

E-voting in Europe: Divergent democratic practice

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Abstract. Recent technological developments have opened up the possibility of electronic voting and this clearly provides some opportunities and threats. On the one hand, the new technology may help to make voting more cost effective and more convenient for the voter and may even increase voter turnout. On the other, e-voting may introduce new risks and affect electoral values, such as the secrecy of the vote and the place of voting as an observable institution in modern democracies.

At present various countries and different electoral systems are confronted with these opportunities and threats and the question is what will happen. Will the new technology, with its international standards and its seemingly objective opportunities and threats determine the development and lead to a convergence in voting practices which optimise the benefits? Or, will decisions concerning the application of ICT in the voting process vary as a result of differences in social context and varying democratic institutions?

In this paper we claim that, based on social theory regarding technology adoption, different countries may very well differ in their attitudes and actual decisions regarding e-voting. When we look at the current developments in 13 Western-European countries, this claim is supported. Decision-making concerning the introduction of e-Voting in these rather similar countries is clearly structured by diverging democratic institution and as a result e-voting developments actually differ.

1. Introduction

Many people routinely undertake electronic transactions and some cast their votes in polls on Internet sites and contests on television. The idea of voting in public elections over the Internet can be seen as a logical extension of Internet applications in commerce and government [10]. E-voting and e-participation are appearing on the political agenda and experiments are held in various places. Judging from reports in the popular media and claims by enthusiastic proponents, the prospects of electronic voting are excellent. There are, however, also more cautious voices. They draw attention to the problems e-voting may cause with respect to fundamental principles underlying the voting process. Voting may be more than just another government service that can be improved by ICT.

In the debate, arguments in favour or against e-voting are often presented as objective and fixed and they are used by both sides to make definite claims about the desired measures to be taken, irrespective of the particular social context.

In this paper we argue that deciding on the adoption of e-voting is not a simple matter of evaluating objective benefits and threats and selecting the one and only optimal strategy. Instead, differences in social context matter. Countries, populations, electoral systems, public attitudes, political and administrative arrangements vary widely and all these factors play a role in assessing the merits of e-voting in a particular

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context. This means that in different countries with different institutional contexts the decisions on whether or not to introduce a particular kind of e-voting are structured in different ways, and may lead to very different outcomes.

The presentation of our argument takes the following structure. In Section 2 we start with a discussion of the general opportunities of e-voting: what are the possibilities and what is to be gained. Then, in Section 3, we discuss the threats associated with e-voting, threats such as large scale manipulation of elections and the loss of secrecy. After this general overview, we investigate the contextual nature of both the opportunities and threats. As we will elaborate in Section 4, the idea that e-voting is clearly connected to certain objective threats and certain objective opportunities is simply untenable. Not only is there much uncertainty with respect to the exact outcomes of actually implementing e-voting in a certain context, opinions may also vary on whether a specific outcome is to be regarded as a serious threat, an acceptable risk or, indeed an opportunity. Thus, although different countries now have access to the same type of internationally standardised tools to 'modernize' the voting process, differences in social context may have a profound impact on decisions of whether, and how, to actually apply these tools.

That this possibility of diverging voting technologies is not merely a theoretical insight, is supported by the results of a country survey we conducted in 2002. As we show in Section 5, even in the rather homogenous context of democracies in Western Europe, we find that different countries are taking very different positions with respect to e-voting.

2. Prospects of electronic voting

E-voting is generally seen as any type of voting that involves electronic means (e.g. [10,19]). Although e-voting can be conceived in many different ways, a crucial distinction may be made between electronic machine voting (eMV) and electronic distance voting (eDV). eMV simply refers to the use of any electronic apparatus to record and count votes in a fixed public place. This may be a specialised voting machine in a voting booth or a stand-alone PC specially installed for this purpose in a voting kiosk.

eDV goes a step further in the sense that it implies the electronic registration, culling and counting of votes cast from different locations. It typically allows the voter to use a more generic technology such as interactive digital TV, telephone, Short Message Service (SMS) or the Internet, to cast his vote from any preferred place, be it from the home or the office or even from a deck chair on a cruise ship somewhere in the Caribbean.

Both eMV, and especially eDV, are considered to provide new opportunities for the organisation of elections.

eMV may be especially helpful for a reliable, objective, efficient and expeditious counting of the votes and may also offer some possibilities for electronic verification (e.g. the verification whether the user is indeed entitled to vote and whether the vote is cast correctly).

Although eDV may also be expected to offer these benefits, its particular strength is that it enables people to vote without having to go to a special polling station. It thus provides the prospect of reducing the effort to vote, especially for people who find it difficult to visit a polling station on election day, such as the physically challenged, or people living in remote areas.

As proponents of e-voting point out, these possibilities of eMV and eDV may help to make voting more cost effective and easier and to increase voter turnout. Especially when eDV is used as part of a multi-channel approach and a combination of different forms of voting is offered, voters have an option to vote by the means they prefer.

Finally, e-voting is considered to be a way to modernize the voting process and to give voting a new, modern, image. According to some commentators, modern people and especially young voters are used to the idea of electronic transactions and simply expect government to provide the possibility of electronic voting.

3. The risks of e-voting

Although electronic voting may offer such interesting promises as lower cost and higher turnouts, not every observer is equally enthusiastic. As many point out, the introduction of e-voting may be associated with several risks.

With respect to eMV, the most important concern user proficiency, system reliability and inside manipulation.

First of all, the operation of voting machines by individual voters may be considered a relatively new risk. As we know from numerous studies, many people have difficulties with operating modern technical artifacts (e.g. [24]). With the introduction of machines in the voting process, there is a clear risk of complicating this process for the average voter. Although designers may claim that a certain system is user friendly and 'fool proof', experience often proves otherwise. The recent experiences with (mechanical) voting machines during the presidential election in the US are just one extreme example.

Secondly, there are reasons connected to the reliability and robustness of technical systems, especially computerized machines. Any complex technology may break down and can cause problems, which may be hard to correct. In the case of e-voting machines, risks of disturbances of power supply and failures in the electronic storage of the votes certainly require special measures, like verification and backup facilities, to identify errors and correct them.

Thirdly, as critics point out, eMV may be vulnerable to insider attacks on their integrity. Computerized machines are essentially opaque and therefore allow for manipulations that are not recognizable to the user or even to supervisors present at the elections (e.g. computer programs which during voting switch one in ten votes to a preferred party and which erase themselves at the end of the voting process, without leaving a trace). Although people involved in the manufacturing of voting machines could be capable of such fraud, the more serious danger here would be that of organized manipulation by authorities. In weak democracies, or under circumstances of political turmoil, it would be impossible to guarantee the trustworthiness of voting machines, and even in the absence of actual fraud, this could seriously undermine the legitimacy of the voting process (e.g. [2]).

eDV partly extends the risks associated with eMV. With respect to the problem of user proficiency, for instance, eDV may strongly increase the problem and lead to a 'digital divide' in voting. ICTs are not distributed equally over the electorate, nor are electors from various socio-ethnic and socio-demographic backgrounds equally likely able and willing to use the technology (e.g. [10,19]). Widespread electronic voting can thus lead to some voters having far more difficulty to vote than others, and even to stigmatisation of traditional voters as either luddites or lacking the technical means or skills to vote electronically [19].

Vulnerability is also increased, as practical implementations of eDV will rely on open networks of PC's and servers, they will be more vulnerable to accidental failure and intentional attacks. Servers are prone to intrusion and denial of service attacks rendering election services unavailable. The client PC's used by the voter can be attacked by Trojan horses and viruses aimed to spy on ballots or to modify them. The communication between client and server can be intercepted and clients can be lured to imposter sites (spoofing) which can cause undetected loss of votes or act as a "man-in-the-middle" between voter

and real vote site [10]. In short, the risk of undetectable fraud by insiders and corrupt regimes is extended to attacks by outsiders, such as bored wizzkids, radical groups or even foreign powers.

On top of these extended eMV threats, eDV also introduces some new risks which are especially connected to the fact that eDV may lead to a fundamental change in the social conditions under which the vote is cast. Whereas in traditional voting, and also in eMV, voting takes place in a public locale in a controlled environment, eDV does not.

This removal of voting from the public to the private, is considered to be of symbolic importance. eDV may result in a loss of symbolic value: To some people voting is just a form of public service delivery. To many it is much more. "It is a constituent element of representative democracy and a ritual of coming together of concerned citizens. At this one time, all citizens who enter the voting booth are of equal stature – each casts one vote notwithstanding their differences in race, education, occupation, or net worth" [10]. There is concern that with the introduction of eDV voting may lose its visible, public and symbolic character.

More crucial, however, is the loss of supervision and its possible threats to the secrecy of the ballot. Secrecy of the ballot is considered crucial in modern states. It is adopted in a wide range of conventions and declarations to which many western democracies are signatory, such as the

- Universal Declaration on Human Rights – article 21 (3)
- International Covenant on Civil and Political Rights – Article 25;
- European Convention on Human Rights – Protocol 1, Article 3 [23]

Paradoxically, in traditional voting the secrecy of the ballot is brought about by supervision. The election officers in the polling station see to it that voters enter the voting booth alone and that they can cast their vote free from undue influence and in secret. Supervision reduces the risk of impersonation and it safeguards the secrecy of the vote. With the introduction of eDV, this type of supervision will be lost and this clearly compromises the secrecy of the ballot. With voting moving into the private sphere, threats run from social pressure in the family ('honour your father', 'obey your spouse') to actual physical intimidation and coercion in other uncontrolled environments. As Buchstein [3] shows, the question of a secret ballot goes a lot further than the idea that people who want to vote in secret must be able to do so. As he argues, there is a strong case for what he calls 'mandated secrecy', i.e. that people should never be able to prove to others what they vote. This mandated secrecy is not only desirable because a possibility to prove may in some circumstances turn into an obligation to prove. It also prevents people from selling their votes. And, again, as some critics of e-voting argue, this possibility of selling votes may be one additional risk of e-voting.

Finally, some opponents to eDV argue that its introduction may lead to fundamental and undesired changes in the nature of representative democratic systems. Many political scientists see representative democracy as a welcome step away from direct democracy as it guarantees deliberation, debate and consensus building (e.g. [4]). As some observers notice, once e-voting systems are implemented, the marginal costs of organising new elections and citizen consultations may be so low that there will be pressure to organise such consultations more often, perhaps even on a daily basis (Instant democracy). This would certainly undermine the idea of representative democracy and may be considered a threat. Or, as the IPI report put it: "E-voting in the long run could lead to referendums and threaten the deliberative nature of the political system and the protection of the minority" [10].

4. No ultimate judgement, e-voting as a subject of structuration

In the previous sections we have introduced the opportunities and threats of e-voting. We thereby avoided several questions, which some readers may have felt. How real are these opportunities and

threats (e.g. will turnout really increase and will eDV really lead to more vulnerable elections)? How should we weigh the various arguments in a comparative evaluation? How should we ultimately judge eMV and eDV? And, ultimately, which developments in e-voting should we expect in the near future?

As we will explain in this section, the argument for not answering these questions is threefold, namely:

- There is still much uncertainty about the validity of claims of both proponents and opponents.
- The validity of claims and their relative weight depends on the specific context in which they are evaluated;
- The development of e-voting can not be understood as a simple matter of objective, logical necessities, but should instead be regarded as a process of structuration in which actors take decisions under existing institutional conditions.

4.1. *Validity of claims*

In the previous sections, the main arguments of proponents and opponents of e-voting were reflected. We tried to clarify the primary arguments of each side. In a sense these arguments mainly reflected initial beliefs and fears and lacked empirical basis for a more thorough evaluation. Therefore, a first question that we would like to answer is to what degree there already is any empirical support for the claims being made.

As we write this article, we find that the empirical evidence on e-voting is still scarce and generally inconclusive, and that as far as we know, the world has seen only a limited number of serious, legally binding experiments, of which the most well known ones are:

- The use of internet-voting during the 2000 Arizona democratic primary [15,18,21];
- The Voting over the Internet pilot of the US Department of Defense during the 2000 US presidential elections [7];
- The use of internet-voting during a referendum in Bristol and Croydon in the United Kingdom [22];
- The 2002 local election pilots in the United Kingdom [6].

What is clear, however, is that based on this limited evidence, we may seriously doubt the certainty and absoluteness of some of the claims.

With regard to the main arguments of the proponents of e-voting, we find that the central claims of cost-effectiveness, ease of use and higher turnout, are not substantiated by facts.

On the one hand, the argument of cost-effectiveness received some support in the experiments in the UK, where the elections were outsourced to a contractor who charged 30 pence per telephone vote and 60 pence per Internet vote. However, we should keep in mind that in this case there was also an additional fee for general services, that the authorities met the costs of the free phone number and that the Internet voters of course had to provide their own equipment and internet access.

On the other hand, the cost-effectiveness argument can be ridiculed by pointing at the Voting over the Internet project by the US military [7]. Here, each of the 84 votes, cost the US taxpayer US\$ \$73,809,¹ although this was of course the result of very high initial costs.

Also in Switzerland and The Netherlands the costs of introducing e-voting are found to be much higher than expected, not in the last place because of the necessary security measures [14,20].

Similarly, the ease of use argument is not supported by empirical evidence. On the contrary, existing experiments provide the insight that eDV comes with serious practical problems. In all projects reviewed,

¹http://www.public-i.org/story_01_080901.htm.

there were difficulties relating to the hardware and software for casting Internet votes [7,18,21,22]. In the Arizona democratic primary 4% of non-internet voters, amounting to roughly 1800 voters, unsuccessfully tried to cast their vote via the internet first [21]. In the US-military experiment there were 128 motivated potential voters. Of them, only 91 actually registered online, of which only 84 managed to cast their vote. Meanwhile the help desk was contacted 71 times for many different problems relating to the use of digital certificates, installing required software and access problems [7].

Also, serious doubt has been cast with respect to increased voter turnout as a result of the introduction of eDV. Philips and Spakovsky [18] and IPI [10] conclude that previous reforms designed to make the voting process more convenient – simpler voter registration, extended voting times, voting by mail – have had little if any effect on voter turnout. Pratchett et al. [19] also conclude that an increase in voter turnout is not likely because factors like 'time poverty', inconvenience and inaccessible polling procedures are relatively unimportant in explaining turnout decline.

The fact that the Arizona primary of 2000 saw an increase in voter turnout as compared to the 1996 primary, is considered to be a result of very different circumstances. In 1996 there was only one candidate, there were significantly less physical polling places and far less media attention and get-people-out-to-vote initiatives [18]. In Bristol and Croydon, the percentages of internet voters were 2.7 and 3.4 [22], hence the UK Electoral Commission concluded that the technology based voting pilots appeared to have no significant impact on turnout [9].

Although the available experiments tell us far less about the validity of the arguments of the critics, additional analysis suggest that some of their claims may also be toned down.

On the one hand, as experience with e-voting increases, some developers of e-voting systems have developed interesting thoughts on how to counter certain threats. The threats of coercion, secrecy and vote selling, for instance, might be addressed by providing the user with a so called 'distress pin': an identification code which the user could enter instead of the real one, and which would allow casting the vote in a normal manner, with the exception that the vote would not be counted. Similarly, there may be the possibility of reserving the last day of an election for on-paper voting in polling stations only, and to allow voters to replace any earlier vote by a final vote.

Apart from these more technical solutions to the threats, it is also suggested that some of the threats may be exaggerated. For instance, the idea of a diminishing symbolic importance of the electronic vote is certainly debatable and does not necessarily hold for younger generations. Similarly, it can be argued that there is no direct connection between the use of e-voting and the increased use of referenda and that allowing more referenda will eventually be a political choice, rather than an automatic outcome.

4.2. The importance of context

The second reason why we think it is not possible to give a final evaluation of e-voting has to do with the importance of the context of the election. This context may vary considerably. For instance, the Arizona primary we already referred to, took place under conditions which are very peculiar and which we do not see in Europe. Not only is this primary a very specific type of election, it is also held in a huge, scarcely populated state, with a limited number of polling stations available and with a traditionally extremely low voter turnout (below 10%). This means that the arguments in favour of e-voting, such as easier access and improved turnout play a completely different role than in, for instance, the parliamentary elections in the Netherlands, where people live much closer together, polling stations are always near and turnout in 2002 was 78.9%.

Differences in context seem especially important when we want to discuss the possible risks of e-voting. As we already indicated, the risk of large scale inside manipulation would probably receive much

more attention in a young, vulnerable, democracy than in a vested democracy with strong democratic institutions and to some extent the same argument holds for the fears about the secrecy of the ballot. There are even some circumstances in which such fears may indeed be turned around. In countries and places where elections are surrounded by violence and intimidation, e-voting could even support the free and secret vote.

As far as the digital divide argument is concerned, differences in context seem to be particularly important, as this argument is by definition about context. This is also reflected in the available material. On the one hand, in the Arizona primary, the fears of digital division are substantiated. The results show that large urban counties with predominantly white voter populations voted via the internet in much greater numbers than their counterparts in rural counties with large populations of minority voters [18]. On the other hand, Pratchett et al. conclude that eDV turnout will most likely mirror conventional voting patterns. “Indeed, the evidence appears to suggest that e-voting will perpetuate the existing socio-economic and demographic differences between those who vote and who does not, regardless of how widely available the relevant technologies are within society” [19].

When we consider this last argument, it is also clear that many of the opportunities and threats may change over time. On the one hand, the digital divides of today may disappear over the next twenty years. On the other hand, some ‘strong democracies’, which now introduce e-voting, might one day experience dictatorship.

4.3. The structuration of e-voting

Finally we have to acknowledge that even if certain forms of eDV were guaranteed to have certain consequences in certain places, this would not even necessitate different actors in different countries to come to the same conclusions. As is known from many earlier studies, the development and adoption of technology and especially of ICT can seldom be understood as a result of such primitive logics as technological determinism or simple rational choice [13]. Instead, the development of such complex and radical technologies as e-voting is more likely to be understood as a complex process of institutional shaping or structuration: a process in which actors in time make series of decisions, big and small, under the influence of a social, institutionalised context, which changes under the influence of their decisions [1, 9, 17].

This means that, as a consequence, many other factors could play a role in the actual development of e-voting. For example, the development of e-voting could be influenced by:

- Particular values and norms connected to elections in different countries;
- Particular electoral interests of dominant political actors (we might expect politicians with a higher educated, richer electorate to be less wary of the dangers of a digital divide than their political counterparts);
- Particular policy ambitions connected or connectable to e-voting, such as the ambitions in the field of e-government and e-society;
- Economic and industrial consideration, and pressures, for instance industry lobby groups that try to influence governments to invest in their new technologies.

5. E-voting in Europe

As it is, the evaluation of e-voting is fundamentally a matter of circumstances, beliefs and interests. We have to accept that different actors in different circumstances may come to very different conclusions regarding e-voting.

Table 1
Voting technology and voting policy in national and federal elections in 13 Western European countries

Technology/policy	Country												
	ES	NO	SE	FI	BE	FR	IE	IT	PT	DE	NL	CH	UK
Traditional voting													
Polling booth	x	x	x	x	x	x	x	x	x	x	x	x	x
Postal/Early vote	x	x	x				x		x	x		x	x
Proxy vote						x					x		x
E-voting in use													
eMV					x		I ^a			x	x		
eDV													I ^b
Policy plans													
polling machine				I ^c	X ^d	x	x	x	x	X	X	x	x
kiosks									x	?	x	x	x
e distance voting										?	x	x	x

^aExperiment in three districts during 2002 local elections.

^bVarious pilots in England during the 2002 local elections with Internet-voting, SMS voting and telephone voting.

^cSeems to be regarded as the only serious option.

^dIn Belgium, Germany, and the Netherlands electronic machine voting is already widespread, hence the capital X's.

What does this mean in practice and what does it mean for the actual adoption of e-voting? Do the various countries with their different circumstances actually reach different conclusions? Or, are differences in circumstances and institutions small with consensus, either in favour or against e-voting, leading to a convergence in policy?

In order to answer this question, we have collected data from 13 Western-European countries. In each of these countries, we contacted the agencies considered responsible for national elections and within them, those persons knowledgeable about developments on the road of e-voting. We have asked them about current voting technology and policy plans to introduce new forms of e-voting.

From this survey, together with additional documentation we have been able to get an insight in current developments in the field of e-voting and in the explanations which can be given for the specific developments in the different countries.

5.1. Adopting technology: Deviating paths

Table 1 provides an overview of the use of different voting technologies and policy plans in national and federal elections. Here we can see important differences.

When we look at the use of 'Paper technologies', we see that all countries still use the traditional polling booth, but that many also offer the possibility of postal voting and/or proxy voting. In addition to this, four countries, Belgium, the Netherlands, Germany and Ireland have adopted eMV (of which the Netherlands is already using eMV for over a decade and has 90 percent of the votes cast electronically). eDV is not yet an accepted method of voting in any European country.

With respect to the explicit e-voting targets in our sample, we find that there are clear differences and that we may distinguish three different groups of countries.

The first group consists of Spain, together with the Scandinavian countries. These countries rely on the traditional 'paper and pencil' voting schemes and seem quite happy with the status quo, which is reflected in the fact that there are no policy plans with respect to e-voting.

Second, several countries with traditional voting schemes have introduced, or are introducing eMV, but they have no plans to go all the way to eDV (with Portugal carrying e-voting a little further than the others by introducing voting from kiosks).

The third group of countries consists of Switzerland, the United Kingdom and the Netherlands and possibly Germany. These countries are planning to go all the way to eDV. While the Netherlands is thinking of extending the already existing eMV, step by step, to voting from kiosks and then to eDV, the UK and Switzerland take a larger leap. The UK has ambitious e-voting plans which aim to introduce eDV after 2006 [5]. There already have been a number of experiments (with legally binding results) with various types of eDV during the 2002 local elections. Switzerland has installed policy outlining the experimentation and introduction of ICT in the voting process to facilitate the voter and ease the organisation of referendums and elections [20].

5.2. *A diverging Europe?*

So, what do these observations mean? Are the differences just indicating differences in policy speed, with in the end all European countries taking the road to eMV and eDV, or can we regard these differences as a sign of policy divergence?

Given our theoretical analyses in the previous sections, and given the background information provided by our respondents, we conclude that the latter is in fact the case.

Looking for the reasons why various countries are not opting for eDV, we find that this cannot be understood as governments simply lagging behind. As a first general observation, it is striking that among the supposed laggards in eDV, we find all Scandinavian countries, which according to most e-society and e-government research, are in fact at the forefront of the global ICT revolution. So the suggestion that exactly these same countries would be lagging in e-voting feels strange.

The second observation, however, is more important. All these supposedly lagging countries have provided us with strong arguments why they are not investing in eMV and eDV. So for example, together with the completed questionnaire from Norway, we received a web link to a policy statement by the Norwegian Minister of Local Government and Regional Development,² who unambiguously argues that, especially eDV, would be ‘a pivotal electoral system change’, which she turns down for a number of reasons, especially the risk of fraud and the loss of secrecy of the vote, but also because for the fear that “voting over the Internet can turn politics into a spectator sport.”

As Olsson and Åström [16] argue, Sweden, although advanced in electronic service delivery, is not taking any serious steps towards e-voting precisely because of its strong democratic tradition and its emphasis on security.

In addition to this, respondents from Finland and also France argue strongly against the introduction of e-voting, and state that eDV interferes with international declarations and conventions as referred to in the previous section.

Given these strong conclusions against the implementation of e-voting, the question is of course why other countries are aiming to become e-voting champions. Can we explain why e-voting is embraced by countries like the UK, Switzerland, and the Netherlands? As suggested, such an explanation may be found in the specific circumstances and institutions promoting e-voting developments in these countries. Therefore we will now take a more specific look at them.

²<http://www.odin.dep.no/krd/engelsk/aktuelt/taler/016061-090057/index-dok000-b-n-a.html>.

5.2.1. *The United Kingdom*

In order to explain the e-voting ambitions in the United Kingdom, we find that we can point at several reasons why this country is more eager to adopt e-voting than others.

First of all, an important factor to consider is the strong modernisation drive within the UK government. Many policy documents all over the world express the desire to modernise government and to invest in becoming an e-society, with of course, an e-Government. However, where most of them mainly produce e-government rhetoric, the UK seems to take e-government serious, by establishing agencies such as the office of the e-Envoy and the fact that e-government is the responsibility of a senior Cabinet member. Modernising the voting process to bring it up to 21st century lifestyles is an endeavour that fits the e-governments' general aims.

Secondly, an important factor in explaining the British interest in eDV is the serious decline in voter turnout, which is seen as a major cause of concern. The consultation paper on e-democracy produced by the e-Envoy lists the following figures:

- Turnout in the 2001 General Election was 59% – a fall of 12% from the 1997 figure and the lowest since 1918.
- Approximately 60% of 18–24 year olds did not vote in the 2001 General Election.
- In the UK, only 24% turned out to vote in the 1999 European parliamentary election, compared to 37% in 1994.
- Turnout in the 2002 local elections was 35% [5].

Related to the problem of decreasing turnout, the Political Parties, Elections and Referendums Act 2000 (PPERA) has been enacted. This act has established the Electoral Commission, whose principal aims include the encouragement of participation in the democratic process, and increase levels of electoral registration and voting. Where the concerns about low turnout already led to the introduction of postal ballots, we may see the introduction of ICT as an additional measure along this line. Although both the e-Envoy and the Electoral commission stress that the introduction of postal ballots and ICT in itself will not increase voter turnout [5,6], the decreasing turnout is still an important factor driving the e-voting enthusiasm.

Moreover, as the PERA allows local authorities to conduct pilots with new voting techniques under supervision of the Electoral Commission, it has opened the door for many local entrepreneurs who may be eager to have a go at e-voting, for many different reasons. Not only are the local experiments seen as an excellent chance for local authorities to promote themselves as modern and efficient, also several local managers seem to regard e-voting as an excellent career opportunity. In this enthusiasm local authorities and their managers find themselves backed by international 'election service providers', who according to Ledbetter [11] "spend like mad" to ensure that such elections work and the whole world will hear about them.

5.2.2. *Switzerland*

With respect to Switzerland we also see related reasons that may explain enthusiasm with respect to eDV.

Switzerland, just like the UK has an important turnout problem, especially for the national parliamentary elections (43.22% for the 1999 elections, slightly down from 1995). In order to make elections easier and increase turnout, Switzerland already introduced postal voting which is fairly popular. E-voting is seen as a logical extension to postal voting, that can help increase voter turnout, although also in Switzerland there is scepticism about the effect of e-voting on turnout [12,20].

In addition to this, Geser [8] lists four other arguments why the Swiss political system is especially prone to e-voting:

- The extreme large number of polling procedures (elections as well as issue votings) on the federal, cantonal and communal level that take place each year implies that e-voting may lead to considerable economic and organisational advantages;
- Voter registration procedures in Switzerland are on a very high level, contrary to the voter registration on the local level in many other countries, which may facilitate the introduction of e-voting;
- By adopting postal vote laws in the nineties, Switzerland has already gone a long way towards “distant-polling” and so the Swiss are no longer required to appear at the polling station and polling has already become “desacralized”.
- The introduction of e-voting is facilitated, because norms concerning the secrecy of votes are less pronounced than in many other Western Countries. This due to a long tradition of public votings, where voting takes place by counting raised hands [8].

5.2.3. *The Netherlands*

Finally, the Netherlands. In a sense, the Netherlands seems to be the odd one out.

On the one hand, the weight of the most crucial arguments in favour of introducing eDV seems limited here. Voter turnout decreased over the last decades, but not as dramatically as in the UK or in Switzerland (in the last, turbulent elections of 2002 there was in fact a slight increase). As the Netherlands is the most densely populated country in Europe, organising access to polling stations has never been a major problem. In most municipalities eMV is in place, which means that the elections are run very efficiently, with some of the smaller municipalities capable of offering the tabulated votes seconds after the polls close.

On the other hand, when we look at the arguments against eDV, the Netherlands has a history of being prudent in protecting the individual and promoting the secret character of voting. For this reason, postal voting never made it in the Netherlands and proxy voting is limited (a voter may cast a maximum of two proxy votes). So, when we look at these arguments, we would not really expect the Netherlands to be among the forerunners in the field.

When we really have to explain why the Dutch seem to be taking the road to eDV we are left with two types of structuration arguments.

The first one is that the very extensive and positive experience with eMV may have something to do with it. As far as we know, the Dutch have the longest experience with electronic machine voting in the world and thus are really used to the application of this technology in the voting process. This may be a reason why policy makers in the Netherlands are less fearful about eDV than policy makers in other countries.

The second type of argument has to do with political ambitions and political lobbying. Just like the British, the Dutch government tries to be at the forefront of e-government and just like in Britain, there are some direct links between the development of e-government and the development of e-voting. Not only are both developments furthered by the same responsible ministry, the introduction of e-voting is also seen as one of the best chances for introducing a nation wide electronic identification system, which in the Netherlands is considered a difficult, but essential step in the further development of e-Government service delivery.

Moreover, the now former minister for e-government who was one of the driving forces behind e-voting, is a member of D66, a party that has campaigned for the introduction of referendums and elected majors since its inception in 1966, an aim which really fits the promises of e-voting. Thirdly, there is an active e-voting lobby consisting of organizations such as PELS (the Platform ELection voting) and EPN (Electronic Highway Platform NL), which has been successful in mobilizing politicians to

back e-voting. This has resulted in persistent demand from members of parliament to continue with the introduction of e-voting.

Having said this, we also have the impression that the responsible ministers may have started to back down in recent months [14] and despite the answers to our survey, we are not certain that the Netherlands will indeed be one of the first in introducing eDV. So, maybe in the end, the Netherlands will come to neatly fit our other lines of reasoning.

6. Conclusion

In this paper we have tried to show that many of the general claims in favour and against e-voting are not yet substantiated by thorough empirical research. They generally depend on local circumstances, and particular beliefs, interests and institutions. As a result of this policymakers in different countries may differ in their assessment of opportunities and risks of e-voting and thus the development of voting may be structured into different paths.

As we have seen from our survey this is not mere theoretical speculation. When we observe the thirteen rather similar Western European countries, we indeed witness policy divergence, especially with regard to electronic distance voting.

On the one hand, we see that most European countries value reliability, transparency and secrecy of the voting process so much that they are not easily convinced to take on e-voting. Certainly when there are no serious problems with voter turnout, these countries are able to withstand the sirens of rash modernisation. They generally keep to their traditional forms of paper based voting, although they may opt for the possibility of machine voting, which is associated with far less threats than eDV.

On the other hand, in some countries, the circumstances are such that eDV is embraced. A major factor here seems to be voter turnout. If turnout really decreases dramatically, the turnout promise of eDV becomes appealing, even though this promise has not yet been substantiated by empirical findings.

Apart from voter turnout we can identify several other specific conditions that may influence the political decision to introduce eDV, such as the political ambitions to modernise government and the country's specific attitude towards the sanctity of elections.

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