

The use of technology in Australian elections

- 4.1 Electronic voting is considered by many to be a necessary, or at least the most logical, next step in ensuring the ongoing accessibility of the electoral process to all Australians.
- 4.2 In particular, electronic voting can be seen as providing an empowering alternative for those who find that more traditional methods of voting are inadequate or pose access, secrecy or time constraints, such as blind or low vision voters, those with mobility or access issues, culturally or linguistically diverse citizens and internationally deployed Defence or Antarctic service personnel.
- 4.3 As noted in Chapter 1, commentary in the wake of the lost ballots in Western Australia (WA) called for an immediate move to electronic voting, specifically the ability to vote online.
- 4.4 Electronic voting, particularly in relation to internet voting, raises a number of complexities and concerns. One real concern is maintaining a secret ballot free of coercion – a foundation principle of Australian democracy since its first use in Victoria in 1856, and a central element of every federal election since 1901.¹
- 4.5 The Australian Government Information Management Office notes that:

Representative democracy depends on large numbers of people electing small numbers of people to exercise powers that the constitution accords to elected representatives. Voting needs to be conducted in a context free of undue influence, or at least of

1 Australian Electoral Commission (AEC), *Australia's major electoral developments timeline: 1788-1900*, accessed 6 November 2014, <aec.gov.au/Elections/Australian_Electoral_History/reform.htm>.

coercion and a climate of fear. Voting systems must therefore be designed to protect every voter's choices against disclosure. The integrity of a voting system is also critical to public confidence. It must resist manipulation, and ensure that the vote count reflects the votes actually cast. The system's security and integrity must be both demonstrated in advance, and audited in arrears. Achieving these objectives is very challenging.²

- 4.6 The comprehensive introduction of electronic voting would constitute a 'fundamental reshaping of Australia's electoral processes'.³ While many consider a shift to electronic voting to be inevitable, it is crucial that questions are asked about the impact such moves will have on our democratic system.
- 4.7 This chapter explores the arguments in support of proposals to introduce electronic voting and the costs, safety and desirability of these proposals.

Arguments in support of electronic voting

- 4.8 The three main perceived benefits of introducing universal electronic voting in Australia relate to:
- providing a secret ballot for blind and low vision voters;
 - more easily delivering remote voting services; and
 - securely handling ballots.

Blind and low vision voters

- 4.9 At present, blind or low vision voters have an option of voting via the assisted telephone voting system as outlined in Chapter 3.
- 4.10 Despite commending the Australian Electoral Commission (AEC) for its delivery of this option, Vision Australia argued that many potential users have chosen not to use this system because:
- although anonymous, the vote is not secret;
 - below the line Senate voting was extremely difficult to do over the phone;
 - the call centre implies a lack of independence by the reliance on a third party; and

2 Australian Government Information Management Office, *Future Challenges for E-Government*, p. 49, accessed 15 August 2014, <finance.gov.au/publications/future-challenges-for-egovernment/docs/AGIMO-FC-no3_.pdf>.

3 Tom Rogers, a/g Electoral Commissioner, *Transcript of Evidence*, 31 July 2014, Canberra, p. 2.

- there is no way to verify that voting intention has been lodged correctly.⁴
- 4.11 Vision Australia and Blind Citizens Australia argued for an electronic voting system that is ‘100 per cent secret, independent and verifiable’.⁵
- 4.12 Both organisations commended the New South Wales (NSW) Electoral Commission for providing the iVote system (also discussed in Chapter 3), and recommended its use in federal elections.
- 4.13 Blind Citizens Australia further argued that electronic voting options should be extended to all voters with a disability due to the difficulty faced by some in attending an accessible polling place.⁶
- 4.14 Vision Australia also argued that providing a more accessible voting option at polling places for those who are blind or who have low vision would provide greater engagement in the electoral system:
- Some clients also reported that they took their children to the polling centre on the 2013 election day so that the family as a whole could discuss the election process and how it was conducted, and also so that their children could learn that having a disability does not preclude community participation. People who are blind or have low vision must have the option to engage with the rest of the community in shared activities. It is therefore important that some voting options are made available at polling places on election day even if accessible options are provided that allow people to cast pre-poll votes and to vote from home. Equally, we feel that partners and spouses of voters who are blind or have low vision should be able to take up an accessible voting option so that family cohesion and activity is maintained.⁷
- 4.15 The extension of a secret, voter-verifiable voting option to people who are blind or who have low vision is one of the most compelling arguments for the introduction of limited electronic voting. No person should be disenfranchised because of a disability, and the Australian Government also has an obligation to make the electoral system as accessible as possible to ensure a secret ballot.
- 4.16 This obligation not only relates to equal access and democratic participation on a domestic level, but also relates to blind or low vision voters exercising their internationally codified right to equal access to

4 Vision Australia, *Submission 141*, pp. 6-7.

5 Blind Citizens Australia, *Submission 97*, p. [3]. Michael Simpson, General Manager Accessible Information, Vision Australia, *Transcript of Evidence*, 15 April 2014, Melbourne, p. 48.

6 Blind Citizens Australia, *Submission 97*, p. [6].

7 Vision Australia, *Submission 141*, p. 10.

democratic procedure and a secret vote as outlined in Article 29 of the United Nations Convention on the Rights of Persons with Disabilities.⁸

Remote voting services

- 4.17 A particular issue faced by Australian electoral officials in all jurisdictions is the vast geographical spread of the population and the associated challenges that come with staffing and equipping remote locations.
- 4.18 Given the existing circumstances of voting in places like Antarctica which already have an inherent risk to the secrecy and security of the ballot, there is, therefore, an argument for the limited provision of electronic voting in these circumstances to improve access to voting. That is, the relative risk would not be increased though a limited provision of electronic voting given the existing circumstances.

Logistics

- 4.19 Bodies involved in the electoral process have reported difficulties in providing and receiving voting and ballot materials overseas due to transit delays and tight legislative timelines. This has the potential to become even more difficult as postal services decrease.⁹
- 4.20 In addition to better geographic coverage, internet voting also potentially provides significant scope for cost savings because it allows global reach with very little permanent infrastructure outlay or logistical overheads. There are no shipment or postal costs, and also no delays in sending or receiving voting material.
- 4.21 Australia Post submitted in support of electronic voting noting that internet voting could negate:
- time lags due to physical delivery of postal votes;
 - unnecessary costs associated with the higher number of applications versus actual postal voters;
 - delays in knowing the result of an election due to the counting of postal votes; and
 - concerns over the integrity of the vote where there might be concerns that some voters have voted under the influence of others.¹⁰
- 4.22 Despite the availability of postal voting, the AEC also commits significant resources to the provision of mobile polling teams for both urban and
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8 United Nations Convention on the Rights of Persons with Disabilities, accessed 4 September 2014, <un.org/disabilities/convention/conventionfull.shtml>.

9 Ahmed Fahour, Managing Director, Australia Post, Speech, *Australia Post at a turning point*, 14 August 2014, accessed 7 September 2014, <auspost.com.au/about-us/aicc-speech.html>.

10 Australia Post, *Submission 174*, p. 12.

- remote locations.¹¹ This is a significant cost that advocates point out could be ameliorated if internet voting were implemented.
- 4.23 It is further argued that internet voting also has the potential for savings through reductions in the duration of temporary employment of election officials and reduced costs in the production and distribution of ballot papers – particularly to overseas posts and deployed Defence personnel. Arguably, the unit cost of each vote cast via internet voting is likely to be substantially lower than the unit cost of ordinary or postal votes (which includes postage, printing and preliminary scrutiny costs).¹²
- 4.24 While internet voting has the potential to offer these cost savings, this does not make internet voting desirable when considering the security and sanctity of the ballot, as discussed further below.
- 4.25 Some participants in the inquiry suggested using third party or other Australian Government providers in order to utilise existing electronic networks and identity mechanisms.¹³ While utilising existing networks could provide efficiencies or potential savings, the underlying but crucial issue of trust in the system would likely be put at risk if voting was entrusted to entities not subject to the accountability requirements of the Electoral Act.
- 4.26 It is unlikely that internet voting would completely negate the need to provide a paper ballot option, which could mean an effective doubling of service provision. It is also doubtful that internet voting would negate the need for the AEC to have a presence in remote areas.

Secure handling of ballots

- 4.27 It has been widely argued in the media and throughout this inquiry that electronic voting has the potential to mitigate the failings that led to the events that occurred in WA during the 2013 federal election. One argument advanced was that a ‘large scale paper voting system is inherently insecure’:

Many links in the paper vote processing chain, including movement and storage of ballots, rely on the integrity and competence of tiny groups of people – sometimes just one person.¹⁴

11 AEC, *Submission 20.3*, p. 54.

12 Electoral Council of Australia and New Zealand (ECANZ), *Internet voting in Australian election systems*, 10 September 2013, p. 18.

13 Australia Post, *Submission 174* and Department of Communications, *Submission 118*.

14 Big Pulse, *Submission 178*, pp. [1-2]. See also Cathy McGowan MP, *Submission 167*, Clive Palmer MP, *Submission 92*.

- 4.28 However, the argument that the lost WA ballot papers are a reason to move to electronic voting does not appear to be supported by evidence that the inherent vulnerabilities of a paper-based voting system are any greater than those of an electronic system.
- 4.29 Indeed, evidence to the inquiry indicates a similar ‘lost votes’ error rate with an electronic system without the advantage of a verifiable paper trail for remaining votes:
- Paper processes are not perfectly secure or reliable, but neither are computers. For example, the lost vote rate in the 2013 West Australian Senate race (1370 out of 1,348,797, slightly over 0.1%) was about the same as the demonstrated vote misrecording rate in Australia’s largest Internet voting trial, the NSW iVote project (43 misrecorded electronic votes out of 46,864, slightly under 0.1%) (PWC, 2011). The WA Senate incident received much more attention because it impacted an election outcome, not because the system was inherently much less reliable. Even more importantly, the paper-based Senate process retained paper evidence of the 99.9% of votes that weren’t lost; the iVote system produced no meaningful evidence of the correctness of any of the votes. Reliability, privacy and verifiability must be designed into electronic voting processes as carefully as they are designed into our existing paper-based processes.¹⁵
- 4.30 Further, the ‘weak point’ in a paper-based voting system, resulting in a lost box of ballot papers, may lead to an unverifiable close result (such as in WA): but one ‘weak point’ in a wide-ranging electronic voting system has the potential to expose an entire election’s vote data to manipulation, corruption or attack, undermining the parliamentary system supported by the electoral process.¹⁶
- 4.31 Nonetheless, certain elements of electronic support for voting, in particular the digitisation and capture of ballot papers, have the potential to provide a solution to the events that occurred during the 2013 federal election.

15 Rajeev Goré and Vanessa Teague, *Submission 114*, pp. 6-7.

16 L Tung, ‘10 ways e-voting could save or destroy democracy’, *The Sydney Morning Herald*, 25 April 2014, accessed 4 September 2014, <smh.com.au/it-pro/government-it/10-ways-evoting-could-save-or-destroy-democracy-20140425-zqxni.html>.

Safety, cost and desirability

- 4.32 The main concerns with electronic voting relate to:
- safety, including the security, integrity and transparency of the system;
 - cost of delivering a safe system;
 - desirability of electronic voting, including:
 - ⇒ the capacity to maintain the secrecy of the vote; and
 - ⇒ the effect on voter behaviour and confidence in the electoral system.

Safety of electronic voting

- 4.33 The safety of electronic voting systems is often simplified into the physical security of a voter, the vote cast and the safeguards attached to data transmission or storage of the vote once cast.
- 4.34 However, there are more complex interconnections between the security of electronic voting (as evidenced in the criticisms of international systems in Chapter 3), the integrity that a voter perceives in the system in which they are voting (both through tangible security measures and the psychological value that a voter places on the method used to cast their vote), and the transparency and visibility that must accompany any voting system, to ensure that all stakeholders can believe the veracity of the outcome.
- 4.35 Ultimately, the voter's perception of the voting process as a whole, and their acceptance of the process as 'safe', will dictate the success of any electoral system and the confidence voters have in the resultant government. The question that remains is: is this safety undermined in the current Australian system and can it be addressed wholly and satisfactorily by electronic voting, or will electronic voting introduce new and greater safety concerns?

Security and integrity

- 4.36 Public confidence in the security and integrity of any voting system is integral to ensuring confidence in election outcomes. The international examples outlined earlier in this report highlight the fact that, even though the technology currently exists to provide for electronic voting, the integrity and security of such systems can be vulnerable. In the case of Estonia's remote internet voting system, an independent analysis recommended discontinuation of the system due to fundamental security and data integrity flaws.

4.37 Proponents of electronic voting have cited the widespread use of secure online banking. But these systems, along with government systems, are not impervious to attack:

Electronic security breaches on important government and financial infrastructure are common. For example, last month an attack on a government website in the US state of Oregon caused “elections and business databases to go offline”. The attack was described as “an orchestrated intrusion from a foreign entity” (Zheng, 2014). In 2012 a sophisticated Trojan stole € 36 million from European Internet banking systems (Kalige & Burkey, 2012). Even more concerning are stories of systematic compromise of Internet sites and infrastructure by the Chinese People’s Liberation Army (Mandiant, 2013) and the US NSA. Last week it was revealed that half a billion dollars’ worth of bitcoins had been stolen from one of the world’s largest bitcoin exchanges (Sydney Morning Herald, 2014). Electronic voting systems would not be immune from such attacks. Indeed, Internet voting is harder to secure (for privacy reasons) and has higher stakes than most other Internet applications (Jefferson).¹⁷

4.38 This supports the argument that even if internet voting was completely secure at a given point in time, this would be no guarantee of future security as it is difficult to anticipate the future capability of those wishing to mount attacks.

4.39 Internet voting is considered by experts to be the most risky and difficult mode of electronic voting to implement. Even if it were to be demonstrated that voting over the internet could remain secret, in the future there is no guarantee that, given the pace of technological advancement, a person’s past voting record could not be observed. With paper ballots the secrecy of the vote is guaranteed on polling day and forever thereafter.

4.40 Professor Rajeev Goré, of the Research School of Computer Science at the Australian National University was blunt in his assessment:

First of all ... internet voting is just too dangerous. Don't do it. It is as simple as that.¹⁸

4.41 It is important to recognise the distinctiveness of voting as compared to other activities, transactions or services conducted over the internet. Almost every information and communication technology (ICT) application is built in a way that allows for verification of its proper

17 Rajeev Goré and Vanessa Teague, *Submission 114*, p. 5.

18 R Goré, *Transcript of Evidence*, 26 March 2014, Canberra, p. 2.

functioning by observing the application's outputs.¹⁹ This verification process is crucial to gaining user confidence in the system. For example, online banking allows the user to log in, see up-to-date information relating to their account and monitor their transactions.

4.42 This type of verification process presents a problem for internet voting, because our democratic system seeks to maintain the individual's right to the secrecy of their vote. This means separating the identity of the voter from the vote cast, which inevitably makes verification – the hallmark of all other trusted ICT technologies – difficult. Breaking the link between voter and vote means that the examination of an internet voting system after an election cannot prove directly that every vote was indeed counted and tallied as cast.²⁰

4.43 In relation to isolated static electronic voting, the Australian Capital Territory (ACT) electronic voting system is an example of how physical security can be maintained by isolating terminals and ensuring they have no connection to any other network, therefore reducing the avenues for compromising data. The ACT Electoral Commissioner outlined the security basis for the ACT system:

we have decided to ... opt for something that is entirely self-contained and entirely wired within the polling place. So it uses a computer that is a server in the polling place that is in a locked cabinet. The voting clients are all connected by ethernet cables, and one of the conscious decisions we made was to make it very difficult to be able to remotely get into the system. So you would have to actually physically get into the server in a locked box in a locked polling place in order to have any means of getting into the system itself.²¹

4.44 This form of physical security isolation is a strong attempt at controlling potential manipulation, but many people have access to the machines at different stages during an election, so the opportunity for the manipulation of machinery, firmware or software still exists.²² This security is also dependent on the provision of physical voting terminals, which would be a cost-prohibitive method of introducing electronic voting

19 International Institute for Democracy and Electoral Assistance (International IDEA), December 2011, *Introducing Electronic Voting: Essential Considerations*, p. 6, accessed 20 May 2014, <idea.int/publications/introducing-electronic-voting/upload/pp_e-voting.pdf>.

20 International IDEA, December 2011, *Introducing Electronic Voting: Essential Considerations*, p. 7, accessed 20 May 2014, <idea.int/publications/introducing-electronic-voting/upload/pp_e-voting.pdf>.

21 Phillip Green, ACT Electoral Commissioner, *Transcript of Evidence*, 29 July 2014, Canberra, p. 2.

22 Rajeev Goré and Vanessa Teague, *Submission 114*, p. 12.

across Australia for federal elections. Even in a jurisdiction as small as the ACT, universal implementation of electronic voting is constrained by the cost of providing access at every polling booth.

- 4.45 One response to potential issues with integrity and security in relation to isolated static electronic voting is to introduce accompanying paper trails. The systems most commonly used internationally rely on paper trails to mitigate public distrust and verification problems.
- 4.46 As noted in Chapter 3, in 2002, for example, United States (US) electoral authorities made a large investment in e-voting machines.²³ This became problematic, however, due to the rapid adoption of electronic-only systems that lacked any manual verification, and by 2008 many states required paper trails to ensure the veracity of votes cast and greater transparency in the system, with the result that many of the machines originally purchased were rendered obsolete. As of 2010, 40 states had moved towards requiring paper trails.²⁴
- 4.47 The introduction of paper trails makes systems more complex and expensive, which is not ideal. In addition, implementing paper trails to facilitate the building and maintenance of trust in the system (for example with proper audit processes and mandatory random sample recounts) could be said to somewhat defeat the purpose of moving away from paper ballots.

Transparency

- 4.48 Any electronic voting system must be fully open to scrutiny to ensure confidence that votes are being recorded and tallied correctly. With a paper ballot system, all handling of ballot papers from printing to final storage can be observed. This becomes more difficult with an electronic system because a person cannot easily observe the computer's processes.
- 4.49 Permitting public scrutiny of software source code is one way of ensuring transparency in an electronic voting system:
- Computerised voting systems, including their source code, all documentation and reports, and the associated physical security procedures should be available to e-voting and security experts and the public. Source code availability should be enhanced by enough support for compiling, running and understanding the

23 This was predominantly in reaction to the controversy surrounding the 2000 presidential election and was facilitated by the federal *Help America Vote Act* (2002).

24 International IDEA, December 2011, *Introducing Electronic Voting: Essential Considerations*, p. 25, accessed 20 May 2014, <idea.int/publications/introducing-electronic-voting/upload/pp_e-voting.pdf>.

system. This level of transparency should be an enforced condition of the initial tender and contract ...

Having the open source available to the community for technical review by a range of interested experts will increase transparency and trustworthiness of the electronic voting and counting process, because it facilitates an open and scientifically informed discussion about the merits of a proposed system.²⁵

- 4.50 While such access to source code may enable expert review and discussion, it would also open a system to scrutiny by entities with malicious intent, requiring a balance to be struck between security and transparency.
- 4.51 Ownership of the technology or intellectual property is also relevant here. It may only be possible to ensure public access and scrutiny if the technology or intellectual property is not owned by a private corporation that has an interest in protecting proprietary software. There is also the potential for commercial or political influence on a supplier to undermine transparency and accountability. In terms of electronic voting in Australia, these types of factors would suggest the desirability of the AEC developing its own system.

Cost of electronic voting systems

- 4.52 An important factor to consider in the delivery of elections is whether the cost and cost-effectiveness of electronic voting is a significant barrier to its implementation.
- 4.53 Quantifying the potential cost of electronic voting in the Australian context is very difficult, given the limited history of electronic voting delivery at a federal level in the past. Using a 'cost per vote' measure, the current trials of electronic voting at a federal level are not cost-effective.
- 4.54 As outlined in Chapter 3, the 2007 trials of electronic voting for deployed Australian Defence Force (ADF) personnel and voters with Blind or Low Vision had considerable costs attached:
- \$1 159 per vote for ADF votes; and
 - \$2 597 per vote for Blind or Low Vision votes.²⁶
- 4.55 The total cost of the 2013 election, excluding the WA re-run Senate election and the cost of public funding, was \$132 906 303.²⁷ Based on the House of

25 Rajeev Goré and Vanessa Teague, *Submission 114*, p. 5.

26 Joint Standing Committee on Electoral Matters, March 2009, *Report on the 2007 federal election electronic voting trials*, pp. 25, 50.

27 AEC, *Submission 20.3*, p. 131.

Representatives voter turnout of 13 726 070,²⁸ this equates to roughly \$9.68 per vote.

- 4.56 Universal implementation of static electronic voting is simply not cost effective. Even where an investment has been made in static voting, scalability does not reduce costs. Despite the small electoral area within the ACT, the deployment of electronic voting to all polling places is not proposed simply due to costs:

the deployment of the required hardware to polling places for a single day poses logistical challenges and is of questionable cost effectiveness.²⁹

- 4.57 As discussed in Chapter 3, the development of the universal static electronic voting system in Ireland cost over €54 million (approximately A\$78 million). The up-front purchase of the machines is not the only cost, but the total cost of ownership, including review, software upgrade, maintenance and replacement is significant. These ongoing costs contributed to Ireland abandoning electronic voting.³⁰

- 4.58 Other electronically-assisted voting (non-static) is more cost-effective. The NSW iVote system (outlined in Chapter 3) used in the 2011 state election had an average cost per vote cast of \$74 compared to an average cost of all votes cast of \$8. This cost per vote reduces significantly as the system is scaled up to 200 000 voters using the system, with an estimated average cost per vote being approximately \$24.³¹

- 4.59 The capacity to utilise this system in local government elections also further reduces the cost and is considerably more cost effective for delivery of services to blind and low vision voters than previous methods used (braille ballot papers).³²

- 4.60 Nonetheless, there are questions about the security of the NSW iVote system and the capacity for its use in federal elections. In addition, the

28 AEC, results 2013 federal election, House of Representatives turnout by state, accessed 31 October 2014, <results.aec.gov.au/17496/Website/HouseTurnoutByState-17496.htm>.

29 ACT Electoral Commission, June 2005, *Electronic voting and counting system: review 2004*, p.4, accessed 14 July 2014, <elections.act.gov.au/__data/assets/pdf_file/0006/1797/2004electionreviewcomputervoting.pdf>.

30 Department of Environment, Community and Local Government (Ireland), Media Release, *Minister Gormley announces Government decision to end electronic voting and counting project*, 23 April 2009, accessed 3 October 2014, <environ.ie/en/LocalGovernment/Voting/News/MainBody,20056,en.htm>.

31 Allen Consulting Group, *Evaluation of technology assisted voting provided at the New South Wales State General Election March 2011*, 11 July 2011, pp. 40-44.

32 Allen Consulting Group, 11 July 2011, *Evaluation of technology assisted voting provided at the New South Wales State General Election March 2011*, p. 44.

experience in international jurisdictions outlined in the previous chapter also makes clear that any electronic system needs to have an associated verifiable paper trail. This not only duplicates the voting process, but increases the cost of electronic voting systems to the point that they are not cost-effective.³³

Desirability of electronic voting systems

Secrecy of the vote

- 4.61 A significant concern in relation to electronic voting is the manner in which such technology may undermine the secret ballot, particularly in relation to internet voting.
- 4.62 The Australian Constitution requires that both houses of Parliament be elected 'directly chosen by the people' and the secrecy of the ballot was enshrined in the first Electoral Act of 1902, and remains in section 233 of the *Commonwealth Electoral Act 1918*.
- 4.63 In addition, the secret ballot is a fundamental principle of a democratic society that is enshrined in the Universal Declaration on Human Rights (Article 21(3)):
- The will of the people shall be the basis of the authority of government; this will shall be expressed in periodic and genuine elections which shall be by universal and equal suffrage and shall be held by secret vote or by equivalent free voting procedures.³⁴
- 4.64 This right, and the protection of it, also underpins electoral administration bodies such as the AEC:
- Traditionally, the one real role of an electoral administration body like the AEC is to provide a safe, secure place where individuals can go and cast a vote without anyone looking over their shoulder or coercing them in casting that vote.³⁵
- 4.65 Internet voting removes the guarantee of a secret ballot, exposing voters to a greater risk of influence. This influence may not be malicious (it may be family based, for example a grandchild voting on behalf of a grandparent uncomfortable with technology and affecting their voting intentions), but nonetheless, it diminishes the secrecy of the ballot:

33 International IDEA, December 2011, *Introducing electronic voting: essential considerations*, p. 18, accessed 20 May 2014, <idea.int/publications/introducing-electronic-voting/upload/pp_e-voting.pdf>.

34 The *Universal Declaration of Human Rights*, viewable at <un.org/en/documents/udhr/index.shtml#a21>

35 Tom Rogers, a/g Electoral Commissioner, *Transcript of Evidence*, 31 July 2014, Canberra, pp. 12-13.

The argument basically is that people value their civic role, their civic duty. That is very important for people and they take it very seriously. When they are voting in a public place they will honour their civic duty and they will vote according to their true preference. However, the reality is that for a very large proportion of the population their civic duty comes second to their familial duty, their duty to their family. If they have to choose, they will put their duty as a spouse, a father, a son, a mother or a daughter above their civic duty. That is not something on which I particularly have a view. I see it as a reality. I think it is unrealistic to expect people to put their civic duty above their duty within the family.³⁶

- 4.66 In some US states that allow internet voting for members of the armed forces deployed overseas, the risk of compromise to the secret ballot is so high that:

some of the 30 or so states that allow Internet voting for service members now require them to sign a form saying they understand that by using the system, their ballot may not be secret.³⁷

- 4.67 The State of Alaska warns voters returning their ballot through its 'Secure Online Voting Solution' that:

When returning the ballot through the secure online voting solution, your [sic] are voluntarily waving [sic] your right to a secret ballot and are assuming the risk that a faulty transmission may occur.³⁸

- 4.68 In addition, as noted in Chapter 3 and above, online voting systems have been found to be the most risky and vulnerable, raising questions about the secrecy and veracity of the vote. Indeed, it has been reported in the US that:

The National Institute of Standards and Technology, at the direction of Congress, has conducted extensive research into Internet voting in the last decade and published several reports that outline all the ways votes sent over the Internet can be manipulated without detection. After warning that there are many possible attacks that could have an undiscovered large-scale

36 Prof Sarah Birch, *Private Briefing*, 29 July 2014, Canberra.

37 E Weise, 'Internet voting not ready for prime time', *USA Today*, 3 November 2014, accessed 6 November 2014, <usatoday.com/story/tech/2014/11/02/internet-voting-not-secure/18269285/>.

38 State of Alaska, Division of Elections, *Absentee voting by electronic transmission*, accessed 6 November 2014, <elections.alaska.gov/vi_bb_by_fax.php>.

impact, the institute concluded that secure Internet voting is not yet achievable.³⁹

- 4.69 The only way to guarantee a secret electronic vote is through the use of isolated static electronic voting machines. These have massive upfront and ongoing maintenance costs and evidence from international jurisdictions, particularly the US, indicates that they need to be accompanied with a verifiable paper trail – something which somewhat defeats the purpose by merely replacing pencils with touchscreens or buttons.

Effect on voting culture, voter behaviour and confidence in the electoral system

Voting culture and voter behaviour

- 4.70 Proponents of expanding electronic voting options can underestimate the value that many members of society place on the act of voting and the historical significance that this democratic process embodies.
- 4.71 The Parliamentary Library has captured this concept well:
- In representative democracies, voting for members of legislatures is a foundational activity, and the methods, traditions and dynamics that characterise that voting act are usually a distinctive – and often cherished – element of the political culture that exists in the country or jurisdiction concerned.⁴⁰
- 4.72 The 2001 joint report of the AEC and the Victorian Electoral Commission on electronic voting identified issues relating to electronic voting that extend beyond its technological merits:
- The technical barriers to wide spread implementation of e-voting are considerable. There are also the democratic issues of secrecy of the elector's vote, equal access to e-voting by voters and public confidence in the system.⁴¹
- 4.73 The AEC has previously noted the importance of garnering public support and maintaining the strong voting culture in Australia in relation to introducing electronic voting:
- There is no evidence to suggest that there is any political or community support for changing the voting systems presently used in Australia. This is an important point to appreciate when

39 B Simons, 'Online voting rife with hazards', *USA Today*, 4 November 2014, accessed 12 November 2014, <usatoday.com/story/opinion/2014/11/04/barbara-simons-online-voting-problems/18461679/>.

40 B Holmes, Parliamentary Library, *e-voting: the promise and the practice*, 15 October 2012, p. 1.

41 Victorian Electoral Commission, September 2002, *eVolution no revolution: Electronic voting status report 2*, p. 19, accessed 13 November 2014, <vec.vic.gov.au/files/RP-EvolutionNotRevolution.pdf>.

considering the possibility of introducing any form of electronic voting in this country. In our view, the introduction of any form of electronic voting must support the present voting systems and voting culture.⁴²

4.74 While the voting culture using paper ballots in polling booths is strong in Australia, the events of the 2013 election have affected this support, and, as noted above, electronic voting has been suggested as a solution. Electronic voting is also considered by many to be the next step in ensuring the ongoing accessibility of the electoral process.

4.75 There is emerging research which suggests that electronic voting may have a detrimental effect on voting behaviour.⁴³ Research also indicates that the element of ritual involved in the act of voting at a public polling place plays a role in sustaining people's sense of shared civic engagement and confidence in their democracy. In this context, a shift to electronic voting may downgrade the social significance of voting:

Not only will e-voting fail to reverse electoral apathy, it will actually lead us in the wrong direction. Voting is more than the simple act of indicating one's political preference. It's a vital public ritual that increases social solidarity and binds citizens together. ... So, if everybody will be able to e-vote, and if e-voting is essentially fraudproof, what could be wrong with it? The problem is that e-voting will transform voting, an inherently public activity, into a private one. Even with the secret ballot, the mechanics of voting are still explicitly designed to remind us that, in principle, we are all equal members of a political community. On Election Day, we must leave our homes and offices, travel to a polling place, and physically mingle with people who are plainly our equals that day, no matter what other differences we have. Voting, as we currently do it, is a civic ritual, however brief it may be.

This ritual is valuable not just because it makes us feel good about ourselves. It also gets us to think about public issues differently than we would do otherwise. While it's generally assumed that people vote on the basis of their pocketbooks, surveys show that most people actually focus on things such as the national good, not their narrow self-interests, when they vote. One possible reason

42 AEC, March 2001, *Electronic voting and electronic counting of votes*, accessed 13 November 2014, <aec.gov.au/Voting/report.htm>.

43 S Birch. 'The Social Dimension of Electronic Voting: How the Use of Technology in the Voting Process Can Alter the Meaning of Elections', p. 3 *Presentation to the Annual Conference Association of European Electoral Officials*, London, 23-25 October 2003, accessed 13 November 2014, <aceeeo.org/images/file/London%20Conference/sarah_birch.pdf>.

for this: when people are obliged to leave their homes and enter the public sphere, as they do when the vote, they tend to become more public minded.

E-voting, then, might aptly be called “voting alone”. If our era is a time of citizen disengagement, of staring at screens and passing in and out of our gated communities or apartment fortresses as we wave to private security personnel, then e-voting from home is all too congruent with the spirit of the age. Far from enriching democracy, e-voting pushes us towards political anomie.⁴⁴

- 4.76 Professor Graeme Orr of the University of Queensland also cautioned against the widespread adoption of electronic voting because of the wider democratic participation opportunities that election day affords:

Electronic voting, I hope, is not on the cards for reasons of cost, practicality, equity and ritual. Internet voting is hackable and would require a ‘reinvent the wheel’ paper trail. Computerised voting at polling stations would involve a very large outlay; be less fail-safe than paper ballots in some ways, given how our elections depend on thousands of part-time citizen employees; and computerised voting and polling stations may be impossible to deliver equally in many rural areas. In any event, paper ballots allow genuine and meaningful participation by thousands of citizens as scrutineers. It also lets those who want to protest in a compulsory system to scribble on the ballot as a form of participation, which is important.⁴⁵

Confidence in the electoral system

- 4.77 As the 2013 election has highlighted, when errors occur in the voting system, it undermines public confidence not only in the electoral process, but in election outcomes. Errors, problems or irregularities in an electoral process will always have the effect of undermining public confidence, whether the voting system is paper-based or electronic:

But I think the underlying issue with both of those is that when something goes wrong with any type of voting system – it does not have to be electronic voting – it undermines confidence in the electoral process. It can take a very long time for confidence to recover. We saw this in Florida, in the United States, after the 2000 elections where surveys showed that people still had perceptions

44 R Valelly, ‘Voting Alone: The case against virtual ballot boxes’, *The New Republic*, 13 & 20 September 1999, quoted in ECANZ, *Internet voting in Australian Electoral Systems*, 10 September 2013, pp. 63-64.

45 Graeme Orr, *Transcript of Evidence*, 8 May 2014, Brisbane, p. 18.

that there were many problems with the elections there. After postal voting on demand was introduced in the UK in the 1990s we found similar problems with postal vote fraud that created a perception of poor-quality elections in the UK. Only about two-thirds of British people think the elections are fair and that is a dramatic decline compared to previous rates.⁴⁶

- 4.78 Some of the international examples of electronic voting systems cited in Chapter 3, together with security, integrity and transparency concerns more generally, are highly relevant in this context and point towards the serious diminution in public confidence that could result from a failure or irregularity in an electronic voting system, particularly if the system was new. In this scenario public confidence, both in the voting system and the electoral authority, could be destabilised well into the future, and would be very difficult to regain.⁴⁷ The issue of the potential impact of electronic voting is also relative to the amount of trust in the electoral system, and the resultant scepticism that the voting public may have.
- 4.79 Even technology commentators recognise the detrimental impact that electronic voting may have on public confidence in the electoral system:

Democratic legitimacy doesn't just require that votes be counted fairly and accurately, it also requires that they be widely accepted as being fair and accurate. To achieve that level of legitimacy, it's important that every voter be able to understand how the voting process works, so they can have confidence that it will work correctly.

The transparency of paper ballots is a huge advantage here. Everyone understands how paper works, and paper ballots can always be counted by hand if people suspect that counting machines have malfunctioned.

...

Of course, paper elections can be stolen too. But the techniques for stealing elections are more visible and labor-intensive. Generally, to steal a paper election you need to recruit co-conspirators to visit various polling places and modify or replace hundreds of thousands of ballots. For a large election, that requires a sizable operation that's likely to be detected.

46 Sarah Birch, *Transcript of evidence*, 29 July 2014, Canberra, p. 19.

47 International IDEA, December 2011, *Introducing Electronic Voting: Essential Considerations*, p. 6, accessed 20 May 2014, <idea.int/publications/introducing-electronic-voting/upload/pp_e-voting.pdf>.

In contrast, an electronic election allows someone to steal votes silently and invisibly by tampering with a voting machine before the election begins. A single hacker or corrupt insider might have an opportunity to tamper with dozens of machines – especially because some voting machines have been shown to be vulnerable to voting machine viruses that spread from one voting machine to another without any direct human action.⁴⁸

Committee comment

- 4.80 It is important that in embracing technology, the secret ballot is not undermined, voter behaviour is not negatively impacted, and confidence in the electoral process and electoral outcomes is not damaged. At a time of debate about community disengagement with political processes, it would be greatly concerning if the method of voting – the one act of participatory democracy that all Australian citizens will definitely engage in – was to further disengage the community from these processes.
- 4.81 The safety of the system – security, integrity and transparency of the voting process – is critical and must be assured in any electronic system. It is also important that the method of voting is cost-effective. The entire electoral process is undermined if the costs are prohibitively high and becomes subject to ridicule, as occurred in Ireland.
- 4.82 The Committee is of the view that a secure and robust electronic support system is an immediate future goal for democratic practice in Australia.
- 4.83 There is also merit in continued work towards providing a means for a completely secret electronic vote for blind and low vision voters. This should provide a useful platform from which to explore the further development of electronic voting for federal elections.

48 T Lee, 'Hackers probably didn't steal votes today but we'll never know for sure', *Vox*, 4 November 2014, accessed 12 November 2014, <vox.com/2014/11/4/7157807/the-problem-with-e-voting-machines>.

- 4.84 The Committee considers that, to further facilitate access to voting, the current assisted telephone voting system in place for blind and low vision voters should be extended to others with disabilities who would benefit from access to this system.

Recommendation 7

The Committee recommends that the *Commonwealth Electoral Act 1918* and the *Referendum (Machinery Provisions) Act 1984* be amended to allow for expansion of the current assisted telephone voting system to include people with assessed mobility or access issues for the next federal election.

- 4.85 The Committee makes a number of recommendations in Chapter 2 regarding developing electronic support systems for managing the electoral roll and vote count. The Committee is of the opinion that it is more important to direct resources towards developing these electronic support systems than wider electronic, specifically internet, voting options.
- 4.86 The cost of static electronic voting has been proven to be onerous – both in terms of initial investment and ongoing maintenance. While internet voting does not have the same costly associated architecture, its implementation would not negate the need to also provide a widely accessible paper voting alternative for those who do not wish to vote electronically.
- 4.87 Unless universal internet voting was to be made compulsory, which is impractical, this would mean an effective duplication of the voting system in order to ensure that no voter was disenfranchised by the voting method.
- 4.88 Those international jurisdictions that have embraced electronic voting are assessing a balance of risks that does not exist in Australia. They are balancing the need to improve participation against the risk of loss or corruption of votes. A lack of participation is an irrelevant risk in Australia where compulsory enrolment and attendance places an obligation on electoral authorities to provide access to the vote in even the most remote areas of the country. Notably, comparable democracies – New Zealand, the United Kingdom and Canada – have not embraced electronic voting.

- 4.89 The foundations of Australia's voting system – compulsory voting, widespread and easy access to polling booths and polling day held on a Saturday – are robust. Electronic voting would fundamentally change not just the method, but the nature of voting in Australia.
- 4.90 The Committee believes that it is likely that technology will evolve to the point that it will be possible to vote electronically in federal elections. At that stage the question for a future Parliament, and the voting public, will be whether the convenience of electronic voting outweighs the risks to the sanctity of the ballot.
- 4.91 The view of this Committee is that the answer to this question at this time is that no, it does not.

Hon Tony Smith MP
Chair
18 November 2014