

D4.2 Public Attention Towards Sustainability in the EU: An Exploration of Google Trends Data

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Disclaimer

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1. Introduction

Sustainability is a multi-dimensional concept (Biggeri et al., 2023; Rockström et al., 2023) and its definition has evolved over time to encompass several environmental, social and economic factors (Hajian and Kashani, 2021). Europe is currently faced with a cost-of-living crisis (Müller, 2023), democratic backsliding (Gora & de Wilde, 2020), and a triple planetary crisis of climate change, pollution, and biodiversity loss (United Nations, 2022). As the European Union grapples with these interlinked crises, sustainability offers a framework for balancing economic stability, social equity, and environmental resilience. The need to understand European attention towards sustainability thus becomes increasingly important to help policymakers design effective regulations, businesses to adopt greener practices, and citizens to engage in sustainable behaviours. Additionally, European attention toward sustainability influences global efforts to combat climate change, given the EU's role as a key actor in international environmental governance. By studying these attentions, political actors can assess the effectiveness of current policies, identify gaps in public engagement, and propose strategies to foster a more sustainable and equitable future.

Public attention to sustainability has generally increased in Europe over the past three decades, as indicated by numerous studies analysing trends in media coverage and public discourse. For instance, Holt and Barkemeyer (2012) observed an upward trend in sustainability-related topics in 112 newspapers from 39 countries between 1990 and 2008, suggesting a growing global awareness of environmental and social sustainability issues. Similarly, Hase et al. (2021) found considerable media attention to climate change between 2006 and 2018, although such attention plateaued towards the end of the timeframe. Furthermore, a number of studies have showed an increased public engagement with sustainability issues within particular national contexts (e.g. Revez et al., 2022) or by chronicling specific social movements such as Fridays for Future and Extinction Rebellion (e.g. Fisher and Nasrin, 2020; Moor et al., 2020).

However, given the difficulty of measuring public attention towards a topic directly, most large-scale analyses of public attention to sustainability rely on media coverage as a proxy for public interest and attention. Such practices are grounded in the large body of literature which theorizes news media's ability to influence which issues receive public attention and how they are perceived (e.g. Baumgartner & Jones, 1991; Downs, 1998; Wollin, 1999). However, as illustrated by Holt and Barkemeyer (2012), there is no consensus as of the exact relationship between public attention, policy work and media coverage and depending on the analytical model of choice, the conclusions drawn regarding public attention based on news media coverage of an issue can vary drastically.

Thus, we suggest an alternative method for conducting large-scale analysis of public attention using Google Trends. Google Trends is a service operated by Google, which offers insights into what topics attract particular interest at a given time and location, based on the relative volume of searches associated with those topics on the provider's search engine. Despite issues of statistical representativity and methodological opacity typical of "big data" research (Boyd and Crawford, 2012; Melon, 2013), the large-scale, real-time and fine-grained nature of Google's data about the daily search activities within the EU configures Google Trends data as a valuable and more direct source of information on the dynamics and composition of public attention towards certain issues.

Whereas Google Trends has found prevalent application in studying health-related phenomena and specifically the spreading of illness (Brunori et al., 2022; Carniero and Mylonakis, 2009; Ginsberg et al., 2009), distant-reading of a large corpus of academic articles (Ballerini et al., 2024) suggests that Google Trends data have already found application in the study of phenomena related to

sustainability (Boss et al., 2023; Dancy and Farris, 2024; Portugal-Nunes et al, 2023). As the concept of sustainability is constantly evolving, this research approaches the notion of sustainability through the principle of “reverse black-boxing” derived from actor-network theory (Latour 2005): considering the variability of definitions associated to the term, instead of applying existing assumptions on what sustainability means in a certain point in time and in space. Following the Google Trends data, we thus aim to unfold the ways in which the term sustainability emerges from the interaction between regional user search practices and Google’s knowledge definitions.

In this paper we present some of the analytical directions that emerged from the exploration of specific data collected through Google’s private Trends API between 2013-2023. Our research questions are:

- RQ1: How does the public attention towards sustainability evolve over time and across EU countries?
- RQ2: What topics associated with sustainability are the most prominent within EU publics?

Our analysis of the relative volume of Google searches reveals a steady increase in the public interest towards sustainability since 2018, with notable regional disparities. Western European countries, particularly the Netherlands and Denmark, consistently show higher levels of engagement compared to their Eastern counterparts. Additionally, the analysis of the topics associated with sustainability highlights the dominance of themes like Energy, Sustainable Development, and Environment, though topics related to economic and corporate issues also play a prominent role, suggesting that sustainability is often viewed through an organizational lens. Emerging topics like Fashion and declining ones like Agriculture further reflect the dynamic nature of the dimensions that users associate with sustainability. The distribution of these topics across countries shows a general spread of common themes, but also reveals unique country-specific patterns, indicating varying levels of integration and diverse associations with sustainability across the EU.

The remainder of the article is structured as follows. The Methods section details the data collection strategy, discusses key operational choices, describes the datasets, and outlines the analysis approach. In the Findings section we present and comment upon our three main analytical directions—Trend Analysis, Topic Analysis, and Network Clustering. In the Conclusion section we critically engage with the findings and the process in order to draw attention to further analytical potential as well as important limitations associated with working with Google Trends data to study the dynamics and composition of public attention.



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