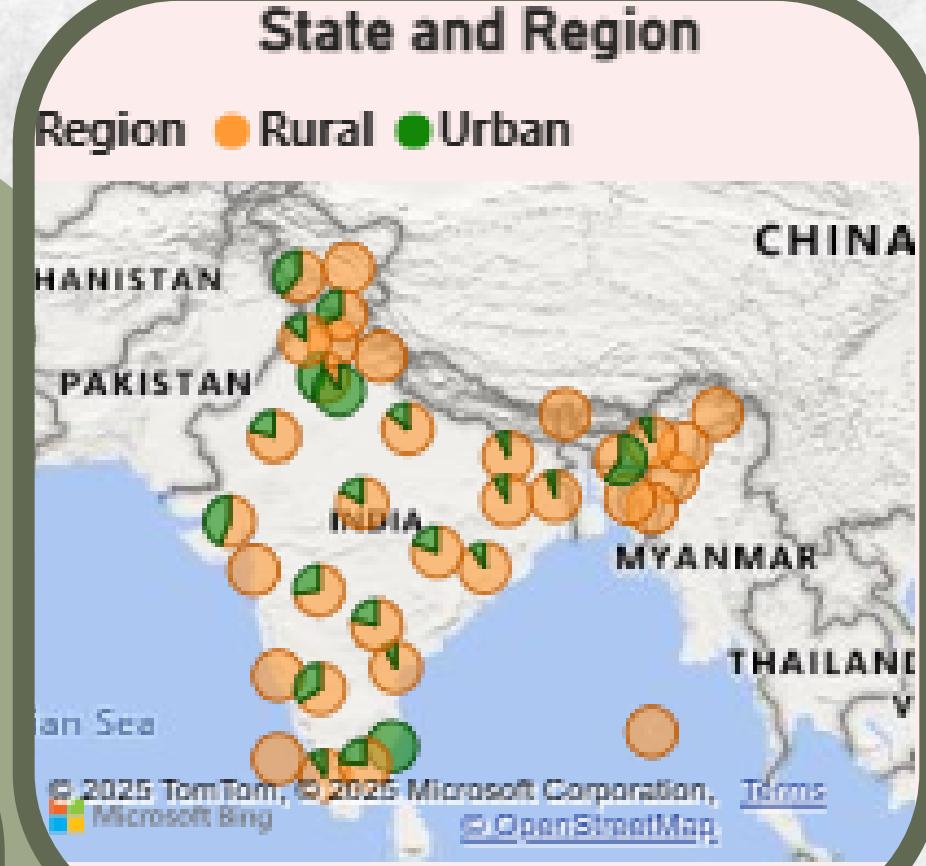
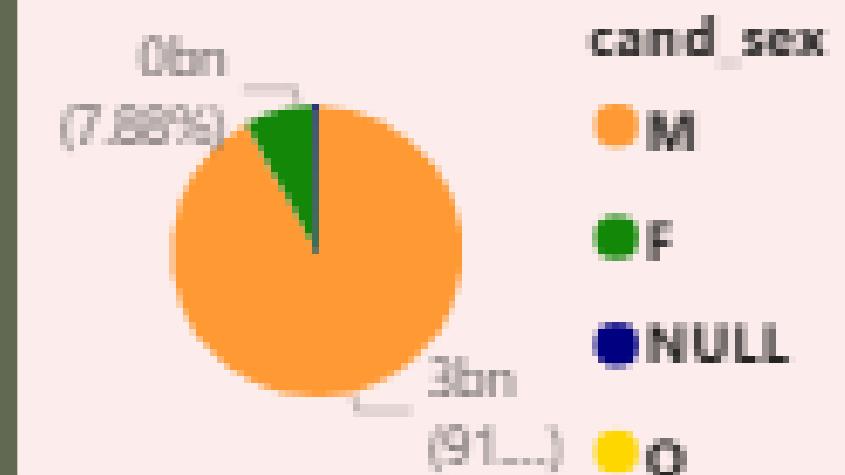


Demographic Insights

This section focuses on analyzing voter behavior across demographics to understand how population traits influence election outcomes.

- **Gender-wise Turnout:** Analyzed male and female participation to identify regional differences.
- **Age Group Participation:** Analyzed voter participation across different age groups to identify generational engagement patterns..
- **Urban vs. Rural Participation:** Examined voting patterns to highlight geographic influences on overall turnout.

Gender Wise Turnout



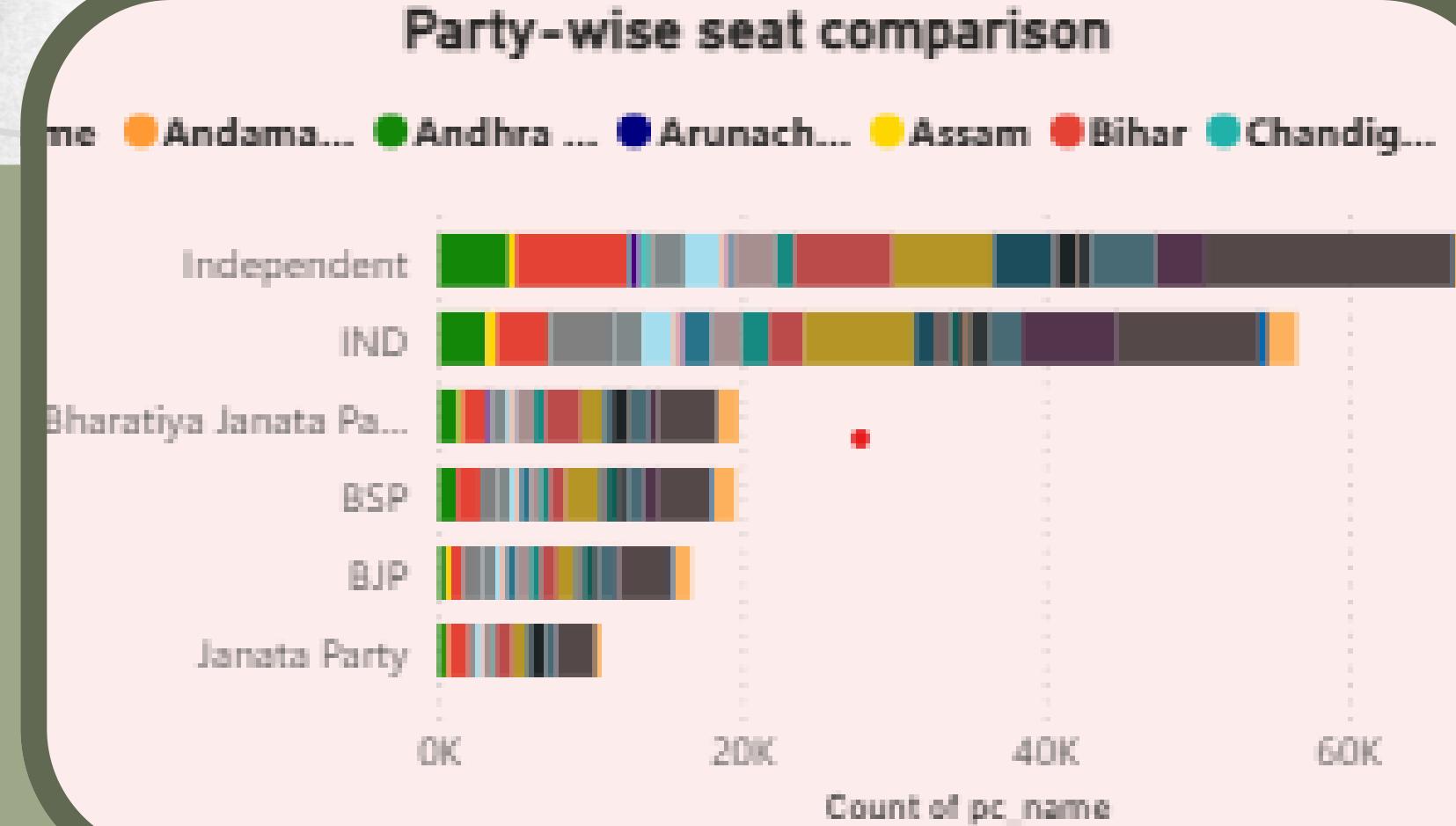
Age Group Participation



Party & Candidate Performance Overview

This section highlights how different parties and candidates performed across states, focusing on both overall and detailed results.

- **Party-wise Seat Comparison:** Showed the competitive performance of major parties.
- **Detailed Data Table:** Included State, Party, Candidate, Constituency, Total Votes, and Vote % for deeper analysis.



State	Party Name	Constituency ID	Candidate Name	Total Vote	Vote %
Uttaranchal	UKKD	756	Arvind	2982	
Uttaranchal	UKKD	776	Arvind	2982	
Uttaranchal	UKKD	781	Arvind	2982	
Uttaranchal	IND	756	Babu Ram	7655	
Uttaranchal	IND	776	Babu Ram	7655	
Uttaranchal	IND	781	Babu Ram	7655	
Uttaranchal	BJP	674	Bachi Singh Rawat	2257420	
Uttaranchal	BJP	774	Bachi Singh Rawat	2257420	
Uttaranchal	BJP	779	Bachi Singh Rawat	2257420	
Uttaranchal	CPI(ML)(L)	675	Bahadur Singh Jangi	2292	
Uttaranchal	CPI(ML)(L)	780	Bahadur Singh Jangi	2292	
Uttaranchal	IND	675	Bhawan Singh Bisht	11680	
Uttaranchal	IND	780	Bhawan Singh Bisht	11680	
Uttaranchal	UKKD	675	Bhuwan Chandra Joshi	5273	
Uttaranchal	UKKD	780	Bhuwan Chandra Joshi	5273	
Uttaranchal	IND	675	Ch. Vijay Pal Singh	14815	
Uttaranchal	IND	780	Ch. Vijay Pal Singh	14815	
Uttaranchal	IND	672	Chandar Singh	9170	
Uttaranchal	IND	772	Chandar Singh	9170	
Uttaranchal	IND	777	Chandar Singh	9170	
Uttaranchal	BKJP	675	Chandra Rawal	2055	
Uttaranchal	BKJP	780	Chandra Rawal	2055	
Uttaranchal	SP	674	Chandra Singh Bisht	4650	
Uttaranchal	SP	774	Chandra Singh Bisht	4650	
Uttaranchal	SP	779	Chandra Singh Bisht	4650	
Uttaranchal	RSBP	675	Chaudhary Shyam Singh Advocate	4180	
Uttaranchal	RSBP	780	Chaudhary Shyam Singh Advocate	4180	
Uttaranchal	INC	756	Deepak Kumar	76001	
Uttaranchal	INC	776	Deepak Kumar	76001	
Uttaranchal	INC	781	Deepak Kumar	76001	
Total				40510754	

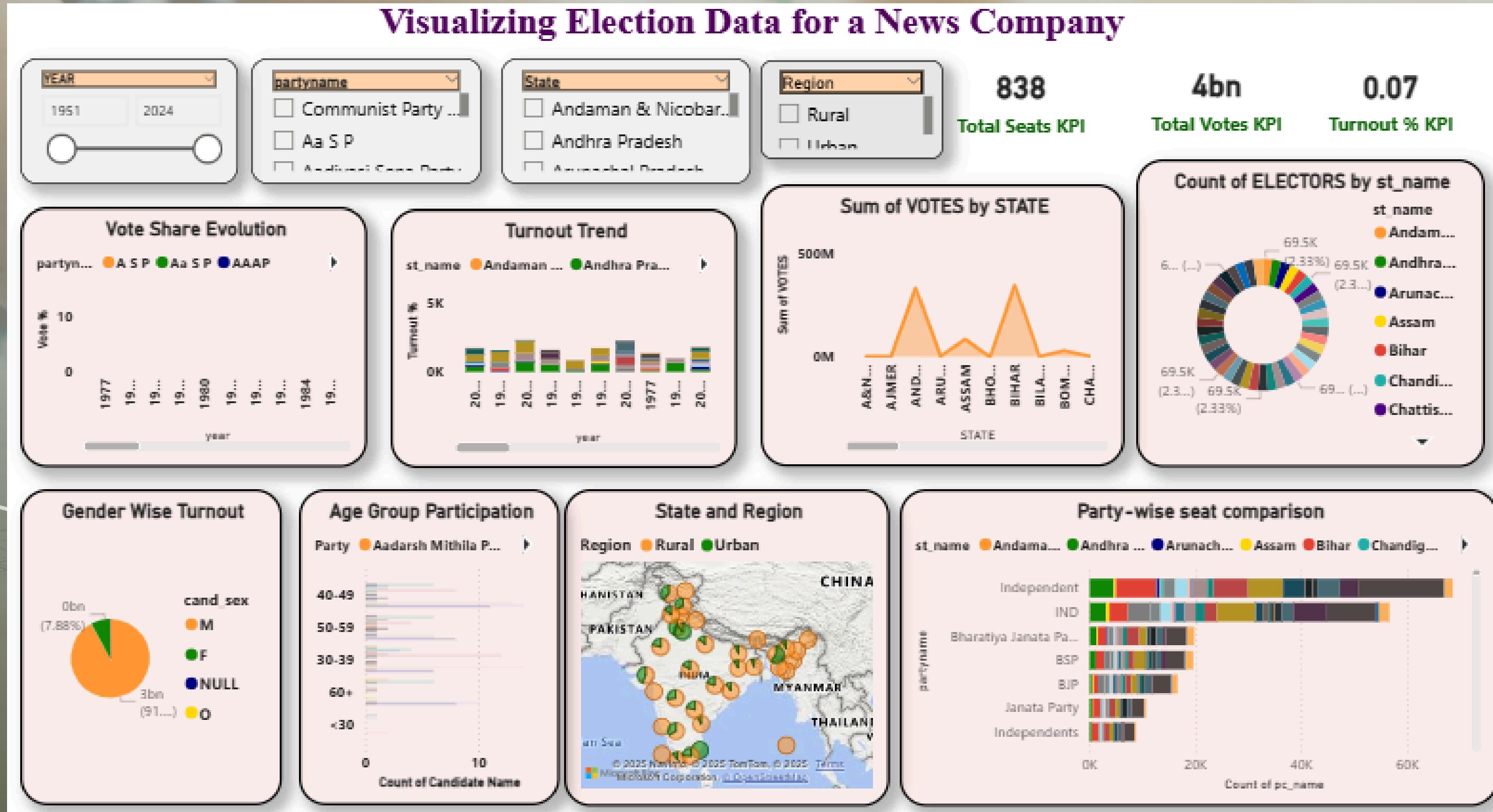
CONCLUSION

A unified and interactive Power BI dashboard was developed to integrate election data from multiple verified sources into a single, cohesive platform. It ensures consistency, accuracy, and ease of analysis across datasets.

The dashboard provides clear insights into historical trends, demographics, real-time updates, and candidate performance, enabling quick and visual understanding of election outcomes.

DASHBOARD

Visualizing Election Data for a News Company



THANKYOU

