

This paper was presented by Phillip Green, Electoral Commissioner, ACT Electoral Commission, to the Australian Political Science Association's Politics of the Future seminar at the Australian National University on 5 October 2000.

The Politics of the Future: The Internet and Democracy in Australia

The Internet and the Electoral Process

Most voters probably think that Australia's electoral authorities still live in the horse-and-buggy age of technology. When Australian voters go to vote at their local school or hall, they see their names crossed off a paper list. They are given a paper ballot and go into a cardboard voting screen, where they mark their preferences with a pencil.

When they have marked their vote, they fold the paper ballot and put it into a cardboard ballot box. That night, on their TV news, they will see footage of electoral officers opening the ballot boxes and beginning to laboriously count votes by hand.

There is a pattern here. The process of marking and counting votes in Australia is paper-based — "hard-copy" based, in computer-age terms. More and more people are starting to ask why, in this computer age, elections seem to be so behind the times. In particular, many people are asking about using the internet for voting in Australian parliamentary elections.

The first answer to the question "why are elections so far behind the times?" is that they are not. What voters don't see at their polling places are the sophisticated uses of technology that have gone into making Australian elections run so smoothly, in world terms.

The list of names used in polling places - the electoral roll - is continuously updated on a national integrated computer network. The lists are printed using computers and laser printers, and they are scanned by computers after polling day to generate lists of non-voters and possible multiple voters.

The staff in the polling places are recruited, trained and paid using computers. The large amount of equipment used in the polling places is kept track of by computers. Postal vote issuing is computerised.

The results of the count of the ballot papers are entered into a computer system on election night, which are then made available to the media for analysis and to the public at tally rooms and "live" on the internet. Many Australian electoral authorities are now using computers to conduct the complex proportional representation scrutinies, such as the Senate count, by entering the handwritten preferences marked by voters into computer systems.

The internet is also used extensively by Australian electoral authorities to provide information and services to their clients. A great deal of information is available on electoral websites, from basic facts and figures to downloadable forms, legislation, research reports, political funding and disclosure returns and election results.

So, behind the scenes, technology is heavily used in Australian elections. The process of marking and counting paper ballots is probably the only part of the election process that has not yet been computerised. There are several reasons why this is so. There are also indications that this process may also succumb to the lure of technology in the near future.

One aspect of elections that tends to get overlooked in Australia is the fact that elections are crucial to the functioning of a democracy. If election results are tainted by cheating, corruption or incompetence, an elected Government may have no legitimacy. Where a Government has no legitimacy, civil disorder is likely.

This isn't an issue in Australia as our elections are run according to a set of principles designed to ensure free and fair elections. These principles include:

- transparency
- security
- professionalism
- accuracy
- secrecy
- timeliness
- accountability
- equity

The use of paper ballots in Australian elections is one of the main ways in which we meet these principles for free and fair elections. Paper ballots are transparent: whenever a ballot is issued or counted, party scrutineers can be present. A paper ballot is watched by witnesses from the moment it is given to a voter to the moment it is counted. Security is provided by special devices printed on the ballot papers, and numbered seals placed on all ballot boxes. Paper ballots are physical things - they can be observed and touched, they can be counted, checked and rechecked. If they are changed or substitutes are made, good control measures can identify the discrepancy and prevent injustices.

Paper ballots are also secret. With no names attached, they guarantee that voters cannot be persecuted for the way they vote, and also help to ensure that votes cannot be bought.

This is not to say that paper ballots are the only way to achieve transparent, secure, free and fair elections. The point I wish to make is that any electronic substitute for paper ballots has to be at least as good at ensuring that these principles are met.

Turning (at last) to our topic - the internet and democracy in Australia, the first question to ask when considering the introduction of internet voting is: "will internet voting satisfy the requirements for a free and fair election?"

There is no doubt that existing technology is capable of implementing an internet voting system for an Australian jurisdiction, such as the ACT's preferential Hare-Clark single transferable vote system. However, it is one thing to say that internet voting is technologically achievable; it is another thing to say that it would be transparent, secure, accurate, secret, timely, accountable and equitable.

The biggest hurdle to internet voting is security. Despite industry claims that internet security can be trusted for internet voting, developments would tend to indicate otherwise. Reports regularly appear in the media of high-security internet sites breached by intruders, credit-card databases stolen, web sites crashed by denial-of-service attacks, and so on.

If an on-line retailer has its database compromised by an intruder, it can reconstruct its data by using backups and asking clients to reenter data. If an on-line election is compromised, it cannot be reconstructed, because you will have no way of knowing which data is correct and which is compromised. You might have to scrap the process and start all over again, a very unpalatable option.

No doubt systems will emerge that will satisfy these concerns and a secure internet election may be possible in future; however I am not satisfied that these systems exist now.

Even if internet computer systems can be made invulnerable to tampering there is another, equally important, aspect of internet security — ensuring that the persons voting are who they say they are. Trials of internet voting in the United States have simply mailed PIN numbers to registered electors. Voters have identified themselves using these PIN numbers and in some cases another number, such as a social security number or date of birth.

Such a system would not be secure in an Australian election. The electoral rolls are always a little out of date as people move before re-enrolling. As a result a mail-out of PIN numbers would not reliably reach the correct electors, nor could the postal system be relied upon to prevent people stealing PIN numbers from letter boxes.

Other identity numbers could be used, but there are no obvious pre-existing identity numbers that would be reliable. Tax-file and drivers licence numbers are routinely made available to other persons. Dates of birth of all electors are supplied in electronic form to registered political parties and members of parliament under the Commonwealth Electoral Act.

People could apply in person for PIN numbers, but such a process would be just as inconvenient as voting at a polling place.

Again, this is a concern that may be fixed in the near future, as official electronic transactions become commonplace and reliable electronic signatures become available. Widespread introduction of smartcards incorporating an electronic identity may also be able to be used for official identification purposes.

My last major concern with internet voting is with secrecy of the vote. I am not thinking of finding out how someone voted after the vote is in the database - a concern which can be fixed easily by good database design - but of someone voting on the internet at home or work, or in an internet café. In a polling place, voters can vote in private shielded by a cardboard screen. On the internet, there is nothing to guarantee a voter secrecy when casting a vote. Worse, a voter could be coerced into voting a particular way, or a voter could sell his or her vote to the highest bidder. Another conceivable scenario is the household that gives all its PIN numbers to the computer literate 12-year-old, who casts the votes for everybody.

For all these reasons the ACT Electoral Commission has decided not to recommend internet voting for the next ACT Legislative Assembly election due on 20 October 2001. However, we do think we can use technology to improve on the traditional paper ballot.

Paper ballots, while they have many virtues, also have problems. In particular, they are slow to count, and counting of hand-written numbers is prone to error. In a complex system such as the Senate system or the ACT's Hare-Clark system, mistakes made in reading a handful of poorly-written numbers on ballot papers can change the outcome in close contests, or lead to costly recounts and delays. Counting paper ballots using complex systems can also take weeks or months to finalise.

Consequently the ACT Electoral Commission has recommended using computers in a limited number of large capacity polling locations to allow electors to vote electronically. This proposal would allow votes to be captured electronically in a secure manner, so that the problems associated with internet voting related to security, identity and secrecy can be addressed by limiting the voting to polling places.

Electronic voting would be limited to a relatively small number of polling places to keep costs down. The cost of providing electronic voting at around 80 polling places on polling day would be prohibitive. The intention behind providing this limited form of electronic voting would be to capture a relatively large slice of votes that would not have to be counted by hand. More importantly, this controlled introduction of electronic voting would be a "proof of concept" trial which could see the ACT move to internet voting at the 2004 election, when the Electoral Commission's concerns about security and voter identity will, it is hoped, be addressed.

So, while we think 2001 would be too soon to introduce internet voting, it is quite likely that internet voting might be a reality by 2004. What might be some of the consequences of a move to internet voting?

A key issue for the electoral world of the future is the fate of the polling place.

Internet voting, by its nature, does not need a polling place venue. If polling place voting can be replaced by the internet, supplemented by postal voting or extended pre-polling at a limited number of locations for those unable to vote electronically, the voting world of the future could be very different. One big difference would be the need to extend the internet polling period to, say, one to three weeks, as it would be impractical to limit internet voting to one day only.

Such a change could have a profound effect on both voting behaviour and political campaigning techniques. At present, political campaigns are geared towards attaining maximum impact on one particular day – polling day, when around 80% of electors vote. Doing away with polling day will change this political dynamic, since it will force political campaigners to reach their peak earlier and then to maintain that momentum for the duration of the polling period. While it is arguable that campaigners should be doing that now – given the large number of pre-poll votes now cast – it is also possible that the party machines will resist such a dramatic change.

It is also possible that removing the political institution of voting at local polling places on polling day will change the dynamics of the voting process. Electors voting in the privacy and isolation of their own home may well vote differently than if they were taking part in the public ritual of polling day. It is already a known and accepted fact that voting patterns of postal and pre-poll voters differ from those of "ordinary" voters on polling day. Whether this would change Australian politics for better or for worse would be difficult to judge.

A significant worry, if we did abolish polling day, is the Australian tendency to leave everything to the last minute. There would be a real risk that a national internet voting system, designed to take 14 million votes over a 3 week period, could be deluged with 12 million votes on the last day. Electoral administrators of the future will need to plan for this national quirk.

In conclusion, while internet voting is technically feasible, and improvements in security should make it less risky in the future, there are many non-technical issues that need to be considered.

- Is it worth the risk? Can we be confident that a parliamentary election can be entrusted to the world wide web?
- Can we be sure that internet voters are who they say they are? Sure, someone can impersonate someone else at a polling place, but on the internet a 10 year old in New York could conceivably impersonate 100 Australian voters in a 2 hour session.
- Is the polling place an essential part of Australian democracy? Would our democracy be lessened if most voters no longer went to a polling place?
- Would internet voting increase opportunities for voter coercion or vote buying?
- Will people want to vote on the internet in large numbers? Will people distrust it?
- Will internet voting cheapen the democratic process? Will it become just another e-commerce transaction, without any special significance?
- Will those without internet access be disadvantaged? Will the electronic divide also create a political divide?
- Do we really need internet voting? We already have very high voter turnout - internet voting is unlikely to raise the participation rate significantly, so why do it?

I think all these issues need to be addressed before we get too enthusiastic about internet voting.

Given all that, internet voting is probably only a matter of time - the march to put all Government services on-line will see to that. However, the risks associated with internet voting will have to be carefully addressed to minimise the possibility of fraud, coercion or system failure. Whether internet voting will change the face of Australian democracy, for better or for worse, we probably won't know until we try it.