Popular Votes and Algorithms in Reatch Switzerland: Intransparent Priorisation of Political Information



Franxini-Whitepaper —



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Summary

Al-driven systems – such as web search engines and chatbots – are increasingly used by Swiss citizens to find information on political issues, for example in the context of popular votes and elections. This creates both new possibilities, but also risks for the functionality of Swiss democracy. A key risk is related to the systems' tendency to individualize the information delivery by providing different results to different users on the basis of location, the language of the user input, or the formulation of the query. In the case of a multilingual direct democracy, such treatment can result in information inequalities between regions and languages that have to be taken seriously not least also in the light of other known risks such as societal polarization or the spread of misinformation.

To illustrate the risks caused by such Al-driven information inequalities, this whitepaper presents as a case study the recent popular vote on the «climate protection law» in June 2023. An analysis of data from Google - the search engine used by 86% of the Swiss population - shows that depending on the language (i.e. German, Italian, or French) and the formulation of the search query, Google prioritizes different information sources and different viewpoints on the vote. Queries in different languages resulted in unequal visibility of information sources in the top results, including websites of Swiss political parties advocating for or against the law. This has consequences in two dimensions:

- It may result in advantaging or disadvantaging specific parties or politicians in relation to particular political issues - without, however, any transparency regarding how these Al-driven systems prioritize information for potential voters. This can facilitate the manipulation of the Swiss public sphere by foreign and domestic actors.
- It may interfere with Swiss citizens receiving a fair representation of the range of political positions on specific political issues. Particularly in the context of Switzerland's direct democracy, such fair representation is crucial for participating in political decision-making, in particular as Al-driven systems increasingly become a prominent source of information.

By providing unequal access to information about politics, Al-driven systems can influence the ability of different groups of citizens to participate in popular votes and elections and, thus, challenge the functionality of Swiss democracy.



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Recommendations:

Mitigating the possible risks of Al-driven information inequalities in the context of Swiss democratic politics would necessitate the definition of general rules of engagement for Al-driven systems and improved transparency of how these systems function:

- identification of the ways for a longterm integration of Al-driven systems into the functionality of Swiss democracy by accelerating the dialogue between the relevant stakeholders
- definition of a set of key performance indicators (KPIs) agreed upon by all relevant stakeholders to ensure their broad adoption
- intensification of empirical studies on how Al-driven systems treat political issues and on how Swiss citizens engage with these systems in the context of political decision-making
- creation of monitoring infrastructures to track the impact of Al-driven systems on open dialogue, diversity of opinions, and freedom of speech in Switzerland and to detect possible attempts from the side of foreign or domestic actors to influence democratic decision-making processes through manipulating these systems



I. The Rising Role of Al-driven Systems for Informing Swiss Citizens

Despite the growing importance of Al,

the understanding of its exact impact on

democracy in Switzerland is still limited.

The lack of transparency on how these

Al-driven systems work makes it partic-

ularly difficult to assess the risk posed

for Swiss democracy.

Swiss citizens increasingly access information on important societal developments, including topics-such as popular votes and positions of politicians, via digital platforms. At the beginning of 2023, 76% of the Swiss population received news online, while 51% and 34% respectively rely on TV and the printed press (Newman et al. 2023). Similarly, digital platforms increasingly shape public opinion in Switzerland: digital sources, including social media, are central sources for opinion formation with platforms

such as YouTube and Instagram becoming the primary source for opinion-making for Swiss citizens between 15 and 29 years (Medienmonitor Schweiz; Thommen et al., 2022, p. 36; 68). Furthermore, between the specific regions of Switzerland, there is substantial variation in the importance of differ-

ent digital platforms for opinion formation, with the Italian-speaking part relying particularly heavily on social media platforms and online media (Thommen et al., 2022).

Citizens' participation in democratic decision-making depends on individuals having access to a broad range of viewpoints on political matters (Thommen et al., 2022, p. 13) independently of their personal characteristics (e.g. location where they live). This is also emphasized by the Federal Council's Digital Switzerland strategy as being important for social cohesion between different parts of Switzerland (BA-KOM, 2018, p. 7).

With the massive amount of information available online, access to it is increasingly filtered by Al-driven systems such as search engines (e.g. Google), content recommenders (e.g. YouTube recommender algorithm), and chatbots (e.g. chatGPT). These systems examine the information available in response to a user request and then decide what source or interpretation to prioritize for each individual user. Additionally, search engines increasingly personalize selection of content for their users (e.g. based on their language or location) to better satisfy users' perceived information needs. This includes the distribution of information on political topics in Switzerland, in particular for younger voters who rely less on traditional sources of information such as print press or online journalistic media (fög, 2022a).

Among such Al-driven systems, search engines are of particular importance: their use constitutes a large part of Swiss online information diets (around 15% of desktop browsing in 2020; Urman & Makhortykh, 2023), with 98% of Swiss internet users turning to them in order to find information (Latzer et al., 2021, p. 15). Because of their functionality, search engines, in particular Google which is dominant on the Swiss search market (Statcounter, 2023), serve as cross-platform information gatekeepers that deter-

mine to what degree Swiss citizens are exposed to specific information sources and viewpoints.

Visibility of information becomes even more important when considering that 38,5% Swiss citizens experienced news deprivation in 2022 (fög,

2022b), a number that has been steadily growing over the last decade (Eisenegger et al., 2020). The high percentage of people experiencing news deprivation has significant consequences for democratic societies: A study for Switzerland shows that this group of people is less informed on socially complex topics, while being more aware of emotionalized viral content (Eisenegger et al., 2020). The combination of news deprivation and information inequalities risks exacerbating polarization within society and facilitates manipulation of the public agenda. Several studies conducted in the US and India demonstrate how prioritization of certain information sources and interpretations by Al-driven systems can shift voter preferences in the context of elections, especially for undecided voters (Epstein & Robertson, 2015; Zweig, 2017).

Unequal visibility of information sources and viewpoints risks influencing the ability of individual citizens to participate in democratic decision-making. By providing unequal access to information, search engines as well as other Al-driven systems risk undermining social cohesion and risk infringing on the right to receive information without interference as guaranteed by the Swiss Constitution (Art 16), as well as article 10 of the European Convention of Human Rights (van Hoboken, 2012; Eskens et al., 2017).

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II. Possible Risks Posed by Al-driven Systems for Swiss Democracy

The growing use of Al-driven systems in Switzerland and worldwide creates new risks for democracies. In the case of Switzerland, these risks are amplified by two aspects: For one, as a multilingual direct democracy, it is important to keep citizens from different regions equally informed; and for another Swiss citizens are more actively involved in political decision-making than in other liberal democracies. Despite the growing importance of Al, the understanding of its exact impact on democracy in Switzerland is still limited. The lack of transparency of how these Al-driven systems work makes it particularly difficult to assess the risk posed for Swiss democracy.

The following are four central risks that should be taken into account in ongoing societal discussion (see, for instance, Wecker, 2022; El Sayed, 2023; Vogt, 2023; Widmer, 2023, Interpellation 23.3812) as well as by federal institutions (e.g. BAKOM):

(1) Al-driven systems can expose individuals to incorrect or misleading information (Makhortykh et al., 2022; Urman et al., 2022; Norocel & Lewandowski, 2023; Li, 2023). Examples of such erroneous performance range from prioritization of information supporting conspiracy theories by search engines (e.g. that the Earth is flat; Urman et al., 2022) to the generation of factually incorrect information by chatbots (e.g. hallucinations of chatGPT; Li, 2023). While some of these cases can be easily spotted, others can be seriously misleading particularly with the tendency of systems such as chatGPT to provide summary responses with limited reporting on the sources of the information. This is particularly disconcerting considering the frequent use of these systems and the tendency of trusting their outputs (e.g. search engines have similar levels of trust as journalistic media; Edelman, 2020).

Al-driven systems can increase information inequalities between citizens. Al-driven systems offer differentiated treatment of citizens based on different factors (e.g. language of queries or location; Kliman-Silver et al., 2015; Norocel & Lewandowski, 2023). It thereby not only poses new risks for further misinformation and polarization, but also specifically creates the risk of undermining citizens' right to information and thus their ability for proper participation in political decision-making.

(3) Al-driven systems can further increase media and political concentration. The media market in Switzerland is characterized by high concentration with few media companies dominating the market (Bonfadelli & Werner, 2021). Such concentration limits the diversity of media content and makes it more challenging for new players to enter the market. Considering the tendency of Al-driven systems to grant visibility to a small set of prioritized information sources (Unkel & Haim, 2021), the growing use of these systems further amplifies media concentration and benefits a few media outlets. The same logic applies to the political landscape, where the possibility of Al-driven systems promoting certain political agendas - paired with the increasing use of search optimization and political microtargeting techniques - can advantage certain political parties and politicians, while disadvantaging others. This has been seen in the prioritization of more positive coverage of specific parties in the US (Diakopoulos et al., 2018).

(4) Al-driven systems can challenge issue ownership for parties and individual politicians. The theory of issue ownership suggests that voters tend to connect parties (and individual politicians) with specific political issues based on their reputation of handling these issues. Such a connection is based on information citizens receive about the parties and politicians - with AI-driven systems increasingly playing an important role in providing such information to their users (Unkel & Haim, 2021). Empirical research suggests that the way Al-driven systems attribute issue ownership to specific political actors can differ from citizens' expectations (for an example for Germany, see Unkel & Haim, 2021). This is further amplified by the tendency of Al-driven systems to change prioritization of sources and interpretations related to political matters over time, thus further destabilizing attribution of issue ownership (Schwabl et al., 2023).

These categories of risks are interconnected and can exacerbate each other: Personalization of content delivery makes it harder to detect and counter the spread of disinformation. The unequal attribution of issue ownership by Al-driven systems for groups of voters makes the political landscape less transparent. These risks are significantly amplified by the lack of transparency in the functionality of Al-driven systems.



III. The Swiss *Climate Protection Law* on Google: Empirical Evidence for Information Inequalities Exacerbated by Al-driven Systems

To illustrate the potential for Al-driven systems exacerbating information inequalities in Switzerland, we conducted a study for which we collected data in March and June 2023 in relation to the vote on the «climate protection law» («Abstimmung zum «Klimaschutzgesetz»), also known as the «Climate and Innovation Act». The Act introduces measures for decreasing energy consumption by supporting investment in climate-friendly technologies and replacing more resource-demanding forms of heating. Its implementation aims at helping Switzerland achieve climate neutrality by 2050. While most Swiss political parties supported the Act, the referendum committe (including proponents of the Swiss People's Party and FDP.The Liberals) opposed it arguing that it will increase electricity prices in the country and noting that the installation of wind and solar farms may disfigure the Swiss landscape (admin.ch, 2023). On June 18, the Act was approved by 59.1% of Swiss voters.

To examine how Al-driven systems decide on what information to provide to Swiss citizens prior to the vote, we analyzed Google search results. Used by 86% of the Swiss population (Swissinfo, 2023), Google's search engine is one of the most commonly used web services in the country and plays an increasingly important role in supplying citizens with information on societal developments.

In our study, we used virtual agent-based auditing (see Ulloa et al., 2022 for the description of the method)¹ to simulate the activity of human users searching for information on the «Climate and Innovation Act» with 12 queries in the three most spoken Swiss national languages (i.e. German, French, and Italian). The use of virtual agent-based audits allows for (1) the isolation of any effects of time by conducting multiple searches simultaneously, and (2) scaling the data collection by simulating the activity of multiple users to account for possible randomisation of search results by Google. The searches were conducted on 30 March and 12 June from the Zurich region simulating the activity of 46 users.

Collecting the first page of Google search results for each of 12 queries (see Figures 1-4 for the queries), we manually labeled the following:

- 1. The **type of information sources** search results were linking to, differentiating between
- academic sources (websites of research centers/universities)
- business sources (websites of commercial companies)
- online encyclopedias (such as Wikipedia)
- political institutions (ranging from Swiss cantonal level institutions to Swiss federal level institutions to international institutions with the latter including both cross-national organizations like the United Nations (UN) and political institutions in Germany or France)
- initiatives (websites of political initiatives in Switzerland)
- · journalistic media sources
- non-governmental organizations (NGOs)
- · sources related to Swiss political parties
- 2. The stance towards the Act displayed by the search results, differentiating between
- search results supporting or opposing the Act
- diverse results (i.e. ones mentioning both pro and contra positions)
- results discussing climate change in general, but not specifically mentioning the Act
- results related neither to the Act nor to the subject of climate change

The analysis of Google's selection of sources in relation to the Act (Figures 1-2) indicates that there was a tendency to prioritize content coming from just a few types of sources. These sources included journalistic media (e.g. Swissinfo or Ticino News), NGOs (e.g. World Wildlife Fund or Oxfam France), and websites of different political institutions ranging from federal institutes (e.g. Federal Office for the Environment) to Swiss parties.

In terms of the content linked to specific party websites, there was a clear prevalence of the Green Party of Switzerland (42% of results from Swiss political parties category in March and 21% in June) and the Social Democratic Party of Switzerland (27% of results in March and 35% in June), and only a few results from the Swiss People's Party (14% of results in March and 15% in June) and no results from Lega dei Ticinesi (i.e. another opponent to the Act). The presence of specific types of sources also changed between March and June: In particular, there is an increase in content from journalistic media prior to voting in June 2023.

For this specific study, we used a variation of the method based on Selenium scripts deployed via Google Compute Engine.

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III. The Swiss *Climate Protection Law* on Google: Empirical Evidence for Information Inequalities Exacerbated by Al-driven Systems

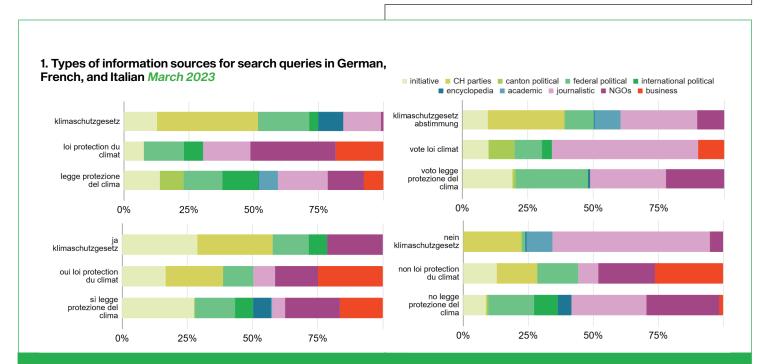


Figure 1. Proportion of search outputs from specific types of information sources for the climate vote in March 2023. Colors show percentage of the search outputs of content for the respective categories of websites for queries in German, French, and Italian: different political initiatives such as Klimaschutzgesetz or Alpeninitiative [initiative], websites of the Swiss parties [CH parties], political institutions at the cantonal level [canton political], political institutions at the Swiss federal level such as BAKOM [federal political], international political institutions such as the UN [international political], online encyclopedias such as Wikipedia [encyclopedia], research center/universities [academic], journalistic media such as Swissinfo [journalistic], NGOs such as World Wildlife Fund [NGOs], and commercial companies [business].

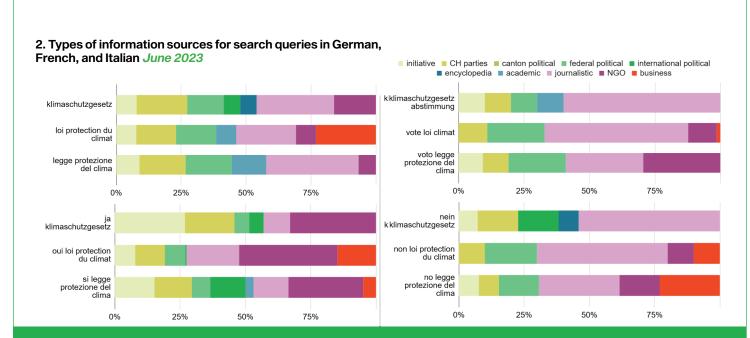


Figure 2. Proportion of search outputs from specific types of information sources for the climate vote in June 2023. Colors show percentage of the search outputs of content for the respective categories of websites for queries in German, French, and Italian: research center/universities [academic], commercial companies [business], online encyclopedias such as Wikipedia [encydifferent political initiatives such as Klimaschutzgesetz or Alpeninitiative [initiative], websites of the Swiss parties [CH parties], political institutions at the cantonal level [canton political], political institutions at the Swiss federal level such as BAKOM [federal political], international political institutions such as the UN [international political], online encyclopedias such as Wikipedia [encyclopedia], research center/universities [academic], journalistic media such as Swissinfo [journalistic], NGOs such as World Wildlife Fund [NGOs], and commercial companies [business].



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The sources related to journalistic media, NGOs, and political institutions commonly appeared across all three languages. For other types of sources, we noted more variation between the different languages. For German language queries, Google prioritized more content coming from websites of Swiss political parties, thus attributing the ownership of support / resistance to the Act to specific parties. Only for German queries (and partially for French ones in June), resistance to the Act was clearly attributed to the Swiss People's Party; for queries in Italian, such attribution was absent both for Swiss People's Party and Lega dei Ticinesi.

Crucially, in contrast to queries in German, queries in French and Italian showed more results coming from websites of commercial companies (up to almost 25%), including ones involved in the implementation of green business solutions (e.g. Greenly and Carbo). For French and Italian queries, Google also prioritized more content coming from NGOs, which tended to be more univocal in their support of the Act.

Similar to the differences in the selection of information sources, we also observed a difference in the viewpoints represented as results to the queries in different languages (Figures 3-4). Thus, German language queries resulted in more content that offered arguments against the Act both for neutral queries (e.g. «Klimaschutzgesetz») and for queries suggesting the intention to vote against the Act (e.g. «Nein Klimaschutzgesetz»). Compared to German, queries in French and Italian gave more visibility to viewpoints in support of the Act; in French, there was also more diverse content (i.e., offering arguments both in favor and against the Act) compared to both German and Italian. In Italian, furthermore, there was a larger number of outputs referring to climate change without specifically discussing the vote.

The analysis of the representation of the view-points in relation to the Act indicates that arguments against the vote received substantially less visibility and consistently constituted the minority of Google outputs both in March and in June 2023. If the formulation of the queries suggested the intention to vote for the Act (e.g. «Ja Klimaschutzgesetz»), between 70% and 50% of outputs were constituted by material clearly supporting the Act. For queries sugge-

sting the opposite intention (e.g. «non loi protection du climat»), around 10% to 20% of outputs explicitly focused on the arguments against the Act.

At the same time, we again observed variation in Google outputs depending on the language of the search query: for instance, for the German language query («Nein Klimaschutzgesetz») on 12 June, almost 50% of top Google search results contained content criticizing the Act. Overall, closer to the vote itself, the number of outputs explicitly supporting the Act across all gueries increased for French (from 34%) to 35%) and Italian (from 28% to 39%), but decreased for German (from 38% to 26%). The change in stance was particularly pronounced for several queriessuch as «Klimaschutzgesetz Abstimmung», «vote loi sur le climat», and «Nein Klimaschutzgesetz»where the number of outputs supporting the Act decreased in June with more diverse or critical materials becoming more prominent.

Taken together, these observations indicate the tendency of Google search outputs

- to provide different types of sources for queries in different languages with more or fewer links to journalistic media, to the homepages of (certain) political parties or to business websites;
- to prioritize certain viewpoints differently for queries in different languages, thus exposing citizens to more (or fewer respectively) critical or supportive views on popular votes depending on the language used.

These observations are important considering that recent research conducted in the US context shows that selection of information provided by Al-driven systems (Epstein & Robertson, 2015) can influence voter preference, especially for voters without a strong leaning towards a specific viewpoint. Consequently, our findings suggest that there is a possibility that voter preferences are being influenced differently for different regions in Switzerland through Al-driven systems. In the case of the vote on the «climate protection law», we found search outputs for queries in French and Italian being more supportive of the vote compared to the ones in German. We also observe that prioritization of types of sources by Google changed over time with journalistic media becoming more visible closer to the vote and the number of content from websites of Swiss political parties fluctuating for specific parties.

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Figure 3. Proportion of search outputs for individual queries in German, French, and Italian promoting a specific stance on the climate vote for March 2023. Colors show percentage of the search outputs of content for the respective categories: supporting the Act [pro], opposing the Act [contra], mentioning both pro and contra positions [diverse], discussing climate change without mentioning the Act [climate_not_vote], or unrelated to climate change and the Act [unrelated].

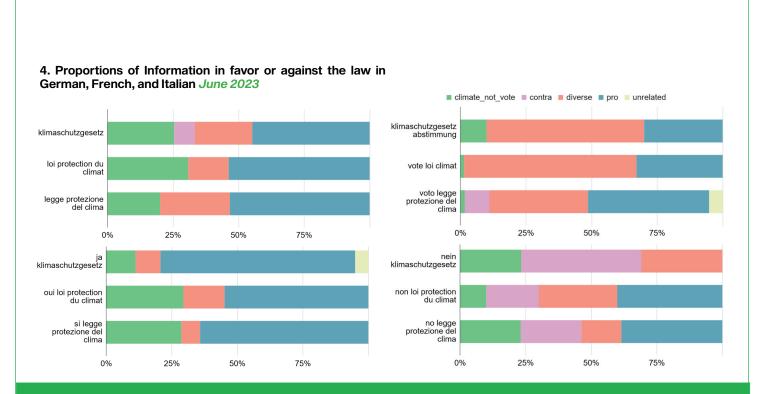


Figure 4. Proportion of search outputs for individual queries In German, French, and Italian promoting a specific stance on the climate vote for June 2023. Colors show percentage of the search outputs of content for the respective categories: supporting the Act [pro], opposing the Act [contra], mentioning both pro and contra positions [diverse], discussing climate change without mentioning the Act [climate_not_vote], or unrelated to climate change and the Act [unrelated].



IV. Recommendations: How to Mitigate Risks of Al-driven Systems in the Context of Democratic Processes in Switzerland

Mitigating possible risks of Al-driven information inequalities in the context of Swiss politics necessitates the definition of general rules of engagement for Al-driven systems: checks and balances need to be in place to prevent these systems from exacerbating inequalities among Swiss citizens and to safeguard the systems from being abused for manipulation by foreign and domestic powers. For them to be effective, it is important that such rules of engagement are developed and adopted by all relevant stakeholders. To achieve this, we concretely propose:

To identify ways for a long-term integration of Al-driven systems into the functionality of Swiss democracy. In order to define a common set of rules for Al-driven systems in the context of political decision-making, all relevant stakeholders need to be involved to ensure the successful implementation of these rules. These stakeholders should include researchers, legal and political science experts, representatives from administration, media, political parties, civil society, as well as industry, in particular Al and cyber-security professionals. Currently, there is still limited engagement between the different stakeholders required to prevent risks caused by these systems.

To establish a set of key performance indicators (KPIs) to measure the performance of Al-driven systems in the context of Swiss politics. This includes deciding on what criteria are to be taken into consideration, how these criteria can be operationalized, and what performance of Al-driven systems is societally desired (for instance, for cases where Al-driven system represent information on a vote that is very tight). Such KPIs could include:

- the degree of transparency of the system's functionality (e.g. from the user's and from the regulator's point of view)
- the quality of the system's outputs (e.g. how relevant and balanced the outputs for search queries are)
- the variation of the system's outputs across different groups of users (e.g. how much the outputs for users differ based on their language or location)
- the scale of possible societal risks caused by the poor performance of the system

To establish an infrastructure for consistent monitoring of the performance of Al-driven systems in the context of political decision-making in Switzerland. This infrastructure serves to increase awareness and transparency regarding the impact of Al-driven systems on how citizens are informed about political issues and regarding the potential of unequal visibility of information resulting from these systems' performance. The combination of the monitoring infrastructure and of the established KPIs will also make it possible to evaluate whether the performance of Al-driven systems improves or worsens over time. This is integral for keeping track of the constantly expanding sphere of AI applications in the realm of politics and to develop possible regulation of their uses in Switzerland. Additionally, the monitoring will make it possible to track whether there are attempts from the side of foreign or domestic actors to influence democratic decision-making processes in Switzerland through manipulation of Al-driven systems (e.g. ranking of search engine outputs).

(4) To conduct more empirical studies of how Al-driven systems treat political issues in Switzerland and how different groups of Swiss citizens use these systems. The case of the climate protection vote shows that sources and viewpoints prioritized by Google vary substantially depending on whether the search is conducted in German, French, or Italian. It is important to investigate whether these differences are more or less pronounced in other instances of political decision-making. Similarly, there is a need for more empirical investigations of how often Swiss citizens use AI-driven systems to find information on political issues and how such uses can vary between specific citizen groups (e.g. depending on the age or canton). A recent study by Blassnig et al. (2023) demonstrates that younger and more politically interested voters tend to rely more on these systems (in particular Google) for finding information on the topics of popular votes and highlights how individual user characteristics (e.g. attitudes towards the vote) influence the use of these systems. By contrast, Zumofen (2023) found that individual attitudes towards the vote's subject had a limited role on how Swiss voters use Al-driven systems to find information about the vote. These divergent observations combined with the lack of transparency of the functionality of these Al-driven systems stress the importance of continued research on the topic.

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Popular Votes and Algorithms in Switzerland: Intransparent Priorisation of Political Information

Franxini-Whitepaper _

Outlook

The growing use of Al-driven systems raises new types of risks for democratic decision-making in Switzerland. The study presented here in relation to the popular vote on the «Climate and Innovation Act» in June 2023 demonstrates that Google search, one of the most commonly used Al-driven systems in Switzerland, prioritizes different information sources and viewpoints on popular votes depending on whether search queries are made in German, French, or Italian. This can result in differential treatment of users from different regions in Switzerland and can exacerbate inequalities in terms of accessing information on the topic of a given popular vote. These inequalities have, furthermore, the potential to amplify other risks associated with Al-driven systems (e.g. augmentation of the spread of false information, increase of media concentration, or targeted manipulation by foreign or domestic actors) which can become a major challenge for the direct multilingual democracy in Switzerland.

The severity of this challenge stresses the need to implement concrete steps for mitigating the risks of Al-driven systems and to intensify the discussion of what roles these systems are expected to play in the present and the future of Swiss democracy. Shall Al-driven systems be viewed as laissez-faire marketplaces of ideas, where visibility of specific viewpoints and sources relies exclusively on how well political, media, and business actors can utilize these systems to target specific user groups? Or shall we expect these systems to balance their outputs to ensure that all users are equally informed about different viewpoints on important societal matters? Answers to these questions are integral for deciding on multiple matters: from how Al-driven systems are to be regulated in Switzerland to what digital skills will be important for citizens to acquire now and in the future, as well as what principles shall be embedded in the design of Al-driven systems used to inform Swiss users.

It is also important to note that the number of Al-driven systems that can influence Swiss democracy keeps growing. In this whitepaper, we focused just on one of these systems – Google search – but new systems continue entering the market and pose new risks which have to be accounted for. For instance, the growing adoption of generative Al systems (e.g. chatGPT and Bing Al) raises concerns about them undermining business models of journalistic media, which are in turn integral for keeping citizens informed in a direct democracy (El Sayed, 2023). Under these circumstances, the adoption of a proactive approach towards identifying possibilities and threats posed by different forms of Al to democratic decision-making becomes of paramount importance.



The Franxini-Project builds bridges between research and politics by facilitating scientists, participation in societal and political conversations and by fostering the mutual understanding and trust between researchers and political actors. Through direct contact with decision makers, researchers come to understand what kind of scientific work benefits them. Politicians in turn profit from interactions with researchers to better understand the functioning and principles of science. The Franxini-Project was launched by the scientific think tank «Reatch! Research. Think. Change.» and is supported by the Mercator Foundation, the Gebert Rüf Stifung, the cogito foundation and other partners.

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