Syracuse University
School of Information Studies

Campaign Finance Data Analysis

Final Report

IST 737 – Visual Analytic Dashboarding

A Project By:

- **Kapil Tare**
- **Akshay Avhad**
- **Aditya Ghuge**
- **Harshada Daund**
- **Archit Dukhande**

Data Source & Description:

Exploring Campaign Finance Trends over the Last 10 years in Washington State:

To give some context about the dataset, it basically consists of summarized information about candidate campaigns and political committees by election year, spanning the past 5 years that is from 2023 to 2019.

The primary data sources are the campaign reports such as deposit reports (C3), summary reports (C4), registrations (C1/C1pc), and candidate declarations.

Number of rows and columns identified - 18,530 rows and 52 columns.

Mentioned below are some of the primary attributes -

1**. election_year:** Year of the election (useful for tracking trends over time).

2. **filer_name:** Name of the filer (could be candidates or committees).

3. **committee_city, committee_state, committee_county:** Geographic data, useful for regional analysis of contributions.

4**. office:** The office being contested, such as senator, governor, etc.

5. **party:** The political party associated with the filer.

6. **contributions_amount:** The amount of money contributed to the campaign or committee.

7. **expenditures_amount:** The amount spent by the campaign or committee.

8. **loans_amount:** Loans taken by the campaign or committee.

9. **independent_expenditures_for_amount**: Independent expenditures supporting the campaign.

10. **independent_expenditures_against_amount**: Independent expenditures against the campaign.

11. **jurisdiction:** Area of governance or influence, useful for mapping contributions to regions.

12. **position:** The position being contested (governor, mayor, etc.)

Overview Dashboard:

The Overview Dashboard provides a high-level summary of the key trends and metrics related to campaign finances. It acts as a starting point for users to grasp the overall performance and insights.

Key Metrics:

1. **Geographic Distribution**: A map visualization highlights campaign financial activity across different regions, allowing users to identify hotspots of contributions.
2. **Yearly Trends**: A line chart visualizes the year-over-year (YoY) growth and decline in contributions, showcasing key trends over multiple election cycles.
3. **Contributions by Party**: A bar chart breaks down the contributions received by different political parties, making it easy to compare their financial strength.
4. **Contributions vs. Expenditures**: An area chart compares how efficiently the contributions were used in terms of campaign spending across different regions.

Insights:

- **Regional Analysis**: Users can identify regions with the highest financial activity and correlate these with campaign success.
- **Temporal Trends**: Understand which election years saw the largest growth or decline in campaign contributions.
- **Party Comparison**: Determine which parties received the most support and assess whether larger parties dominate fundraising.
- **Spending Efficiency**: Compare contributions against expenditures to identify patterns of effective or wasteful spending.

Contributions Dashboard

The Contributions Dashboard analyzes financial contributions by parties, regions, and committee categories, focusing on efficiency, spending patterns, and resource utilization.

Key Metrics:

1. **Party Efficiency Comparison:**
   o Grouped bar chart comparing total financial activity and cost per dollar raised across parties and regions.
   o Efficiency Ratio highlights financial effectiveness.
2. **Efficiency Score Analysis:**
   o Horizontal bar chart showing ROI for committee categories (e.g., Candidate, Education).
   o Metrics include contributions, expenditures, and ROI with interactive tooltips.
3. **Monthly Burn Rate:**
   o Vertical bar chart highlighting average monthly expenditures by committee category.

Insights:

- **Party Efficiency Comparison:** Shows the most efficient parties, regional strongholds, and low-ROI parties (e.g., American Heritage).
- **Efficiency Score Analysis:** Identifies top-performing categories like Issue (ROI: 1.580) and highlights fund allocation efficiency.
- **Monthly Burn Rate:** Candidate committees lead with $1.65M/month, revealing cost-intensive categories.

Efficiency Dashboard:

The Efficiency Dashboard is designed to analyze how efficiently campaigns are run by comparing contributions against expenditures and identifying financial growth trends.

Key Metrics:

1. **Contribution by Party and Region**: A bar chart showing the financial contributions received by each party across different regions.
2. **Party Contributions Dominance**: A bubble chart visualizes the dominance of parties in terms of contributions, where the size of the bubble represents the magnitude of contributions.
3. **Growth Analysis**: A scatter plot comparing contributions in the first six months versus the last six months, showing financial growth trends.

Insights:

- **Regional Efficiency**: Identify which regions or parties are maximizing their contributions effectively with minimal wastage.
- **Party Dominance**: Analyze which parties dominate fundraising in specific regions and compare their performance over time.
- **Financial Momentum**: Understand the growth trajectory of different parties and whether they're sustaining or losing financial momentum.

Interactivity Features:

- Users can select a specific region to filter all charts dynamically, allowing for in-depth regional analysis.
- Party-specific filtering to focus on individual campaign performance.
- Hover-over tooltips for detailed metrics, such as exact contribution amounts or growth.

Additional Details:

1. **Interactive Features:**
   - **Filters:**
     - Implemented region-wise and party-specific filters to allow users to explore specific subsets of the data.
     - Filters for contribution categories (Large, Medium, Mega) enable granular analysis of fundraising patterns.
   - **Actions:**
     - Navigation actions to seamlessly transition between the "Overview," "Contributions," and "Efficiency" dashboards.
     - Hover actions provide tooltips displaying detailed metrics such as contribution amounts, YoY growth, and expenditure breakdown.
2. **Calculated Fields:**
   - Created calculated fields to:
     - Derive efficiency scores for each party (e.g., contributions vs. expenditures).
     - Compute YoY growth percentages in contributions and expenditures.
     - Segment contributors into categories based on their financial input (Large, Medium, Mega).
3. **Advanced Visualizations:**
   - **Bubble Chart**: Used to represent party dominance visually, with bubble size indicating the magnitude of contributions.
   - **Scatter Plot**: Highlighted growth analysis by comparing contributions over time, enabling users to identify trends.
   - **Geographic Map**: Integrated geographic data to analyze regional variations in campaign contributions.
4. **Interactivity:**
   - Enabled dynamic updates across all charts and dashboards when users select specific regions or parties.
   - Added legends and color-coded visualizations to make data exploration intuitive.
5. **Storytelling Elements:**
   - Organized dashboards to present a clear narrative: starting with a high-level overview, moving to contribution breakdowns, and concluding with efficiency analysis.
   - Included navigation buttons to guide users logically through the story of campaign finances.
6. **Predictive Analysis:**
   - Conducted trend analysis to identify patterns in contributions over multiple election cycles.
   - Highlighted growth opportunities by forecasting financial contributions based on historical data.