THE CENTRE FOR
e-DEMOCRACY

Technology & Elections Policy Brief Series

The Swiss Experience with Internet Voting

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The purpose of this brief is to familiarise the reader with the Swiss internet voting experience and to provide for some lessons learned during the implementation process. Switzerland is a good case to draw lessons from as it is an example of Internet voting deployment in a country with a decentralised, federal structure of government who conducts several referedum votes a year in addition to regular elections.

Internet voting in Switzerland is regulated by national laws and ordinances (mainly the Federal Act of Political Rights and the Federal Chancellery Ordinance on Electronic Voting). Under the Swiss electoral system, Cantons are responsible for implementing all referendum votes and elections together with municipalities. They are also in charge of all operational matters for online voting. Cantons have the discretion to offer internet voting to their respective electorate or not. First trials of Internet voting started in Geneva in 2003, followed by subsequent trials in municipalities in two additional pilot cantons of Neuchâtel and Zurich. In 2008 online voting was expanded to Swiss citizens living abroad, first in Geneva and then to others. Additional cantons wanting to offer online voting gradually joined the three pilot cantons in building consortia to help share the financial burden. Shortly before the general elections in 2015, one of the three existing online voting consortia was not allowed to offer the electronic channel to their electorate anymore because the system did not pass a security audit. The nine cantons affected by this decision dissolved their consortium and are currently evaluating the two other options from Geneva and Neuchâtel. Politically there are two main parties opposing online voting, namely the Greens and the conservative, right wing Swiss People‘s Party. However, so far Parliament has always decided in favor of a continuation of internet voting trials.

Results for Research Studies on Internet voting in Switzerland

At the Centre for Democracy Studies, we have a group of scholars investigating a range of questions such as who internet voters are, whether internet voting adoption rates are spreading, and whether the introduction of Internet voting is able to increase electoral turnout.

In trying to draw up a sociological profile of Internet voting users, we conducted a meta analysis reviewing 22 empirical studies on who the users of internet voting are using studies from Switzerland, Estonia, USA, Canada, Norway, and the UK. We found that gender, income and education do have an effect on the use of internet voting but also see that this effect is mitigated by computer literacy and trust in the Internet. Most empirical studies, however, rely on relatively simple statistical models which should be improved in future studies.

By modeling the user rates on the municipal level for all Swiss internet voting pilots since 2005, we can identify some factors that influence how many voters adopt Internet voting. It is important to note that in Switzerland postal voting is very popular and nowadays the norm – in urban areas postal voting is used by more than 90% of the voters. Controlling for the novelty effect (checking out voting via the internet as something new but then reverting to postal or ballot voting), our models show that variables such as age, income, turnout, population size, strength of political parties have an effect on Internet voting uptake. Additionally, we have also found that implementation interruptions as well as negative press can have a statistically negative effect on user rates.

A crucial question is of course whether internet voting is able to increase turnout. We conducted the most comprehensive statistical analysis of the effect of Internet voting on Swiss electoral turnout using difference in differences models. Our research assessed whether municipalities introducing internet voting had a higher turnout than similar municipalities in the same canton. We found that Internet voting had no effect on turnout, not even among younger citizens (below age 25). Again, important to note that these findings should be viewed while recognizing the fact that postal voting is generalized and voting is already very convenient.

We also investigated whether internet voting is turning into a habit and whether habitual internet voting can be associated with a particular type of voter. From the Geneva voter registry data, we were able to track individual citizens and their choice of the voting channel (ballot box, postal, internet) for 10 consecutive federal referendum votes in 15 municipalities (June 2012 to September 2014). We found that 28.5% of voters stuck to the electronic voting channel during that period, 49.6% used voting channels interchangeably, and 21.9% used internet voting only once. Contrary to our expectations, the 40 years and older age cohorts show the highest fidelity for internet voting. This finding is contrary to our expectation that younger voters would grow into voting, developing a preference for the internet channel and then sticking to it. The pattern we found was quite different. On average, and controlling for other factors, older age groups seem to having adopted the new voting channel and then stayed with it. However, whether that result holds for other constituancies than Geneva has to be corroborated in further studies.

Acceptance of internet voting in Switzerland is high. Our recent general population survey from May 2016 shows that 70% of the respondents are rather or completely in favor of internet voting, with 30 year old respondents have the highest acceptance rate with around 90% in favor. Security issues were the biggest concern among respondents. Trust in voting channels is highest for ballot box voting, followed by postal voting, and lastly

internet voting. However, when postal voting was gradually introduced in Switzerland 30 years ago as a new voting channel it was distrusted as well.

Recommendations

Based on the Swiss experience and our research so far we would like to make the following policy recommendations:

- A stop-and-go implementation process of online voting should be avoided because it could very well have negative consequences on acceptance rates and trust in the new voting channel, thus putting the initial investment in danger. Additionally, from a user‘s perspective it seems odd to have the electronic voting option available on an irregular bases.
- As long as internet voting is secure and works well its user base is likely to increase over the years. However, in the case of a scandal and negative news coverage, the trust of voters can easily become compromised. Questions surrounding security and fears of manipulation are always a top concern even among people generally in favor of online voting. To guard against these issues, online voting systems should include a verification system allowing users to check whether their vote was transmitted and registered correctly. Also, security audits by independent experts should become the norm.
- We also suggest the introduction of stakeholder workshops or meetings, allowing critics to speak out freely. Authorities should embrace criticism as long as it is constructive. The canton of Geneva already held two such stakeholder events and had a good experience.
- The electorate should be educated about the fundamentals of internet voting such as how online voting works, what encryption means, what a source code is, how verification systems work, etc. Ideally, there would be a test site citizens can use to familiarise themselves with an online voting system. The basis for educational materials should also stem from empirical research.
- The capacities and authority of electoral management boards need to be upgraded. Usually online voting leads to a centralisation of tasks and competencies. The reduction of direct control by local election committees who traditionally have oversight and control about the counting process in municipalities should be compensated in a meaingful way.
- All these measures take time and can‘t be implemented over night. Financial costs are typically a concern and should be factored in from the beginning. Online voting consortiums using the same system can be a way of reducing costs.

Further readings on the Swiss case:

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Serdült, Uwe; Micha Germann; Fernando Mendez; Alicia Portenier and Christoph Wellig (2015) Fifteen Years of Internet Voting in Switzerland: History, Governance and Use, in: Terán, Luis and Andreas Meier, ICEDEG 2015: Second International Conference on eDemocracy & eGovernment, Quito, Ecuador, 8-10 April 2015, IEEE Xplore CFP1527Y-PRT, 126-132. http://dx.doi.org/10.1109/ICEDEG.2015.7114482