

## Book review

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Lawrence Pratchett, *The implementation of electronic voting in the UK*, London: Local Government Association, May 2002, ISBN 1 84049 289 9, [http://www.local-regions.odpm.gov.uk/egov/electronic\\_voting/index.htm](http://www.local-regions.odpm.gov.uk/egov/electronic_voting/index.htm)

Elections have changed little since the introduction of universal suffrage. Voters still make their way to their polling station, receive ballot papers, go into a voting booth, mark the candidates of choice, drop the ballot paper into a sealed box and go home. It is a ritual, which for many marks the uniqueness of elections as the primary act of democratic engagement.

The organisation of elections is a significant and relatively costly undertaking, involving many people. The logistics of registering and drafting voters, counting votes and processing the results is not a trivial thing – as became all too clear in the aftermath of the 2000 US presidential elections – especially in Florida. From this perspective, it is understandable that electoral authorities consider the introduction of information and communication technologies (ICTs) in the voting process. They could, when implemented in the polling station to replace paper and pencil and mechanical voting devices as used in various US states, ease the organisation of elections and speed up and increase the accuracy of the vote count. Some countries are well underway in this process. In Brazil, the Netherlands, and Belgium, for instance, a majority of the voters use computerised voting machines in polling stations. In other countries, such as Ireland and the UK, pilots with this kind of machine were conducted in recent elections. It is a kind of ‘back-office’ modernisation in line with other e-government projects.

Some people, especially politicians and interest groups, want to go a step further than just modernising the electoral back-office. They consider voting to be a government service amenable to electronic service delivery. Adding electronic voting to the list of e-government services therefore seems a natural next step. The voting station should be brought to the voter instead of the other way round. Modernisation is not the only reason why electronic voting is proposed. Many democracies face a decline in voter turnout. In the 2001 General Election in the UK, voter turnout was a mere 59.4%, a drop from 71.4% in 1997. Other countries show similar figures [1].<sup>1</sup> Some feel that innovations in voting procedures, such as the introduction of voting from home, can make voting more convenient and hence improve turnout. Modernisation and increasing voter turnout are, for some countries, such as the UK, Switzerland, and the Netherlands, reasons to consider the implementation of electronic voting.

The prospects of enhancing voter convenience and improving the robustness and flexibility of elections are enticing. Electronic voting at first glance seems simple enough. On closer inspection the implementation of electronic voting turns out to be complex and far reaching. Pratchett’s ‘book’, reviewed here, is an excellent example of research that shows this in elaborate detail.

Before discussing the report, it is useful to refine the notion of electronic voting. Electronic voting is generally seen as any type of voting (or counting) involving electronic means. With respect to the process of voting itself, we may distinguish between electronic machine voting and remote voting by electronic means (RVEM). In the former category, dedicated machines are used for voting in polling stations or other suitable public places (e.g. libraries, shopping centres). The voting machines include

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<sup>1</sup>See also <http://www.idea.int/vt/index.cfm>.

touch screen (or button) systems (as used in the Netherlands), special pc-like devices (Brazil), or kiosks. These systems are generally known as Direct Recording Electronic (DRE) machines. RVEM, on the other hand, concerns voting from places other than selected polling stations, by means of devices that are not specially made for voting. It includes technologies such as interactive digital TV, telephone voting, voting by Short Message Service (SMS) text and Internet voting. Although there may be a difference in the technology used in both types of voting, the most crucial difference is that the ballot is supervised in the former case, whereas it is unsupervised in the case of RVEM.

The traditional voting process takes place in a supervised setting. The election officers present in the traditional polling station are intended to safeguard a number of central principles of voting. Supervision reduces the risk of impersonation and it safeguards the secrecy of the vote. RVEM takes the voting process out of the traditional supervised polling station into the unsupervised home, office or wherever. While this step makes the voting process more convenient, it also threatens the electoral principles, as I will come back to below.

Electronic voting is still in its infancy. Electronic machine voting in polling stations is in use in several countries and under consideration in others. Remote voting is far less developed. Although occasionally claims about binding electronic elections appear in the popular press,<sup>2</sup> the reality is that only few notable trials were held so far. The best known trial is the Arizona Democratic Primary for the 2000 Presidential election. This primary is often touted as a success for electronic voting. Of the 86,907 votes cast (a turnout of a meagre 10.56%), 41% was cast over the internet, 38% by mail, 16% in the traditional way in polling stations and 5% using the Internet based system located in polling stations [3]. Although there was considerable attention in the media to this electronically enhanced election, electronic voting popularity hardly surpassed voting by mail.

During the 2000 US Presidential election, a group of American soldiers overseas were offered the option to cast their votes over the Internet. Of the 128 participants in the pilot, 91 actually registered online and 84 cast their votes online (the cost per vote cast: US\$ 30,952) [2].

In the UK, Bristol and Croydon held referendums in February 2001. The voters could vote by telephone, the Internet, and by postal ballot. A very small percentage of the voters used Internet voting (Bristol: 2.7%, Croydon 3.4%) or telephone voting (Bristol: 3.1%, Croydon 4.9%). The vast majority, over 90%, voted by mail [5]. During the 2002 local council elections, some five experiments were held with various forms of RVEM. It appears RVEM did not raise the turnout in these pilots and was not a very popular option. Interestingly enough in all three cited experiments there have been reports of voters incapable of actually casting their votes, even though they were highly motivated. Electronic voting is not very convenient (yet?).

Judging from research carried out by the University of Twente [4] on electronic voting in 17 European countries, only the UK and Switzerland are actively pursuing RVEM, while in the Netherlands the necessary groundwork (central voter registration) is being laid out. The rest of the countries are either explicitly not engaging in RVEM, Finland, France and Spain for instance, or are very cautious.

What is keeping the electoral authorities from implementing electronic voting? The short answer is there is much at stake and there are many problems to be solved. A longer answer can be found in the excellent report produced by the electronic voting team of De Montfort University in the UK, edited by Lawrence Pratchett. The report was jointly commissioned by some of the key institutions involved in electronic voting in the UK: the Department of Transport, Local Government and regions (DTLR),

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<sup>2</sup>A well known example of a project that never made it is Costa Rica: <http://www.nytimes.com/library/cyber/week/102297costarica.html>.

the Improvement and Development Agency (I&DeA), the Electoral Commission, the Society of Local Authority Chief Executives and Senior managers (SOLACE) and UK online.

The report sets out to understand the context in which RVEM can be successfully introduced and to prepare the ground for prospective implementation. In order to meet these goals, a review of existing experience, an analysis of the technical options, a (focus group) study of public attitudes towards electronic voting, a stakeholder analysis, a study of the legal issues and a study of the organisational issues surrounding implementation by local authorities were carried out. This broad spectrum of topics makes the report and its research annex especially valuable. Much has already been written about the technical aspects of electronic voting, particularly its security vulnerabilities. The report discusses the main topics in sufficient detail. More interesting, in my opinion, are the sections on the expected effect of electronic voting on turnout, the public attitudes towards electronic voting and the legal analysis. Some conclusions from these sections should provide food for thought.

The popular assumption that RVEM both appeals to young voters and will substantially increase voter turnout are not supported in research. Whether people vote depends largely on their sense of civic duty, which appears to come with age and declines over generations. Inconvenience of the current voting process is much less of a reason not to vote (see also [1]). Among Internet users the pattern is the same. Young people, and those in the lower socio-economic groups, are much less inclined to use electronic voting than older people or those from higher socio-economic groups. These findings are not really new, but electronic voting proponents seem unaware of them. Not only is an increased turnout not really to be expected, there is even a risk that traditional voters become alienated. Also interesting is that, although there is popular (and growing) support for electronic voting, there is no strong demand for electronic voting. In our opinion, the driving forces behind electronic voting are politicians, interest groups and hardware and software vendors, much less the general public [4]. The focus groups in the UK study presented strong resistance towards SMS message voting (used in the pilots in Liverpool and Sheffield), because they felt this specific technology trivialised the voting process. ATM voting and National Lottery voting was dismissed as being too public and inconvenient.

The legal analysis shows a very interesting problem that is also acknowledged in some other European countries (Finland, France, see [4]). Elections are to be secret and free from undue influence. Secrecy in the social sense, being able to cast one's vote free from social pressure and undue influence, can in principle not be guaranteed in unsupervised voting. This means there is a risk of family voting, and also of vote buying and selling. The UK, and many other countries, are signatory to a number of international declarations and conventions that require voting to take place in secret (e.g. International Covenant on Civil and Political Rights, article 25; European Convention on Human Rights, Protocol 1, article 3). It is an open question whether these provisions place an obligation on the state to ensure voting to take place in secret or whether these provisions merely require that those who want to cast their ballot in secret have to be provided with the means to do so. Incidentally, this problem also applies to postal ballots. The advice to seek legal opinion of the highest authority seems an important one.

The report is careful not to jump on the 'electronic everything' bandwagon. The potentials of electronic voting are acknowledged, but it is also made clear that a cautious implementation path should be followed to maintain the fundamental features of democracy. A first step is the implementation of DRE voting in polling stations, followed by allowing voters to vote from any polling station rather than just their designated one, which requires an extensive infrastructure. Finally, RVEM could be implemented as an option next to voting in polling stations. In this respect the report arrives at the same conclusions as for instance the Dutch Ministry of the Interior. If the report is taken seriously, as it should be in my opinion, remote electronic voting will be years away. Should we feel sad? I guess not. As one of the focus group members said: "why fix it if it isn't broken?" The problems of contemporary democracies can not be fixed by technology.

**References**

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