TAMILNADU ELECTION DATA ANALYSIS

Project overview

This project focuses on analysing Tamil Nadu election data using Power BI. The objective is to summarise constituency-wise election results, party-wise seat wins, vote distribution, and winning margins through interactive dashboards that enable quick and clear understanding of election outcomes.

Data Source

- Source Description and Timeline: https://data.opencity.in/dataset and 2025.
- Domain: Tamil Nadu Election Dataset.

Problem Statement

- To analyse Tamil Nadu election data to identify party-wise seat wins and overall performance.
- To study the distribution of election results across constituencies to understand winning and losing patterns.
- To examine vote distribution and winning margins to identify close contests and dominant victories.
- To provide clear summary insights through Power BI dashboards that support quick and effective understanding of election outcomes.

Attributes Details

State_Name	Name of the state
Assembly_No	Assembly election number
Constituency_No	Constituency identification number
Year	Election year
Month	Election month
DelimID	Delimitation identification number
Position	Candidate position (Winner / Runner up)
Candidate	Candidate name
Sex	Gender of the candidate
Party	Political party name
Votes	Total votes received by the candidate
Age	Age of the candidate

Valid_Votes	Total valid votes in the constituency
Electors	Total registered voters
Constituency_Name	Name of the constituency
Constituency_Type	Type of constituency (General / Reserved)
District_Name	Name of the district
Sub_Region	Sub region of the state
N_Cand	Number of candidates contested
Turnout_Percentage	Voter turnout percentage
Vote_Share_Percentage	Percentage of votes received
Deposit_Lost	Indicates whether candidate lost deposit
Margin	Vote difference between winner and runner up
Margin_Percentage	Margin of victory percentage
ENOP	Effective number of parties
pid	Party identifier
Party_ID	Unique party code
last_poll	Year of previous election
Contested	Number of times candidate contested
No_Terms	Number of terms served
Turncoat	Indicates party switching status
Incumbent	Indicates if candidate is incumbent
Recontest	Indicates if candidate contested again
MyNeta_education	Education level of the candidate
TCPD_Prof_Main	Main profession of the candidate
Election_Type	Type of election
Age_Group	Category of candidates based on age range
Margin_Category	Classification of election results based on winning margin

Tools & Technologies

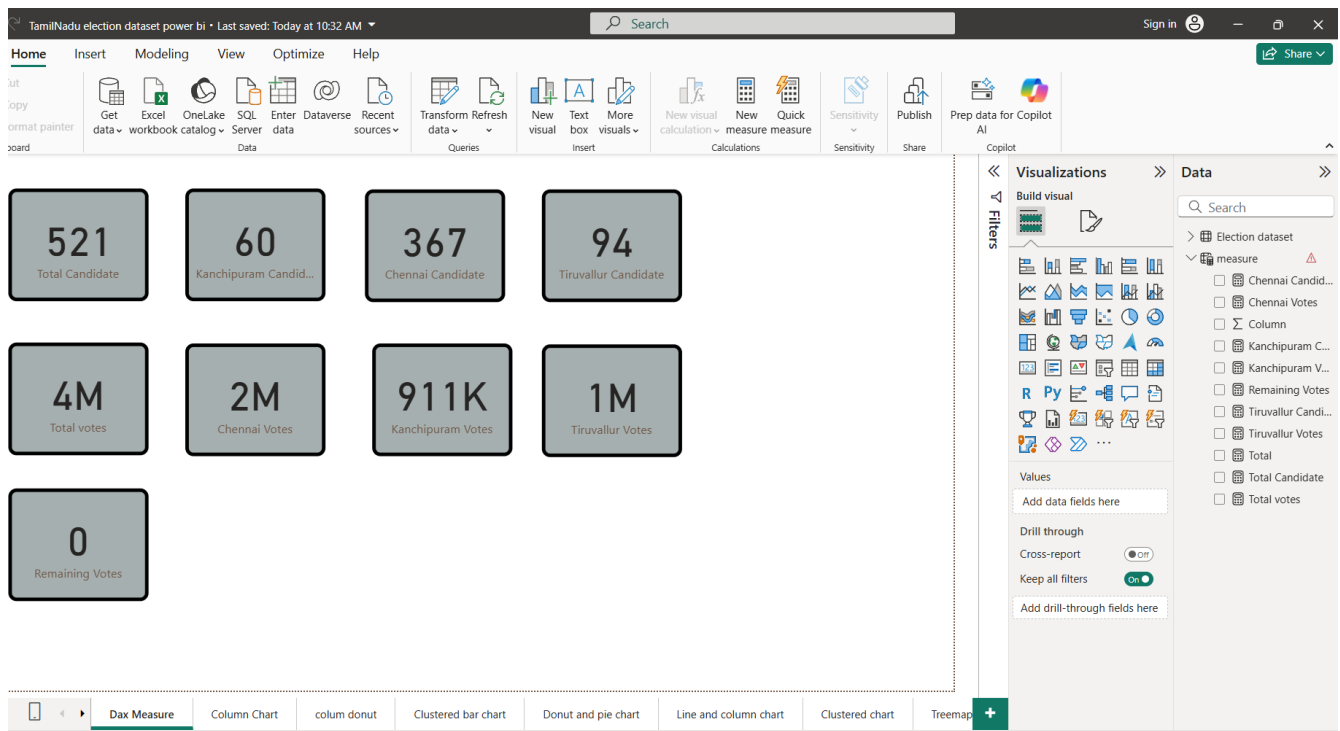- Power Bi - Data Measure and Visualization.

Data Processing

The data was cleaned and processed using Power BI by removing null values, correcting data types, creating calculated columns (such as age group and margin category), and preparing the dataset for analysis through simple transformations and measures.

Dax Formula

1. Total Candidate = DISTINCTCOUNT('Election dataset'[Candidate])
2. Kanchipuram Candidate = CALCULATE(COUNTROWS('Election dataset'),'Election dataset'[District_Name]="Kanchipuram")
3. Chennai Candidate = CALCULATE(COUNTROWS('Election dataset'),'Election dataset'[District_Name]="Chennai")
4. Tiruvallur Candidate = CALCULATE(COUNTROWS('Election dataset'),'Election dataset'[District_Name]="Tiruvallur")
5. Total votes = SUM('Election dataset'[Votes])
6. Chennai Votes = CALCULATE(SUM('Election dataset'[Votes]),'Election dataset'[District_Name]="Chennai")
7. Kanchipuram Votes = CALCULATE(SUM('Election dataset'[Votes]),'Election dataset'[District_Name]="Kanchipuram")
8. Tiruvallur Votes = CALCULATE(SUM('Election dataset'[Votes]),'Election dataset'[District_Name]="TIRUVALLUR")
9. Remaining Votes = [Total Votes] SUMX (VALUES ('Election dataset'[District_Name]),[Total Votes]).
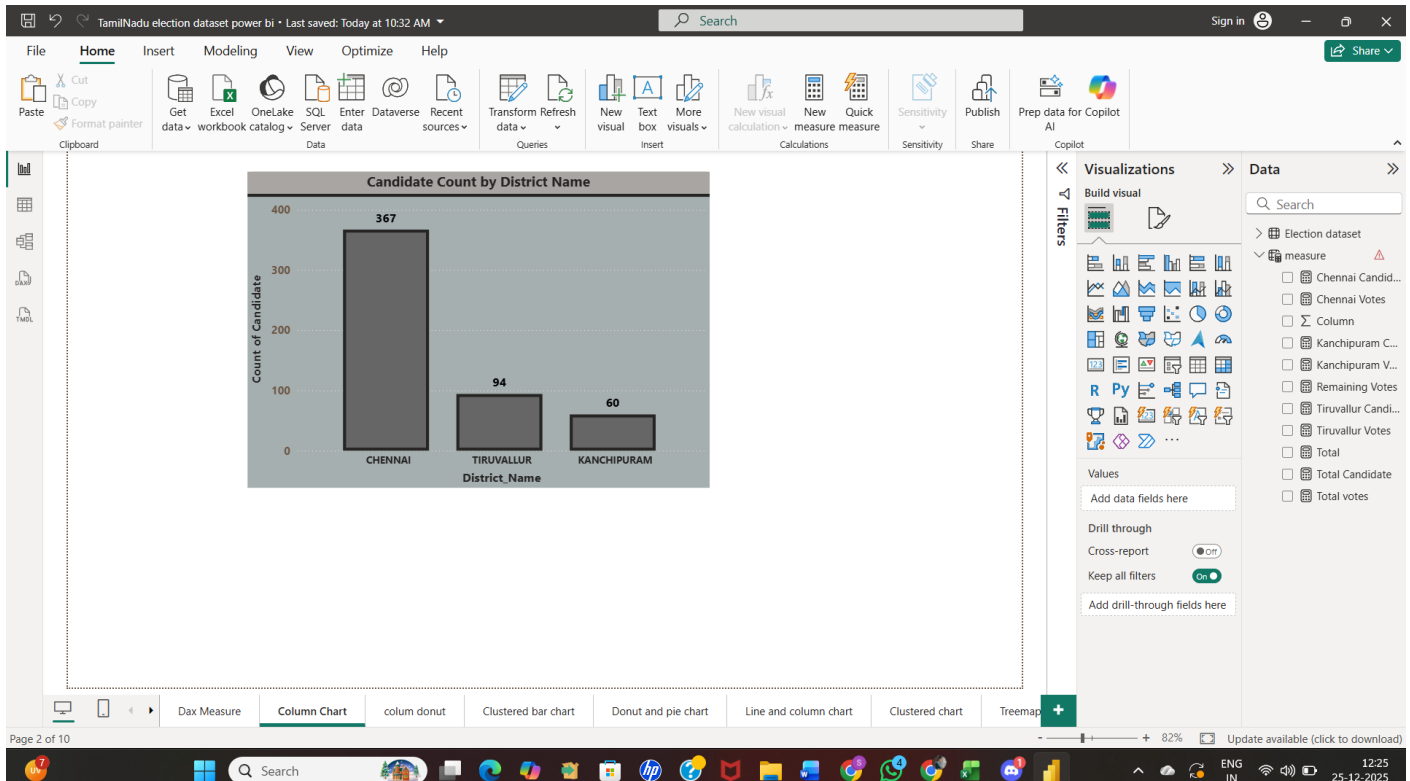
Calculated column

1. Age Group = SWITCH(TRUE(),[Age]>=25 && [Age]<=34,"Younger",[Age]>=35 && [Age]<=44,"Middle",[Age]>=45 && [Age]<=54,"Older",[Age]>=55 && [Age]>=64,"Senior",[Age]>=65 && [Age]<=77,"Very Old","Others")
2. Margin Category = VAR MarginValue = IF ('Election dataset'[Margin_Percentage] <=1,
3. 'Election dataset'[Margin_Percentage] * 100, 'Election dataset'[Margin_Percentage]) RETURN IF (MarginValue < 5, "Close Fight", IF (MarginValue < 10, "Medium", "Strong"))

Insights

- It shows the total number of candidates and total votes, along with district wise candidate and vote details for Chennai, Kanchipuram, and Tiruvallur. It helps to quickly understand how candidates and votes are distributed across districts.
- There is no issue or loss in the vote data. The total votes are split district wise, and Power BI displays the values in rounded format (K for thousand, M for million) only for easy readability. The actual vote counts are accurate only the display is rounded.
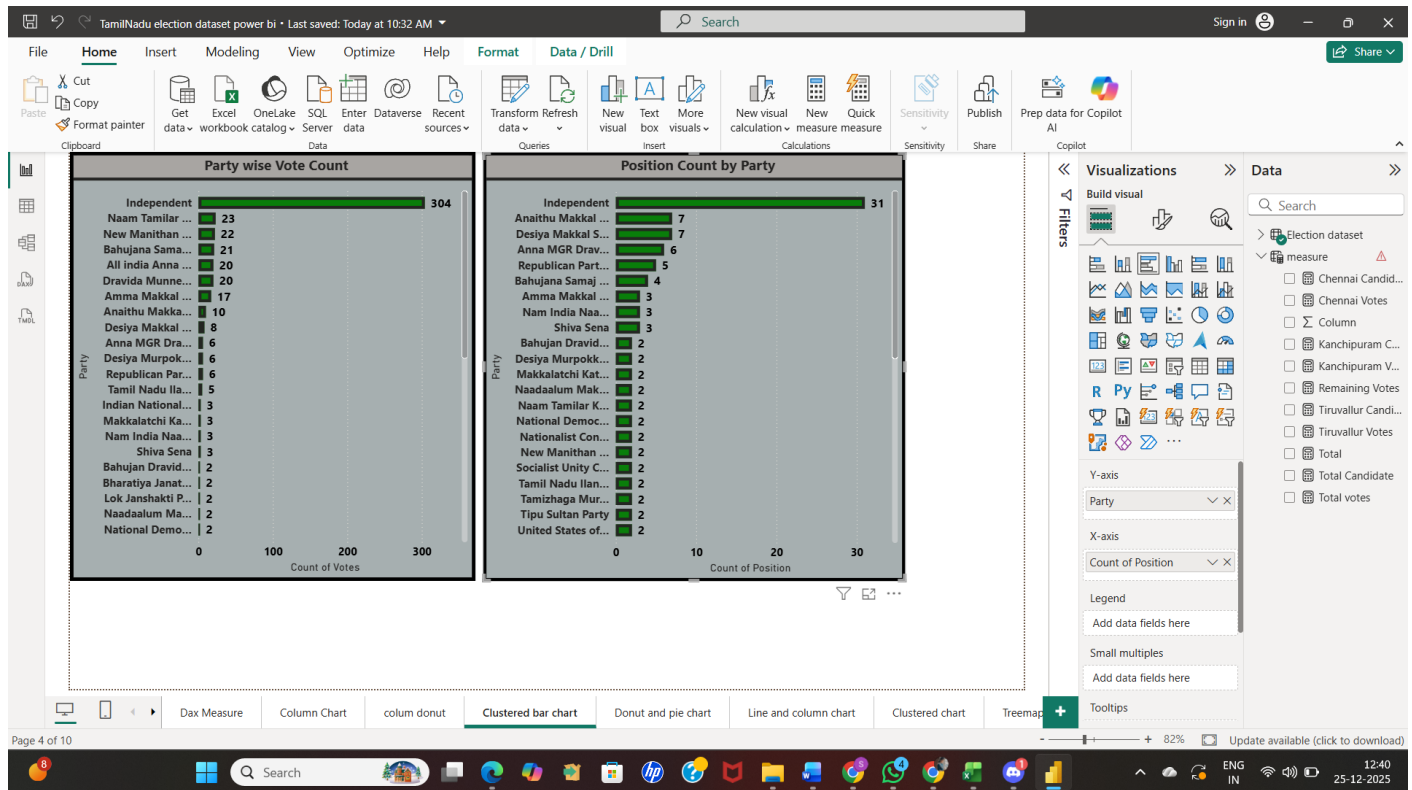
District Wise Candidate

Insights

- This chart shows the number of candidates contested in each district.
  Chennai has the highest number of candidates (367), showing higher competition compared to other districts. Tiruvallur has 94 candidates, while Kanchipuram has the lowest number of candidates (60).

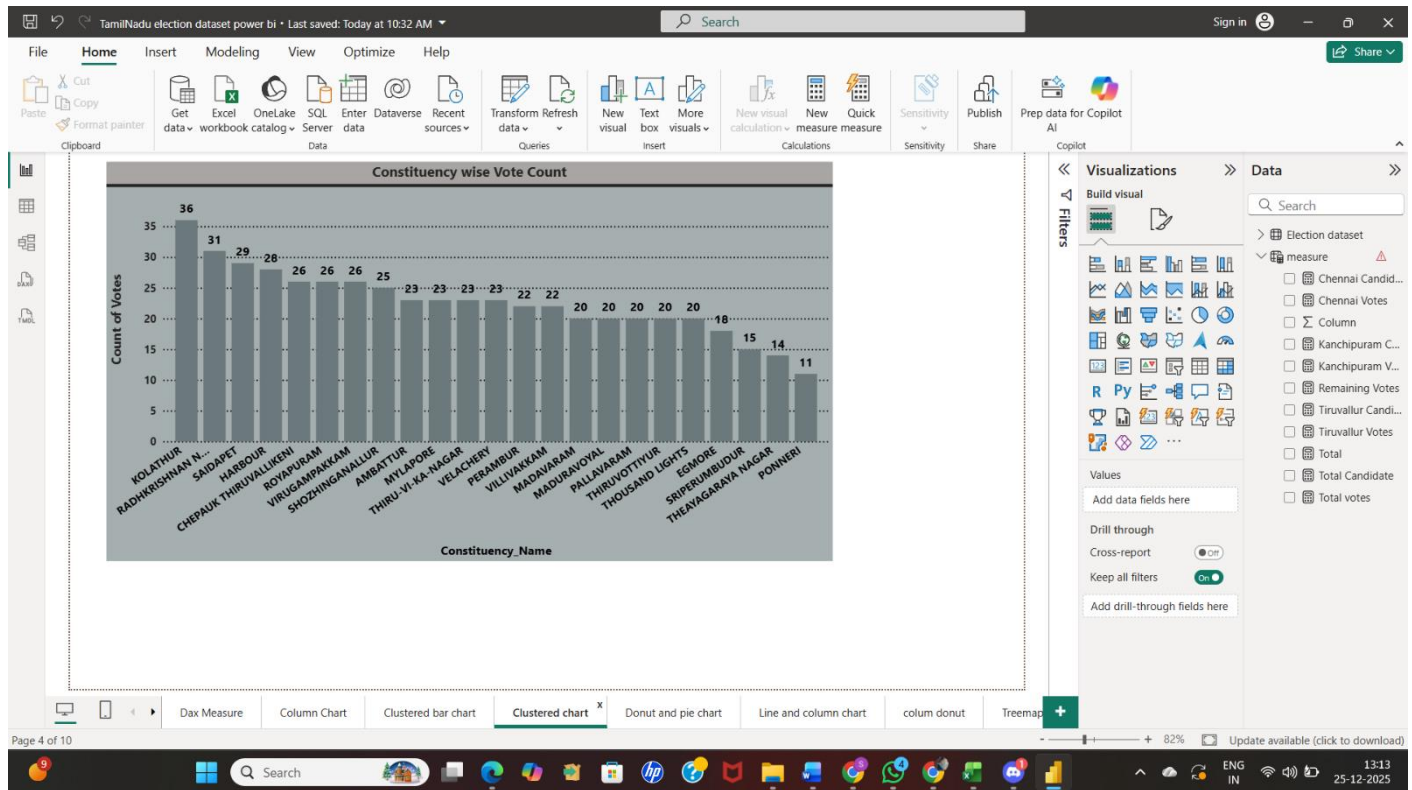- Overall, more candidates contested in Chennai than in the other two districts.

Party Wise Vote and Position Analysis

Insights

- The first chart shows the number of votes received by each party. Independent candidates received the highest number of votes compared to other parties, while the remaining votes are distributed among different parties.
- The second chart shows the position count by party. Independent candidates again have the highest number of positions, whereas other parties have fewer positions.
- Overall, the analysis indicates that Independent candidates performed better than individual parties in terms of both votes and positions.
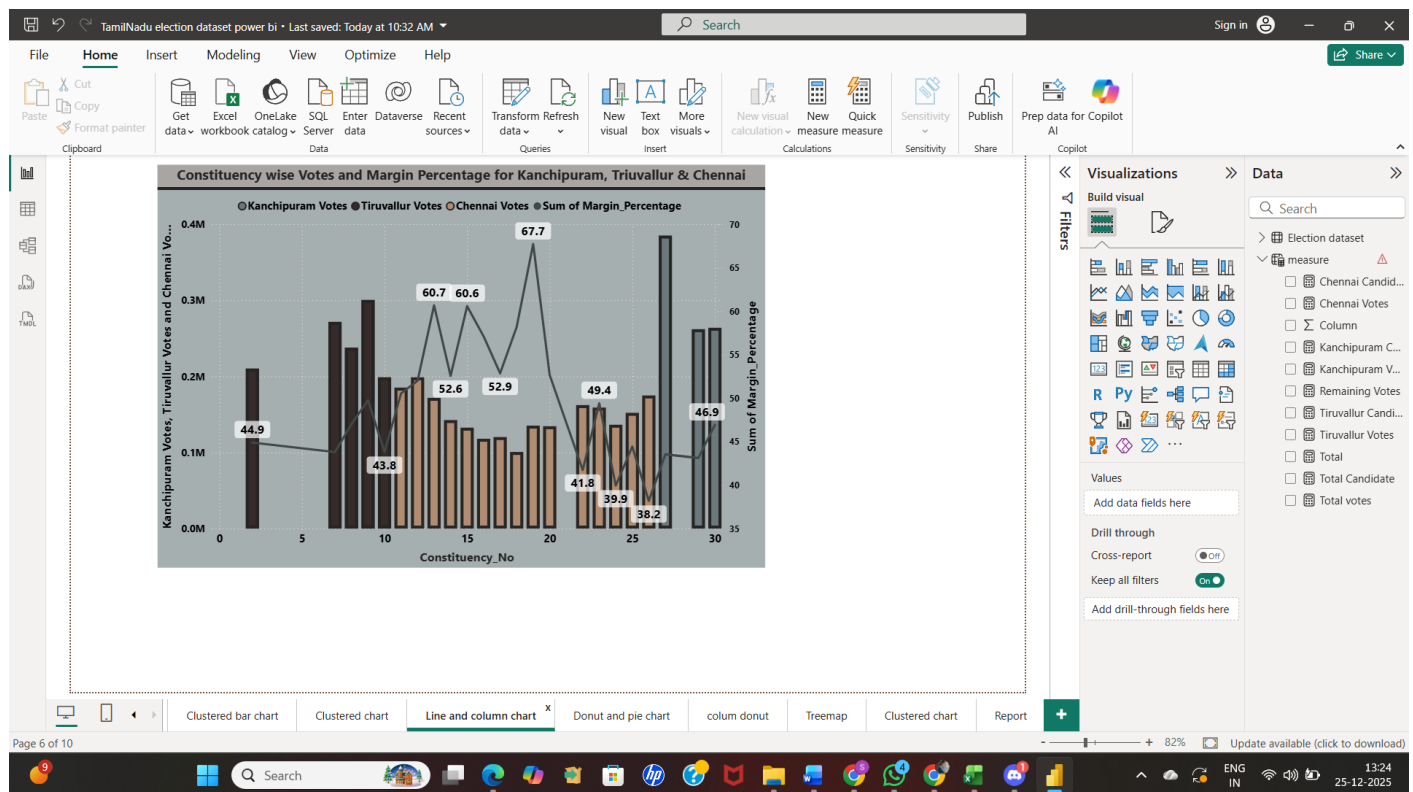
Constituency wise Vote Count

Insights

- Kolathur has the highest vote count with 36 votes, followed by Radhakrishnan Nagar with 31 votes.
- Several constituencies such as Saidapet, Harbour, and Chepauk -Thiruvallikeni show vote counts in the range of 25 -29.
- Constituencies like Sriperumbudur, Theayagaraya Nagar, and Ponneri have comparatively lower vote counts, below 15.
- Overall, this chart shows that vote distribution varies across constituencies, with a few constituencies having higher voter participation than others.
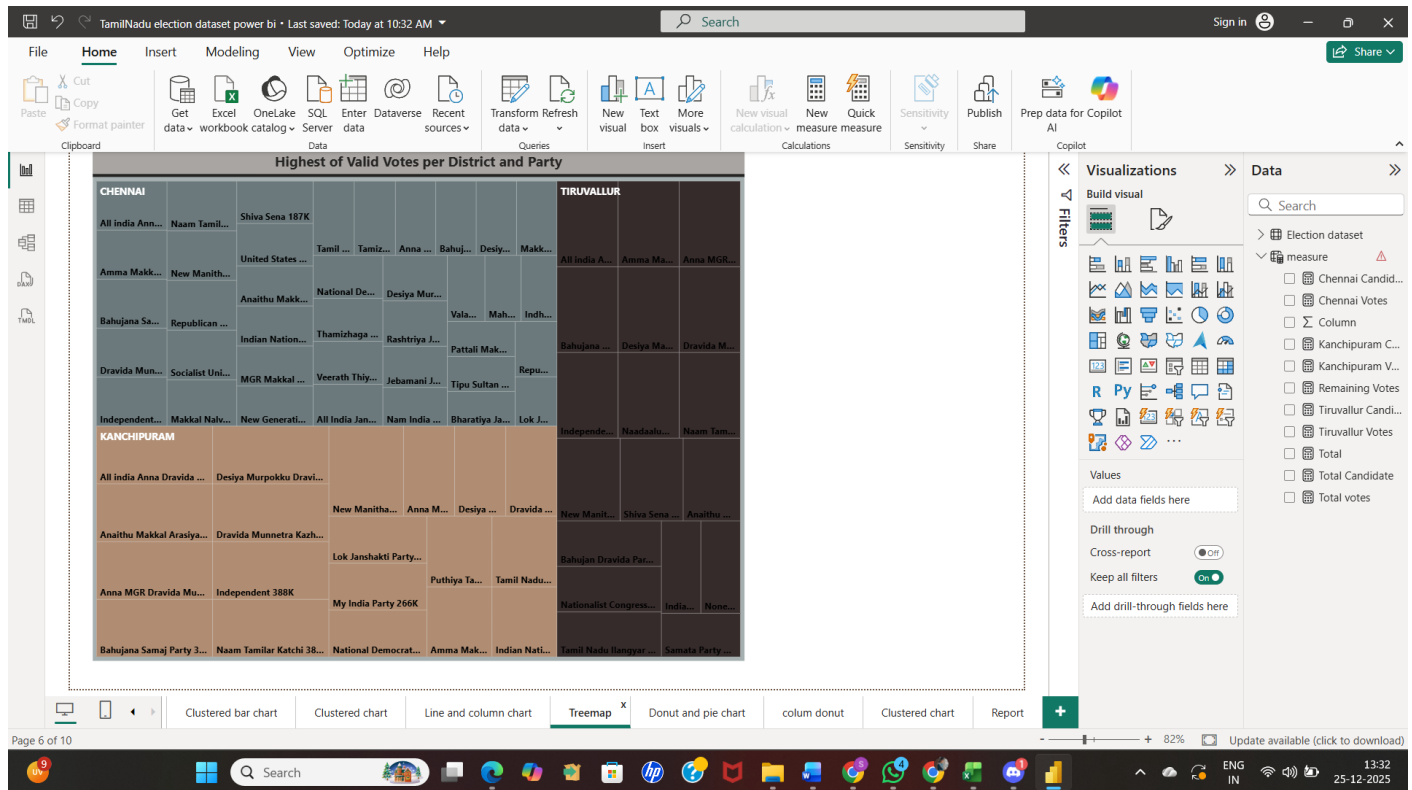
Constituency wise Votes and Margin Analysis (Chennai, Tiruvallur & Kanchipuram)

Insights

- The highest margin percentage is around 67.7%, which indicates a strong win in that constituency.
- The lowest margin percentage is around 38.2%, showing a close and competitive contest.
- Chennai constituencies generally record higher vote counts, while Tiruvallur and Kanchipuram show comparatively lower vote counts.
- This difference shows that voter turnout and competition vary across regions.
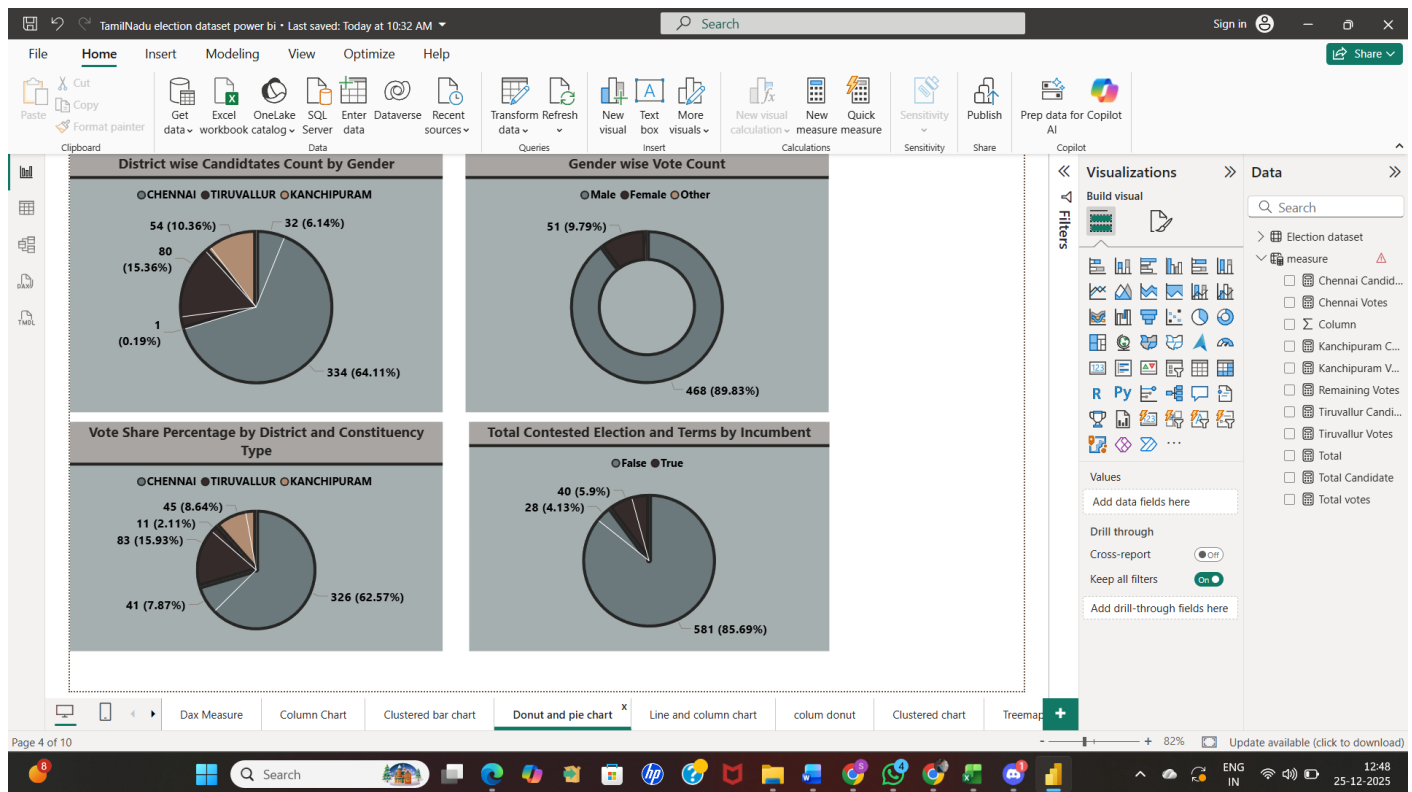
Highest Valid Votes by District and Party

Insights

- This treemap shows the parties that received the highest number of valid votes in each district.
- In Chennai, multiple parties have high vote counts, showing strong competition among parties.
- In Kanchipuram, a few parties stand out with higher vote counts, while the remaining parties have relatively lower votes.
- In Tiruvallur, vote distribution is more concentrated among fewer parties compared to Chennai.

Candidate and Vote Analysis

Insights

District wise Candidates by Gender

- Chennai has the highest number of candidates with 334 (64.11%).
- Tiruvallur has 80 candidates (15.36%), and Kanchipuram has 54 candidates (10.36%).
- The remaining districts together contribute smaller shares, each below 7%.
- This shows that candidate participation is highest in Chennai.

Gender wise Vote Count

- Male candidates received the majority of votes with 468 votes (89.83%).
- Female candidates received 51 votes (9.79%).
- Other category accounts for a very small share of votes.
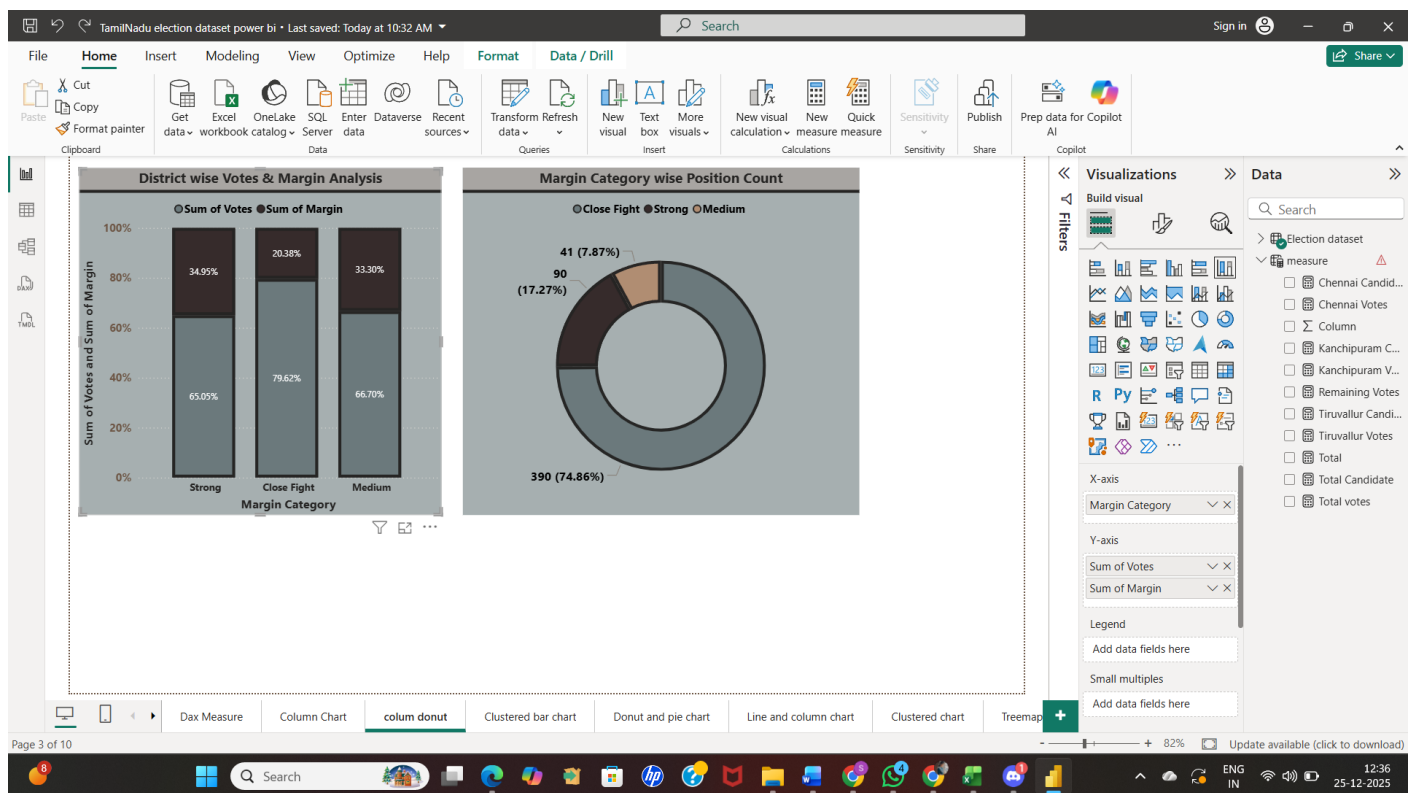- This indicates a clear dominance of male candidates in terms of vote count.

Vote Share Percentage by District and Constituency Type

- Chennai contributes the highest vote share with 326 votes (62.57%).
- Tiruvallur follows with 83 votes (15.93%), and Kanchipuram has 45 votes (8.64%).
- Other constituency types together account for the remaining vote share below 10%.

Total Contested Election by Incumbent

- Non incumbent candidates account for 581 contests (85.69%).
- Incumbent candidates account for 40 contests (5.9%), while the remaining share is minimal.
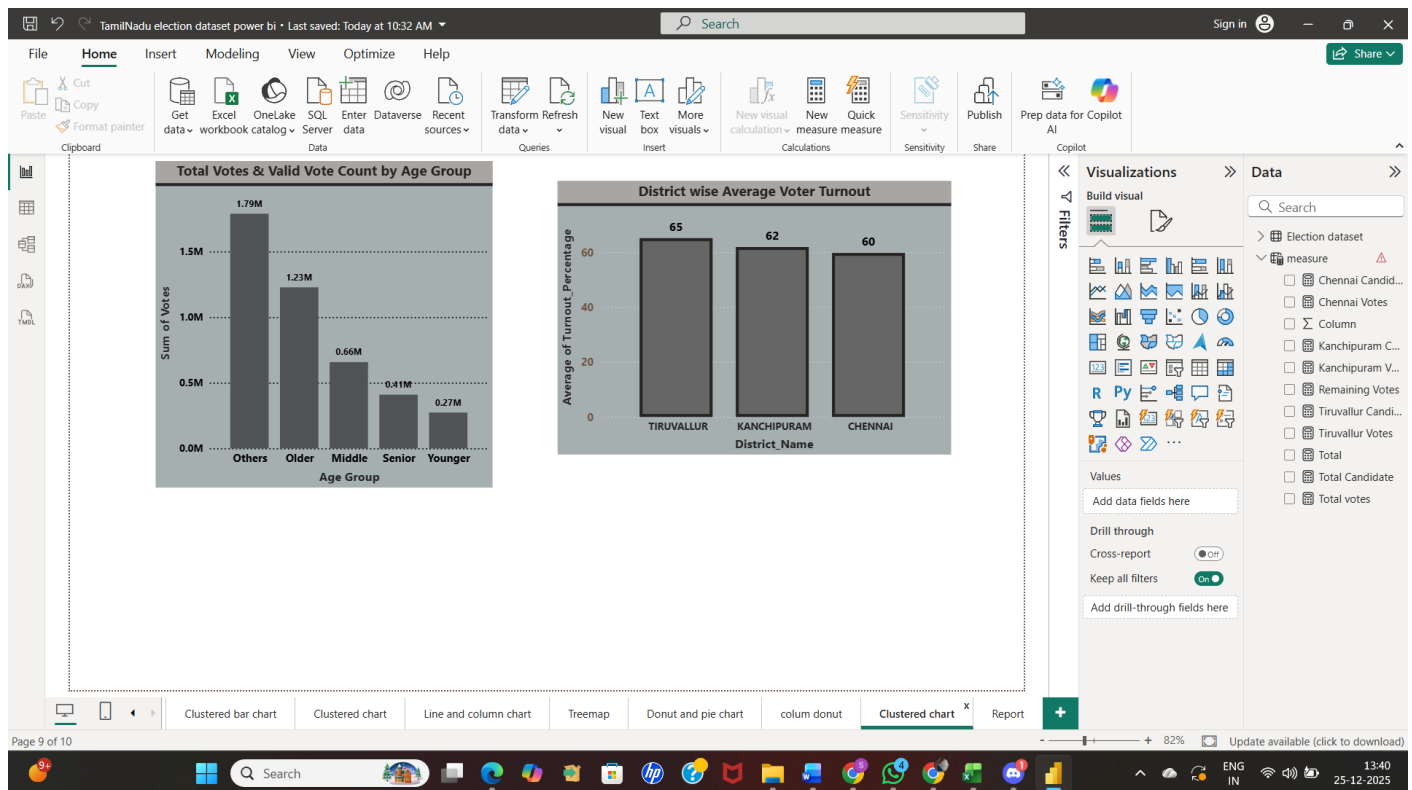- This shows that most candidates contesting the election are new candidates.

Margin Wise Vote And Result

Insights

- The first chart shows the distribution of votes across different margin categories. A major share of votes falls under the Close Fight category, indicating that many voters were part of closely contested elections.
- The second chart shows the number of constituencies under each margin category. Most constituencies fall under the Close Fight category, while only a few constituencies show strong margin victories.
- Overall, the analysis indicates that the election results were largely decided by narrow margins rather than large victories.

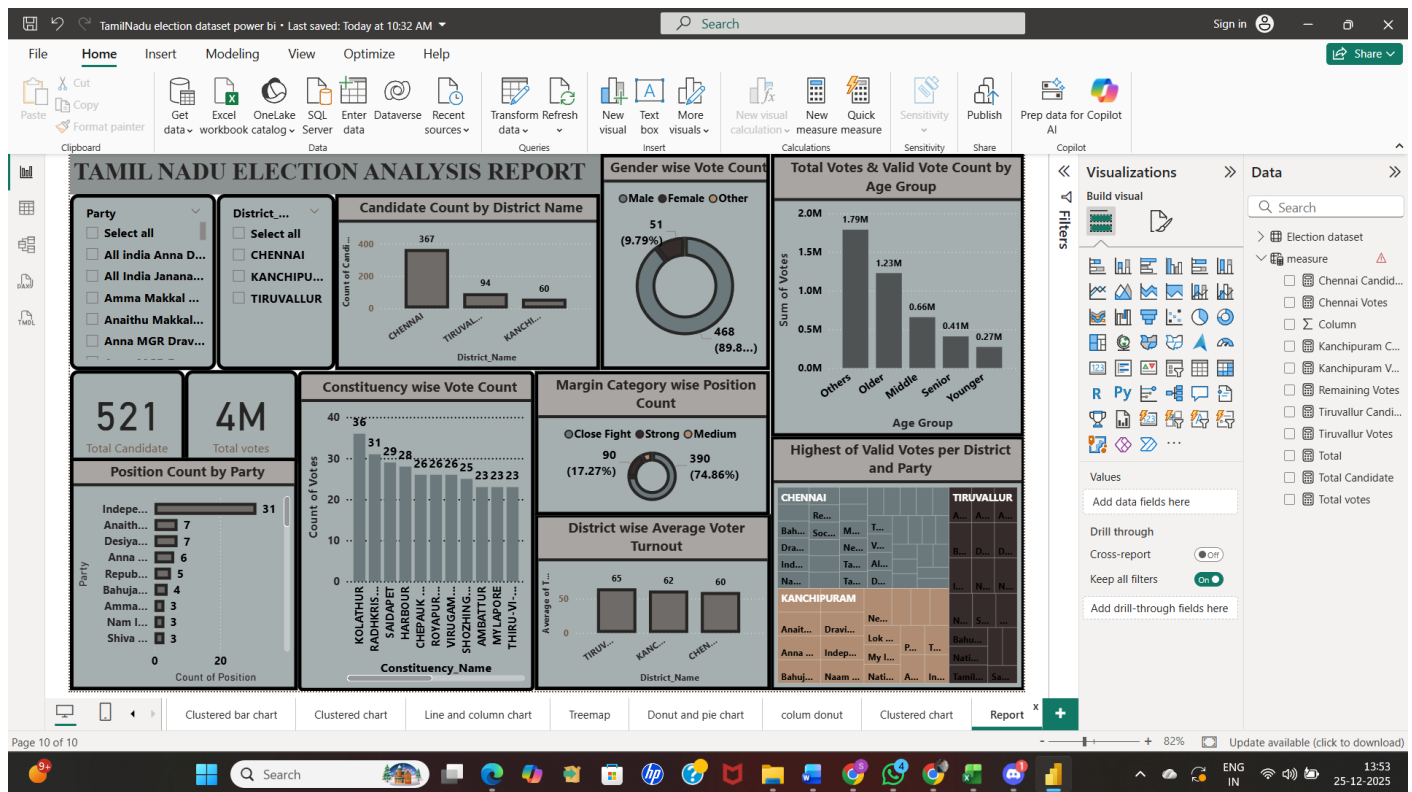# Voter Participation Overview by Age Group and District

Insights

Total Votes and Valid Votes by Age Group

- The 'Others' age group has the highest number of votes, followed by Older and Middle age groups.
- Younger and Senior age groups contribute comparatively fewer votes.
- This indicates that voter participation is higher among older and middle aged voters.

District wise Average Voter Turnout

- Chennai has the highest total votes because it has more voters.But the turnout percentage is lower (60%), which means not all registered voters voted.
- Tiruvallur has fewer total voters, but more people actually voted, so the turnout percentage is higher (65%).

Dashboard

Overall Insights

It combines key information such as the total number of candidates, total votes polled, and how these are distributed across different districts. The dashboard also explains voting patterns by gender and age group, which helps in understanding who participated more in the election. Voter turnout percentage shows how actively people voted in each district, while margin strength highlights whether the competition was strong or close. From the dashboard, Chennai clearly stands out with the highest number of candidates and total votes, mainly because it has a larger population and more constituencies. However, turnout percentage and winning margins are not the same across all districts. Districts like Tiruvallur and Kanchipuram show different turnout levels and competition intensity. Overall, this dashboard helps to quickly understand where votes came from, who voted more, and how competitive the election was across districts, making it useful for analysis and decision making.

Descriptive Analysis (What happened)

- Total candidates are 521, and total votes are around 4 million.

- Chennai has the highest number of candidates (367) and the highest total votes.

- Tiruvallur and Kanchipuram have fewer candidates and votes compared to Chennai.

- Male candidates received most of the votes, while female and other categories received a smaller share.

- The 'Others' age group has the highest number of votes, followed by Older and Middle age groups.

- Younger and Senior age groups contributed fewer votes.

- Tiruvallur has the highest average voter turnout (65%), followed by Kanchipuram (62%) and Chennai (60%).

Diagnostic Analysis (Why it happened)

- Chennai has the highest total votes because it has a larger population and more voters.
- Even though Chennai has more votes, its turnout percentage is lower, which means not all registered voters voted.
- Tiruvallur has fewer voters, but a higher percentage of people actually voted, so turnout is higher.
- The dominance of male votes indicates higher male participation or more male candidates.
- Higher votes in older and middle age groups show that these age groups are more active in voting.
- Strong margin wins indicate less competition, while close fights show competitive constituencies.

Predictive Analysis (What may happen)

- The current trends indicate that Chennai will continue to dominate in total votes and candidate participation.
- The older and middle aged voter groups are likely to remain the most active participants in future elections.
- The male candidates may continue to receive a higher share of votes unless voter participation patterns change.
- The constituencies with close margins may become more competitive in upcoming elections.

Prescriptive Analysis (What should be done)

- The steps should be taken to increase voter turnout in Chennai, especially among non voting groups.
- The awareness programs can be planned to encourage younger and senior voters to participate more.
- The focus can be increased on female candidate participation and voter engagement.
- The political parties can concentrate more on constituencies with close margins to improve their winning chances.

Conclusion

This dashboard clearly shows voting patterns across districts, gender, age groups, and constituencies. Chennai leads in total votes and number of candidates, while Tiruvallur performs better in terms of voter turnout percentage. The analysis highlights differences in voter participation and competition levels across districts. It also helps in understanding which groups are more active in voting and where improvements are needed. These insights are useful for understanding voter behavior and can support better planning and decision making for future elections.