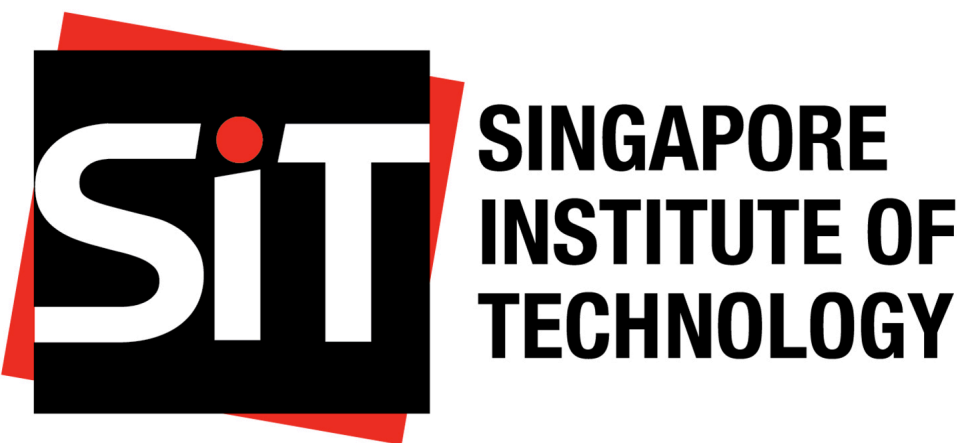


Singapore Election Trends Analysis (1955–2025): Understanding Voter Behavior through Clear Visuals

Team Navy

Dan Lai Kai Yi, Ng Jia Wei, Suresh Kumar Balavignesh, Kumar Devadharshini, Putri Nadrah Binte Jefreydin, Tan De Wei (School of Computing, Singapore Institute of Technology)



KEYWORDS — Elections, Data Analysis, Visualization, Singapore

INTRODUCTION

This project examines how Singapore’s general elections have evolved over 70 years. From voter turnout to the rise of opposition parties and redrawing of electoral boundaries, we trace how political participation has changed since 1955.

We started by critiquing an existing election visualization that was widely shared but misleading. Our goal was to improve both its accuracy and clarity using better design and clearer storytelling.

ORIGINAL VISUALIZATION

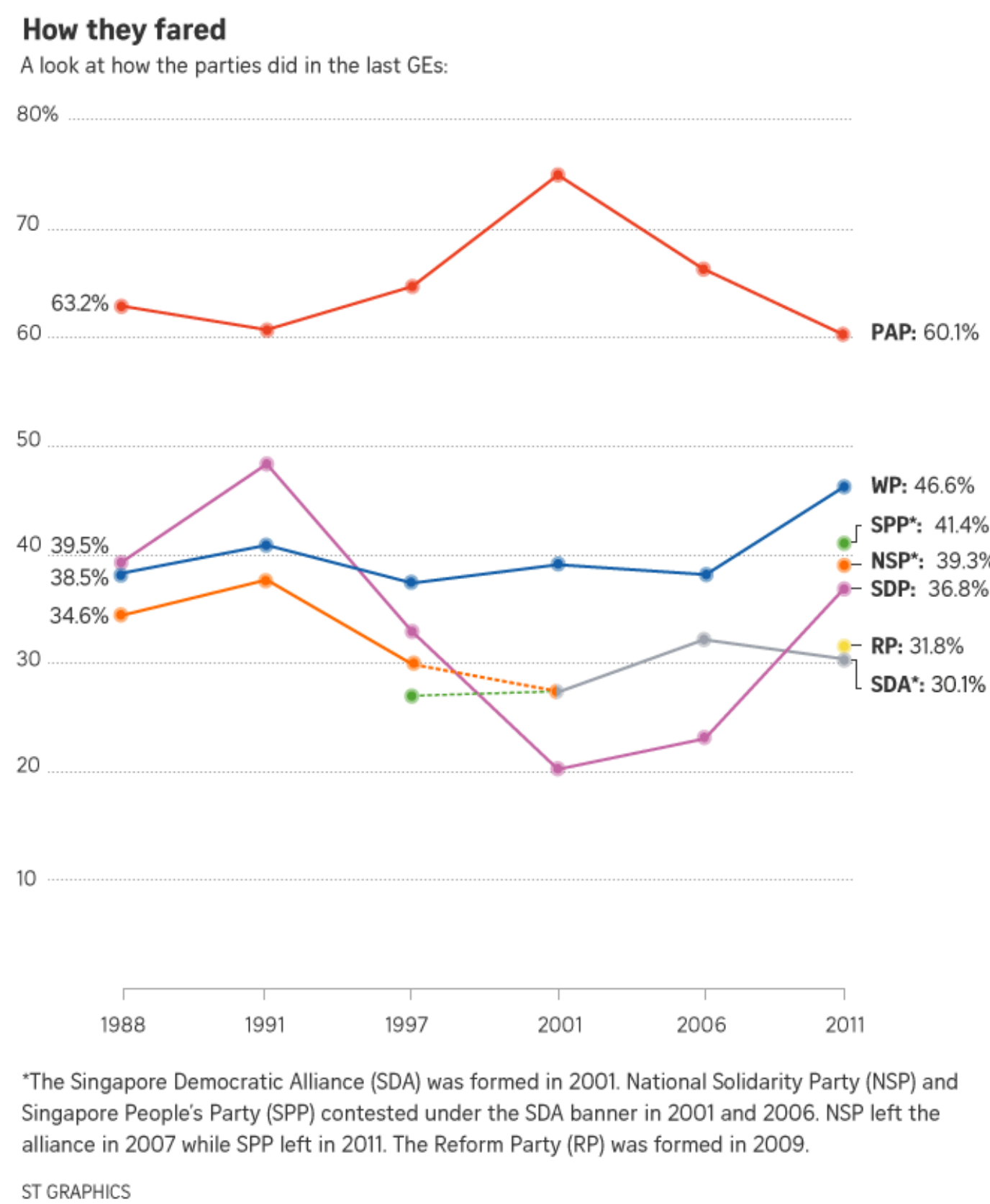


Figure 1: Previous visualization of election data

The original chart attempted to show election results by party but suffered from:

- Inaccurate data: Vote shares didn’t sum to 100%
- Cluttered design: Overlapping text and crowded layout
- Poor grouping: Constituencies were not organized geographically
- No interactivity: Lacked accessibility features

As a result, the chart was hard to understand and gave a distorted picture of Singapore’s political landscape.

METHODOLOGY & TOOLS

Data Processing: - Cleaning: Fixed vote totals, removed duplicates, and merged yearly results - Transformation: Standardized constituency names, calculated vote swings between elections, and tagged each with its URA region

Tools Used: - R: ggplot2, forcats for statistical visualization - Python: pandas, plotly for data manipulation and interactive charts - Reporting: Quarto for reproducible analysis and documentation

ENHANCED VISUALIZATION

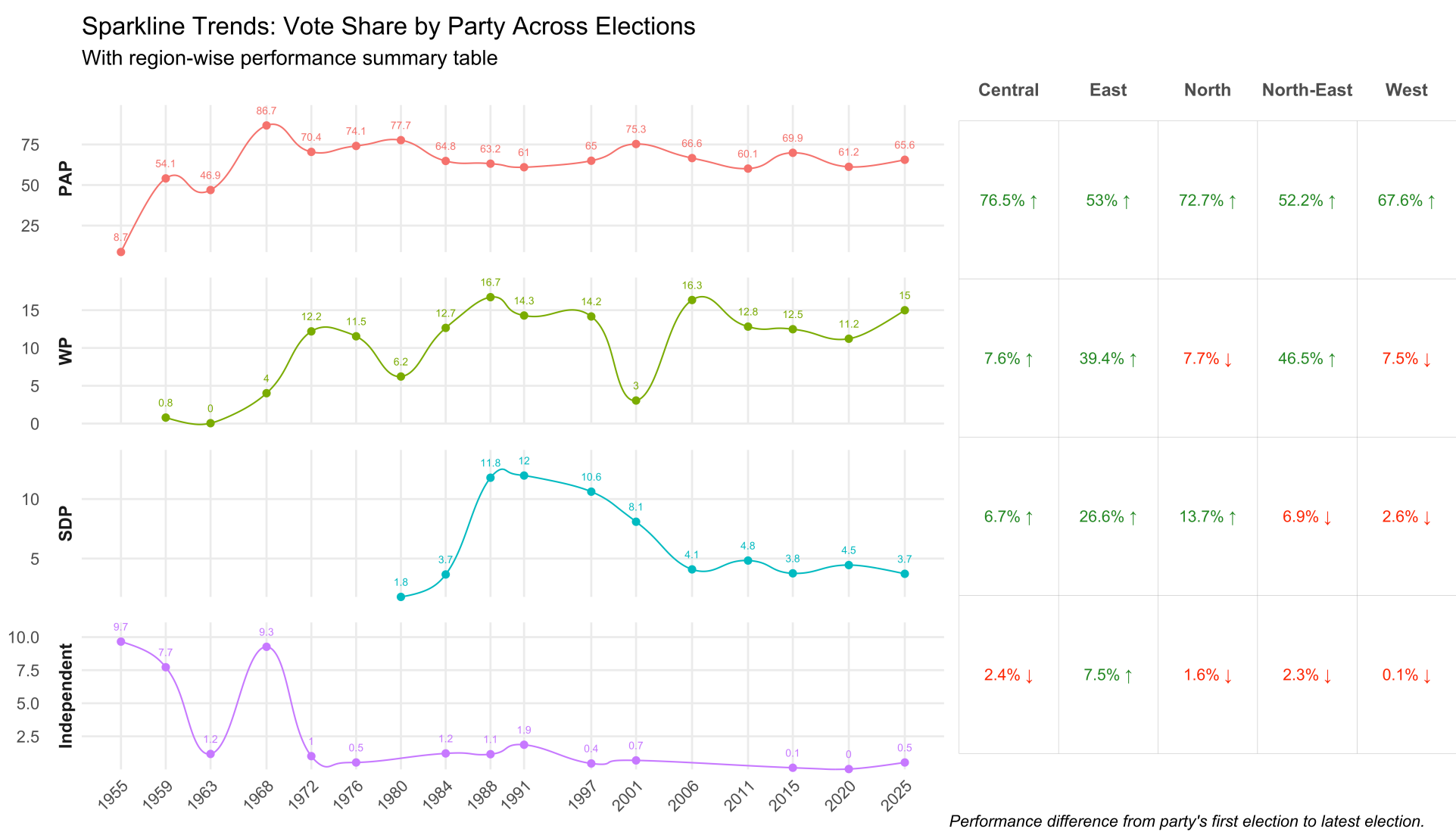


Figure 2: Enhanced visualization with better insights

Figure 2: Enhanced visualization with modern design principles

Key Improvements

- ✓ Accurate vote shares that always sum to 100%
- ➡ Dynamic arrows showing vote shifts across elections
- 📍 Regional grouping to reflect geographic logic
- 🔍 Interactive tooltips for contextual information
- 🌈 Colorblind-safe palette for inclusive design
- 🌿 Clean layout that highlights key trends without visual clutter

DATA SOURCES

Primary Sources: - Elections Department Singapore (ELD): National election data including vote shares, turnout, and candidate information - Urban Redevelopment Authority (URA): Constituency-to-region mapping for spatial analysis

Data was systematically cleaned and combined to correct inconsistencies and ensure comprehensive coverage from 1955 to 2025.

Use Case & Product Pitch

Target Audience

Journalists, civic educators, researchers, and engaged citizens

Problem Statement

- Existing charts were misleading, cluttered, and lacked regional context - Important political trends were difficult to identify and interpret

Our Solution

- Makes long-term political shifts immediately visible - Encourages informed public engagement through accessible design - Provides reusable framework for future elections and civic education - Strengthens democratic transparency through clear data presentation

KEY FINDINGS & INSIGHTS

📈 Voter Turnout: Steadily increased from ~90% (1955) to >95% (2020s)

🏛️ Opposition Growth: Significant increase in competing parties after the 1990s

🗺️ Boundary Changes: Frequent electoral redistricting impacted local voting patterns

👥 Candidate Diversity: Notable growth in representation of women, minorities, and younger candidates

🌍 Regional Trends: Certain geographical regions showed consistent opposition support patterns

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