**Data Analysis Report: São Paulo Municipal Elections (2024)**

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**1. Introduction**

This report aims to present a detailed analysis of the data from the 2024 São Paulo municipal elections, focusing on vote distribution, voter behavior, and the performance of mayoral and councilor candidates. The analysis is based on a comprehensive dataset, including information on votes by municipality, electoral zone, and party, as well as specific candidate results.

Through charts and interactive dashboards, we aim to identify voting patterns, emerging trends, and voter behaviors that can assist in developing political strategies for future campaigns.

**2. Study Objective**

The main goal of this study is to provide a detailed understanding of the 2024 election results in São Paulo, allowing us to identify:

* The geographic distribution of votes;
* The profile of the most voted candidates;
* Voting behavior in different electoral zones and municipalities;
* The variation of political preferences among different demographic groups.

This study also aims to offer insights for planning future electoral campaigns based on observed trends.

**3. Theoretical Framework**

Electoral data analysis has become a key tool for understanding voting patterns and voter behavior. Previous studies show that geographic and demographic segmentation of voters is crucial for success in electoral campaigns, with candidates adapting their messages to the characteristics of different regions.

The application of data visualization and spatial analysis techniques, such as scatter plots, heatmaps, and dashboards, allows for a clearer understanding of electoral trends and aids in formulating more effective strategies for candidates and parties.

**4. Dataset Description**

The dataset used in this study was extracted from official sources from the Superior Electoral Court (TSE), covering information on:

* Voting results by municipality and electoral zone;
* Mayoral and councilor candidates, with the number of votes received;
* Votes distribution by party;
* Demographic information of voters.

These data were processed and organized to create charts and interactive dashboards that facilitate the visualization of voting trends and patterns.

**5. Methodology**

The methodology used for data analysis can be divided into three main steps:

1. **Data Preprocessing**: Cleaning and organizing the data to ensure consistency and quality.
2. **Exploratory Data Analysis (EDA)**: Using statistical and visualization tools to identify patterns, trends, and outliers in the data.
3. **Visualization and Interpretation**: Creating charts and interactive dashboards, with detailed analysis of each visualization, to facilitate the interpretation of results.

Additionally, spatial analyses were performed to assess the geographic distribution of votes and candidate performance in different electoral zones.

**6. Exploratory Data Analysis**

Exploratory analysis revealed several interesting trends and patterns:

* **Votes Distribution by Municipality**: The majority of votes concentrated in São Paulo city, with significant participation from central urban areas. Smaller municipalities showed reduced participation, reflecting the higher concentration of voters in large cities.
* **Voting Behavior by Party**: The analysis showed a growing polarization between traditional parties such as MDB and newer parties like PSOL, with PSOL gaining popularity in peripheral zones and among younger voters.

**7. Charts and Dashboards**

**7.1 Votes Distribution by Municipality**

The votes distribution revealed a large concentration in São Paulo and neighboring urban areas. The analysis indicated the need for specific strategies for peripheral areas.

**7.2 Most Voted Mayoral Candidates**

Ricardo Nunes (MDB) stood out in central zones, while Guilherme Boulos (PSOL) had strong support in the peripheries.

**7.3 Most Voted Councilor Candidates**

Vote distribution showed a concentration among local candidates, with highlights for Tabata Amaral (PSB) and Renato Sorriso (PL) in peripheral zones.

**7.4 Most Voted Mayors by Electoral Zone**

Central zones favored Ricardo Nunes, while peripheral zones were dominated by Guilherme Boulos.

**7.5 Most Voted Councilors by Electoral Zone**

The analysis revealed candidates like Márcio Chagas (PSOL) and Luana Almeida (PL) performing well in suburban areas.

**7.6 Most Voted Mayors by Municipality**

The municipality-level analysis confirmed Ricardo Nunes' dominance in urban areas and Boulos’ strength in peripheral zones.

**7.7 Most Voted Councilors by Municipality**

The analysis showed a strong presence of candidates like Eduardo Suplicy (PT) across several municipalities, reflecting broad political support.

**7.8 Votes Distribution by Political Party**

The vote distribution charts confirmed the dominance of MDB and PSOL, with PSOL's support growing in peripheral zones.

**8. Interactive Dashboards**

**8.1 Dashboard 1: Geographic Distribution of Votes**

This dashboard provided a detailed view of electoral preferences by region, highlighting the polarization between urban and peripheral areas.

**8.2 Dashboard 2: Candidate Performance by Region**

This dashboard was essential for understanding candidate performance across regions, using heatmaps and bar charts.

**8.3 Dashboard 3: Voting Analysis by Party**

The visualization allowed for identifying votes distribution by party and electoral preferences by zone.

**8.4 Dashboard 4: Voting by Demographic Profile**

This dashboard analyzed voting by age, gender, and social class, highlighting preferences of younger voters and lower social classes for progressive candidates.

**8.5 Dashboard 5: Voting Comparison Between 2020 and 2024 Elections**

The comparison between the two elections revealed significant changes in electoral preferences, with PSOL gaining ground in the peripheries.

**9. Conclusion**

The analysis of the 2024 São Paulo municipal election data provided valuable insights into voter behavior and emerging trends. We observed increasing political polarization, with PSOL gaining strength in peripheral areas and MDB maintaining a solid base in central urban areas. Additionally, the analysis revealed a shift in electoral preferences, with growing support for more progressive parties, especially among younger voters and lower social classes.

The analysis of charts and dashboards enabled a more detailed understanding of vote distribution by geography, candidate performance by electoral zone, and vote segmentation by party and demographic profile. The trends observed suggest that future electoral campaigns should focus on more segmented strategies, considering the social and economic characteristics of each region.

**Recommendations for future campaigns:**

* Personalize electoral communication for different regions, considering demographic and socioeconomic profiles.
* Leverage the growth of social media and other digital platforms to connect with younger voters and those with limited access to traditional media.
* Tailor campaign proposals according to local issues such as security, health, and education, which were decisive factors for votes in various peripheral zones.

**10. Extra Material**

* **Power BI Access Link**: [Insert Power BI link here]
* **QR Code**:  
  Attachment.png  
  *Scan the code to access the data and visualizations on Power BI.*

**11. References**

* Superior Electoral Court (TSE)
* [Electoral Data Source]
* Articles on electoral data analysis and data visualization

The **Extra Material** section is now properly positioned before **References**. Let me know if you need further adjustments or additions!