FOI Analytics Dashboard

Making Public Administration Responsiveness Intelligible

A research tool built with Transparencia.be data

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1. Introduction

Following up on the data you kindly provided for our research, we have developed an **interactive analytics dashboard** using the Transparencia.be dataset. The tool transforms raw FOI request data into intelligible visualizations, statistical analyses, and exportable reports.

These analytics capabilities could complement Transparencia.be by helping users understand patterns in how public administrations respond to citizen requests. We'd be happy to discuss potential integration options if useful.

2. Methodology

The dashboard presents results from a comprehensive NLP and statistical analysis pipeline developed for this research, following and expanding upon the conceptual framework of Trautendorfer et al. (2023, *Governance*).

The analysis pipeline covers:

1. **Data Processing:** Cleaning and structuring raw platform data
2. **Text Analysis:** Natural language processing to extract meaningful patterns from request texts
3. **Sentiment Analysis:** Measuring the communication tone of requests
4. **Topic Classification:** Identifying thematic categories across the request corpus
5. **Statistical Modeling:** Identifying factors associated with administrative responsiveness

The dashboard transforms this methodology into an interactive visualization tool:

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Raw FOI Data → Data Cleaning → Text Preprocessing → Sentiment Analysis → Topic Modeling → Statistical Analysis → Interactive Visualizations
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3. Who We Had in Mind

When designing the dashboard, we thought about the different audiences who already use Transparencia.be:

Audience	Potential Use
Citizens	Could check which authorities tend to be most responsive before submitting
Researchers	Could access structured data with statistical tools and export options
NGOs & Advocacy	Could use visualizations for accountability reporting
Journalists	Could explore transparency patterns for data-driven stories
Public Administrations	Could benchmark their performance against similar organizations

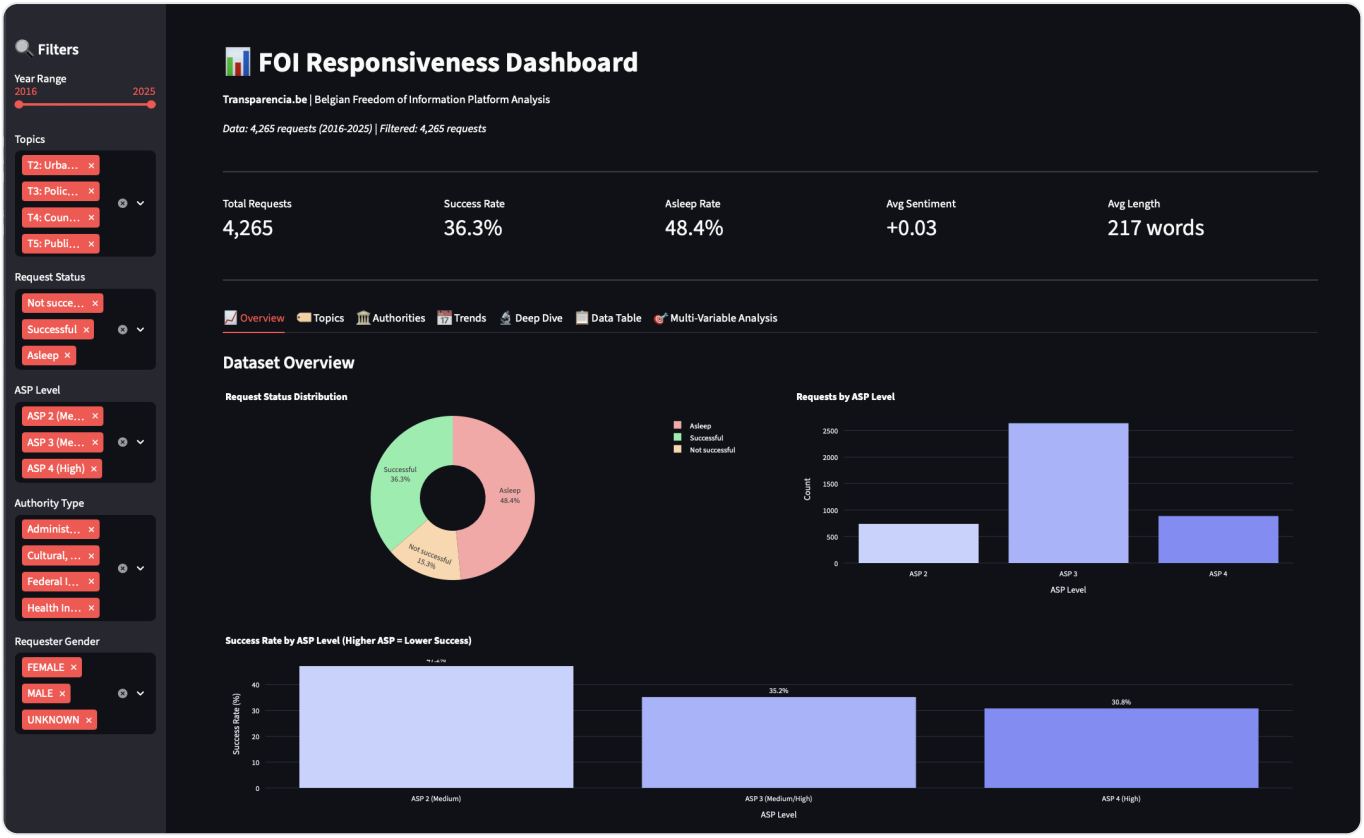
4. Dashboard Features

The current prototype includes the following sections. These represent our initial design choices based on the research methodology - the structure, visualizations, and metrics could all be adapted based on platform needs or user feedback.

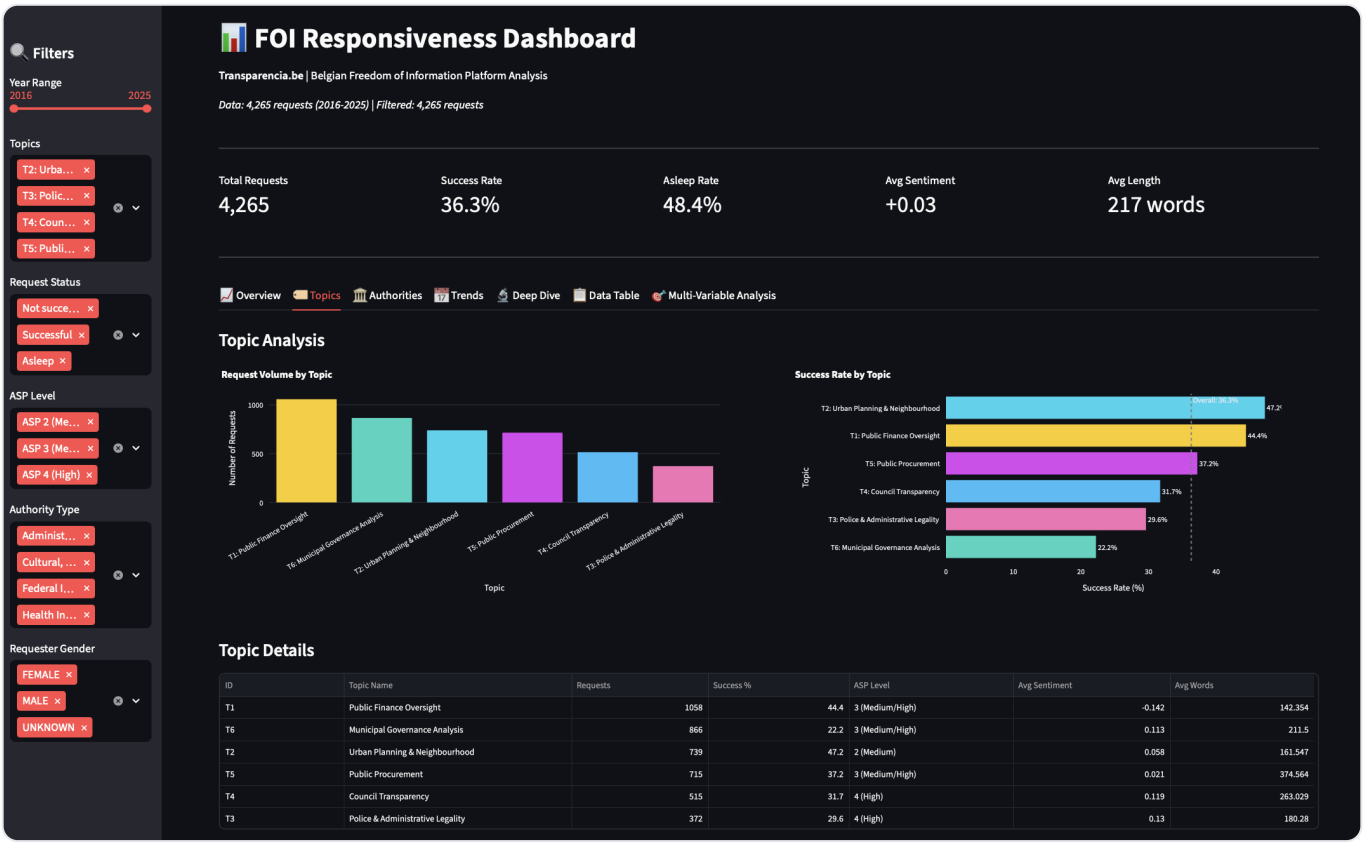
Section	What It Shows
Overview	• KPI cards: total requests, success rate, asleep rate, avg sentiment • Status distribution pie chart (Successful / Not Successful / Asleep) • ASP (Accountability-Seeking Potential) level distribution bar chart
Topics	• Request volume by topic (bar chart) • Success rate by topic (horizontal bar chart) • Detailed table: count, success %, ASP level, sentiment for each topic
Authorities	• Top 5 performers (highest success rates) • Bottom 5 performers (lowest success rates) • Full sortable table of all authority types
Trends	• Volume + success rate over time (dual-axis chart) • Status distribution evolution (stacked area chart) • Topic volume trends across years
Deep Dive	• Sentiment impact on outcomes (bar chart) • Request length impact on success (bar chart) • Gender analysis (volume + success rates) • Comparative Analysis: chi-square tests, t-tests, effect sizes
Multi-Variable	• Sankey diagram: Topic → ASP Level → Outcome flows • Multinomial regression tables (Trautendorfer & Esposito formats) • Forest plot with odds ratios and confidence intervals
Geographical Map	• Interactive choropleth map of Belgian municipalities • Response rate and success rate by geographic area • Regional breakdown (Brussels, Wallonia, Flanders)

The following screenshots show a preview of each dashboard section. Each section contains additional visualizations, tables, and interactive features.

Overview

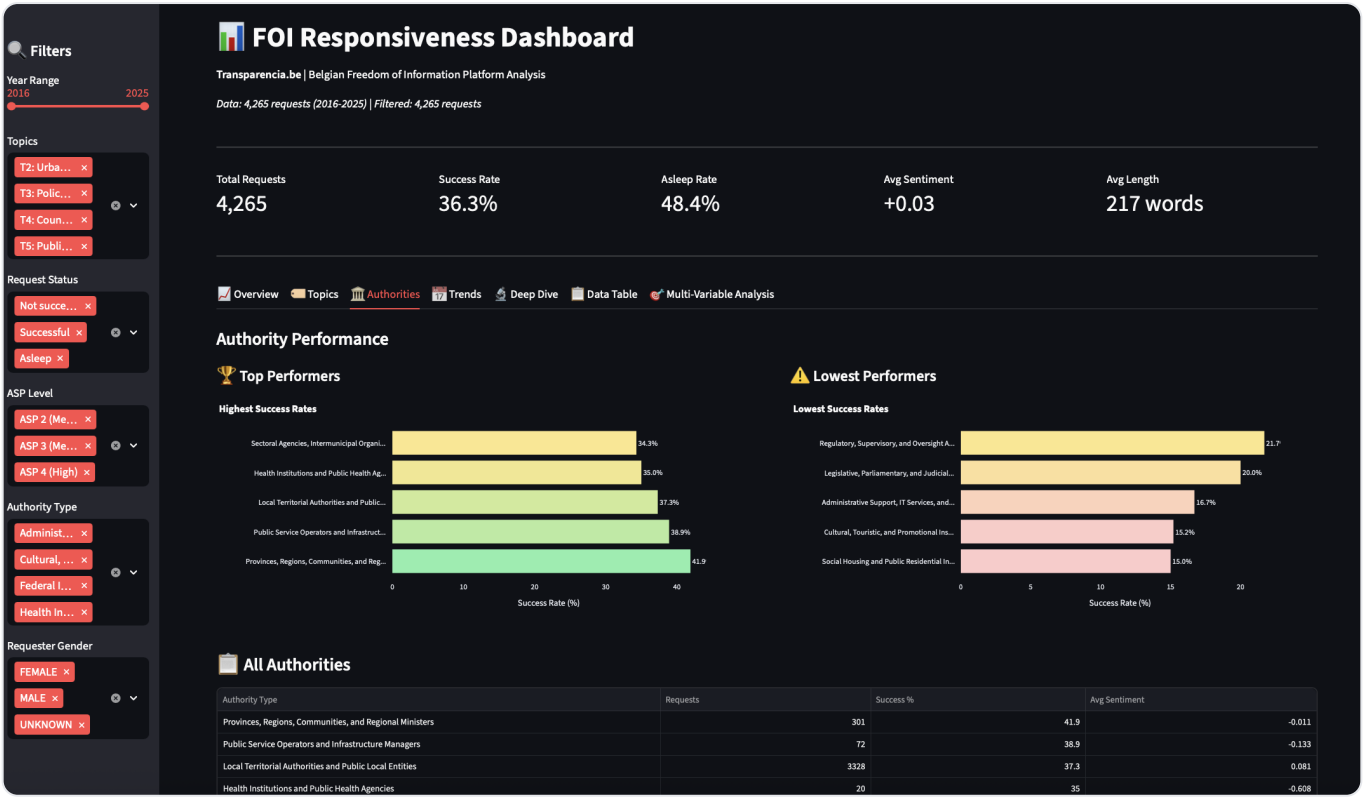


Topics

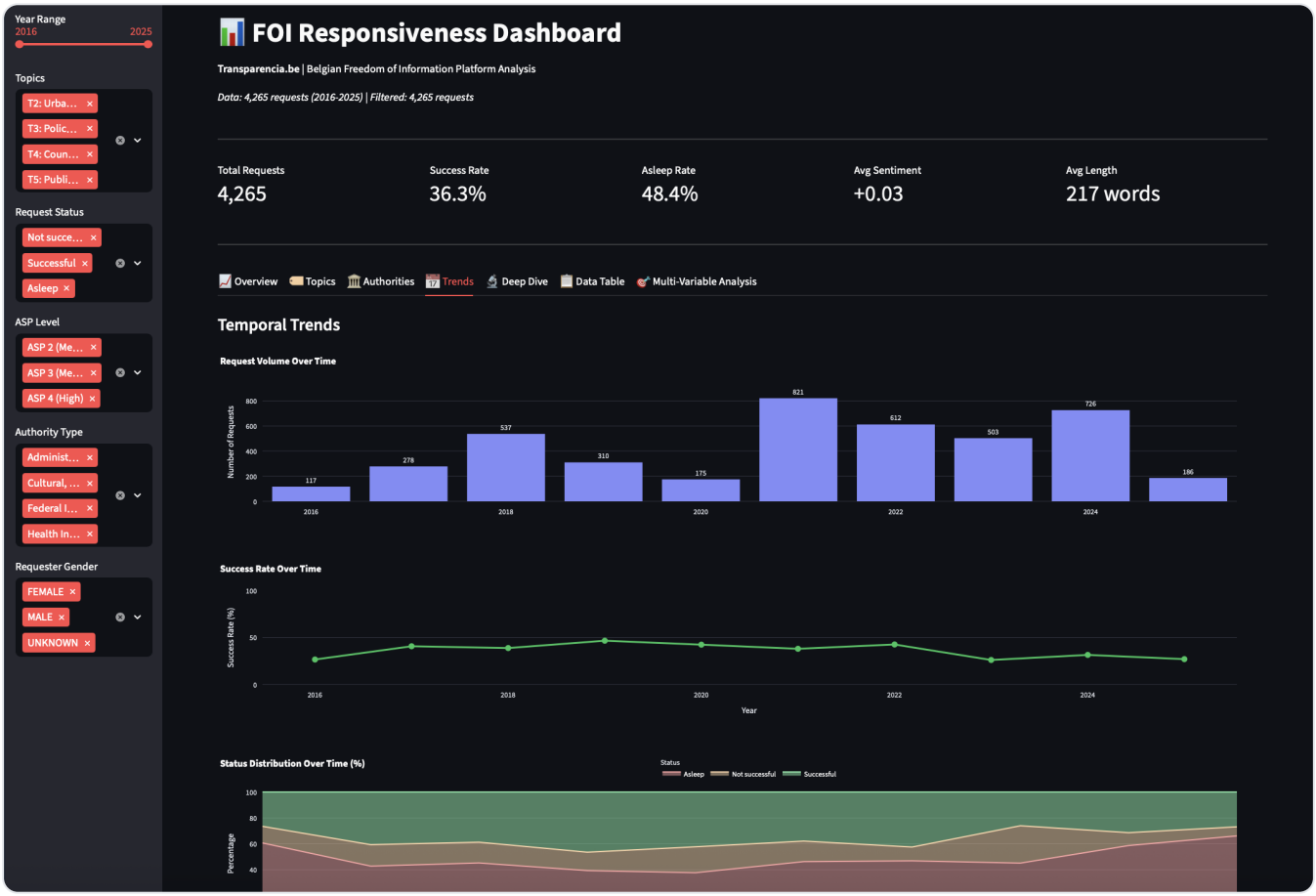


ID	Topic Name	Requests	Success %	ASP Level	Avg Sentiment	Avg Words
T1	Public Finance Oversight	1058	44.4	3 (Medium/High)	-0.142	142.354
T6	Municipal Governance Analysis	866	22.2	3 (Medium/High)	0.113	211.5
T2	Urban Planning & Neighbourhood	739	47.2	2 (Medium)	0.058	161.547
T5	Public Procurement	715	37.2	3 (Medium/High)	0.021	374.564
T4	Council Transparency	515	31.7	4 (High)	0.119	263.029
T3	Police & Administrative Legality	372	29.6	4 (High)	0.13	180.28

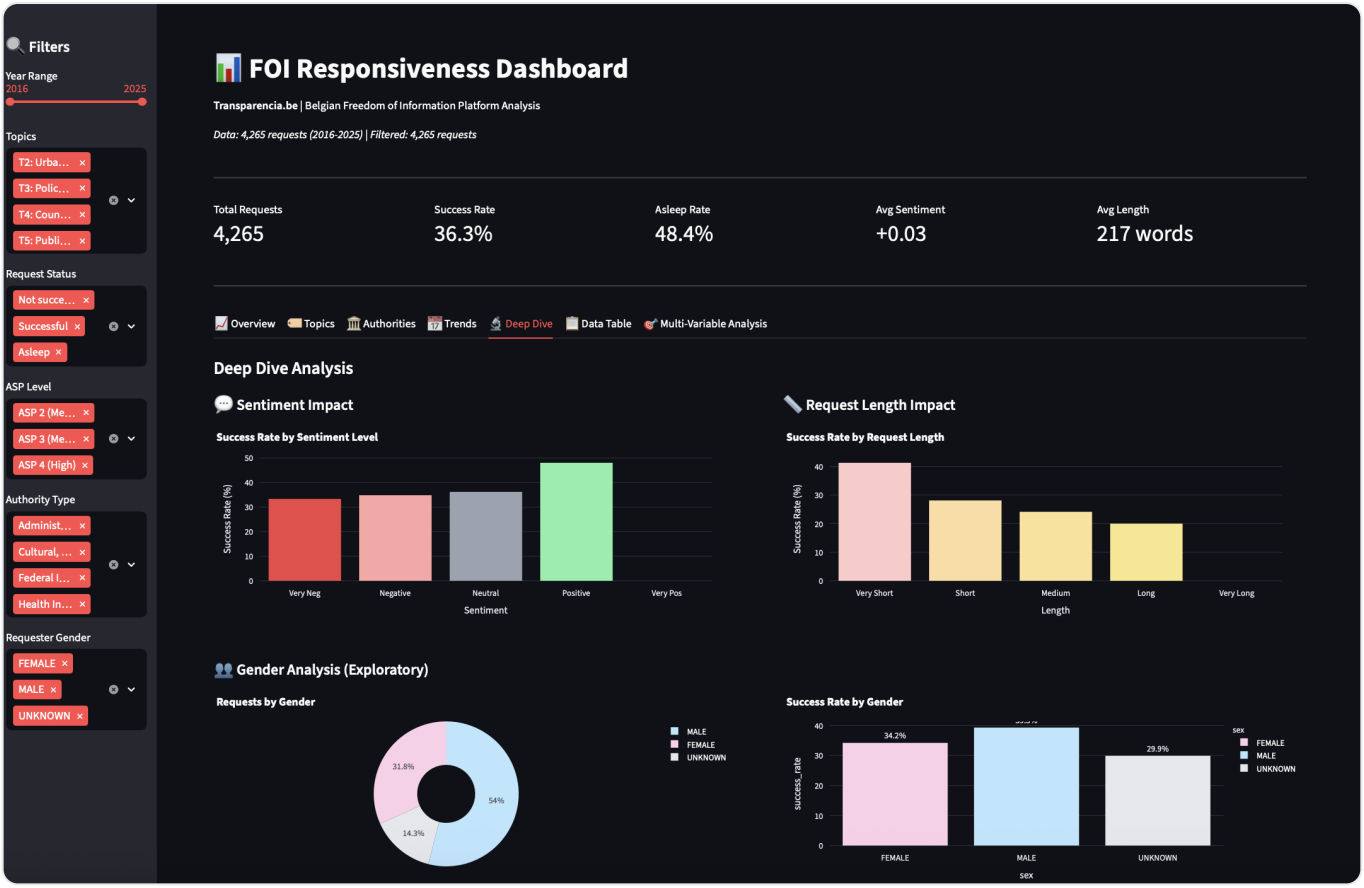
Authorities



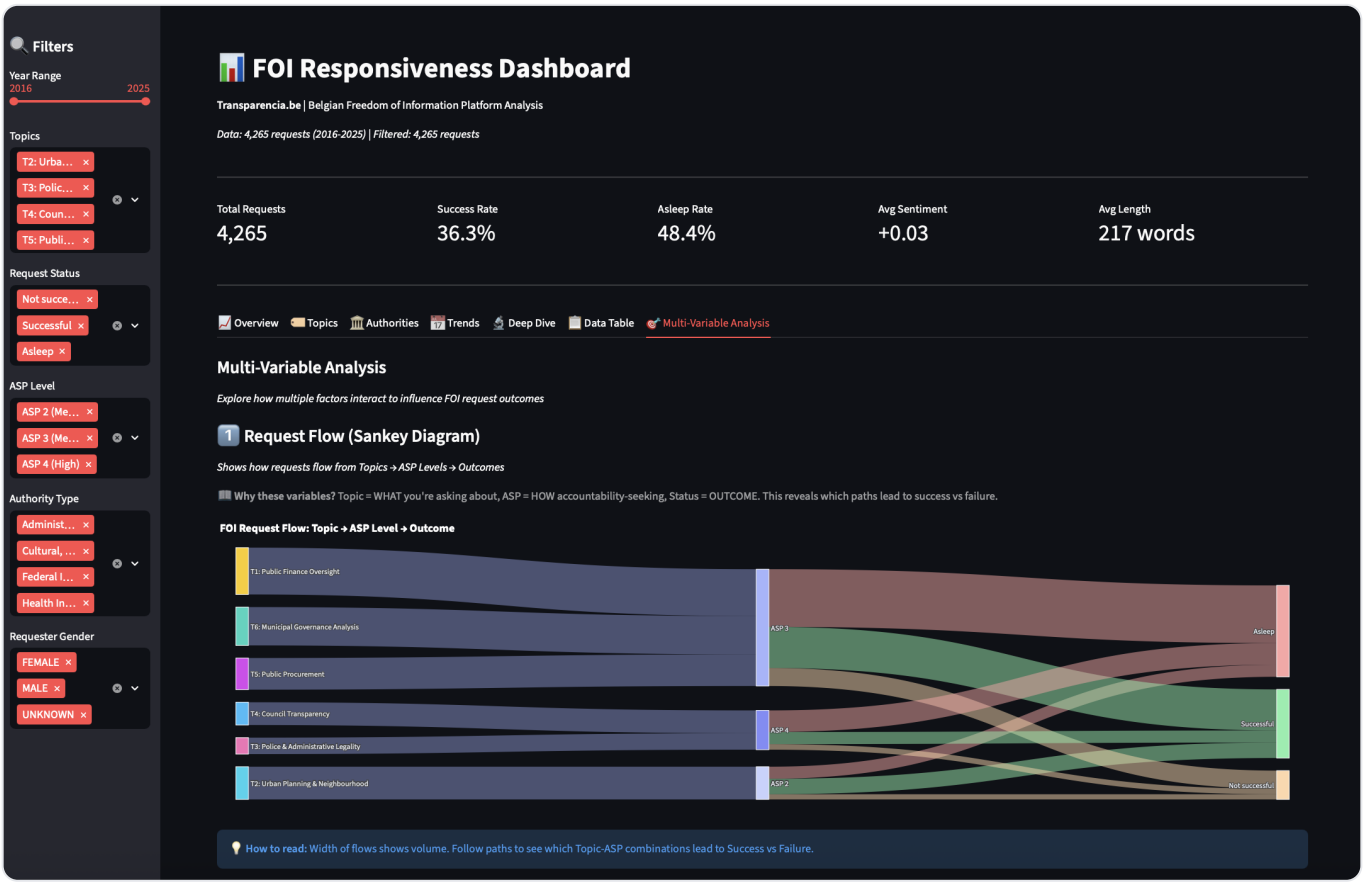
Trends



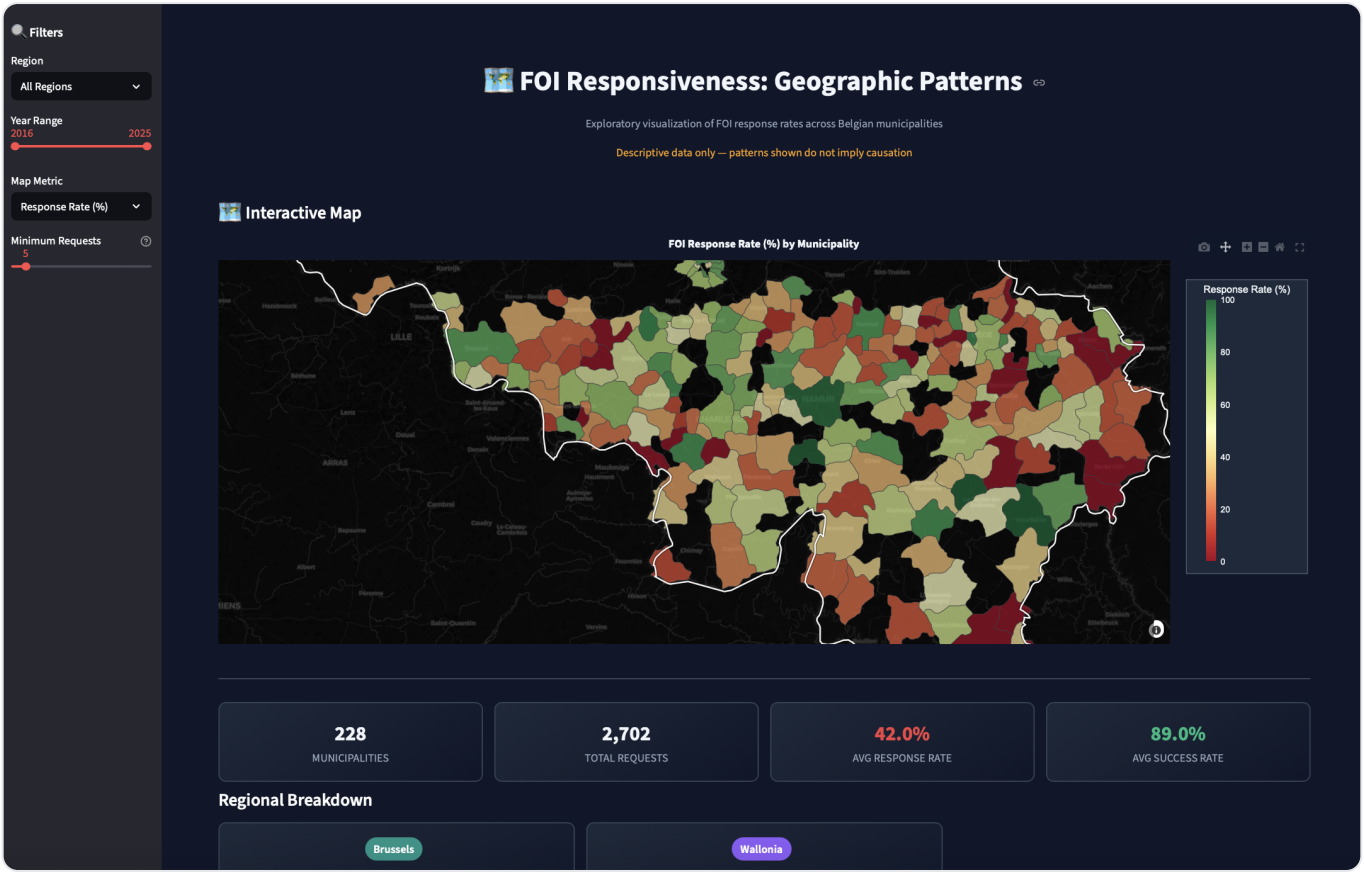
Deep Dive



Multi-Variable Analysis



Geographical Map



5. Technical Notes

- **Pure statistics** - No AI/LLM dependency; uses scipy, statsmodels, pandas
- **Designed for integration** - Streamlit-based, can be embedded or linked as a section within existing platforms
- **Flexible data** - Works with live platform data or periodic exports
- **Fully customizable** - Sections, visualizations, and metrics can be adapted to match platform branding and user needs
- **Export capabilities** - CSV, Excel, PDF, PNG/SVG figures, LaTeX tables for academic use

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