

The *Allen Consulting* Group



**Evaluation of technology assisted voting
provided at the New South Wales State
General Election March 2011**

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Report to the New South Wales Electoral Commission

The Allen Consulting Group

Allen Consulting Group Pty Ltd
ACN 007 061 930, ABN 52 007 061 930

Melbourne

Level 9, 60 Collins St
Melbourne VIC 3000
Telephone: (61-3) 8650 6000
Facsimile: (61-3) 9654 6363

Sydney

Level 1, 50 Pitt St
Sydney NSW 2000
Telephone: (61-2) 8272 5100
Facsimile: (61-2) 9247 2455

Canberra

Empire Chambers, Level 2, 1-13 University Ave
Canberra ACT 2600
GPO Box 418, Canberra ACT 2601
Telephone: (61-2) 6204 6500
Facsimile: (61-2) 6230 0149

Online

Email: info@allenconsult.com.au
Website: www.allenconsult.com.au

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Acronyms

ACTEC	Australian Capital Territory Electoral Commission
ADF	Australian Defence Force
AEC	Australian Electoral Commission
AIHW	Australian Institute of Health and Welfare
CATI	Computer-Assisted Telephone Interviewing
CI	Confidence Interval
DRE	Direct Recording and Enumeration systems
iVote	NSW's Remote Electronic Voting System
JSCEM	Joint Standing Committee on Electoral Matters
LGE	Local Government Election
NSWEC	New South Wales Electoral Commission
REV	Remote Electronic Voting systems
SGE	State General Election
VEC	Victorian Electoral Commission

Executive summary

On the 16 March 2010 the Premier of New South Wales announced that the 'Electoral Commissioner would investigate Internet voting for visually impaired people of New South Wales improving their democratic right to a secret ballot' (NSWEC 2011a). The result of this announcement was the introduction of legislation that enabled the use of a remote electronic voting system (iVote) in the NSW State General Election (SGE) on 26 March 2011.

The major intent of iVote is to allow vision-impaired electors to vote in secret and gain new levels of independence and empowerment as participants in NSW's democratic processes. In addition, the intent is to provide assistance to electors with other disabilities that have difficulty attending a polling place and those electors unable to attend a polling place on Election Day through being resident in a remote part of NSW or interstate or overseas at the time.

The iVote system went through a major implementation process that included six major stages. The final stage of the process involves evaluating the iVote initiative. This report constitutes an input into this evaluation. The overall aim is to evaluate the contribution this voting option makes to the NSW electoral system and whether there are additional areas of electoral application. Additional aims are to obtain feedback from users of iVote and identify where iVote performance could be improved. The results of the evaluation will be summarised in the NSW Electoral Commission's report to the NSW Parliament on the conduct of the NSW State Election 2011.

This study has drawn on a variety of information, data and stakeholder insights. It is informed by existing literature, iVote documents, discussions with NSW Electoral Commission's officials and a review of the results of a 2011 General Elector Survey commissioned by the NSW Electoral Commission. Importantly, the study also draws heavily on a survey of iVote registrants conducted by the Allen Consulting Group and the Social Research Centre.

Due to the pioneering nature of the iVote system, an assessment of the system's effectiveness in meeting its aims is essential. This study has shown that the iVote system has been effective at meeting these aims. iVote was effective in facilitating a secret and independently verifiable vote for voters who are blind or vision impaired. iVote was also identified by users as making voting easier and more convenient. Additionally, it has been successfully demonstrated to work and be appropriate in a real election environment.

The take-up of the iVote system was highly successful. The actual number of users was in the order of four times the original estimates. Registrations and votes received from people in remote or rural areas exceeded original take-up estimates by almost three fold. The vast majority of iVote registrants and users were people outside the State on Election Day, with the large number of these registrants significantly lifting overall take-up. However, there was lower than estimated take-up rate of blind or vision-impaired voters and voters with a disability. This suggests that the success of iVote (in terms of its uptake) was mainly driven by people who used it because they were outside of NSW on Election Day.

Significantly high satisfaction levels with iVote both overall and with individual elements of the system were experienced. Additionally, both the iVote registration and voting process appear to have been relatively problem free. However, a noteworthy percentage of respondents suggested that the NSW Electoral Commission could improve iVote. Suggested improvements included that the system was in need of increased promotion and that the legislation should be expanded to allow a wider group of people to use it.

The average cost per vote cast using iVote was lower than originally anticipated. This was mainly due to the eligibility extension to people outside the State during Election Day and hence a greater number of users, rather than a reduction in overall costs. Additionally, the system was found to be cost effective when compared to other mechanisms that have been used previously with similar aims. It is estimated that the use of iVote is not only cost effective when compared to other mechanisms that allow blind or vision-impaired voters and voters with a disability to vote, but, if future take-up levels are high enough, it may be comparable (or possibly cheaper) than traditional voting methods.

While the implementation of the iVote system has been deemed highly successful, there are still areas for consideration if the system was to be used in subsequent elections. Most iVote users are interested in using it again and would recommend it to other people. Extending eligibility to the system to other groups or the general population is also likely to result in lower costs per vote. In light of this, it is recommended that consideration be given to changing the legislation to extend iVote eligibility to other groups (for instance, postal voters) or the general population.

To increase participation of eligible iVote users, greater familiarity with the technology and promotion of accessibility to the technology is required to overcome reluctance to try new ways of casting a vote. Additionally, since it was also suggested that to improve iVote greater promotion of the system was needed, it is recommended that the promotion of iVote be further enhanced. This could occur through community and advocacy organisations to promote higher iVote usage by blind or vision impaired users and users with a disability, and a stronger media campaign in radio, TV and press to raise general awareness of the existence and eligibility requirements of iVote.

In addition to promotion of the system, it is recommended that the NSW Electoral Commission explore additional strategies to facilitate higher level of take-up in the future. While promotion would assist in this area, consideration might be given to aspects like improving access to the system, for instance through the provision of publically available computers. This would assist in increasing the take-up of the system in future elections.

It is also recommended that the NSW Electoral Commission explore possible areas for cost synergies to lower the cost per vote for subsequent elections. It could be anticipated that if the iVote system was going to be used consistently in the future then over time cost efficiencies and synergies should become available.

Other general recommendations for improvements include making the NSW Electoral Commission's iVote website easier to navigate, fixing the few technical glitches experienced by users during the 2011 NSW SGE and making the registration process easier and simpler.

Chapter 1

This study

This study is being undertaken on behalf of the New South Wales Electoral Commission (NSW Electoral Commission) and aims to evaluate the remote electronic voting system (iVote) that was introduced in the NSW State Election held on 26 March 2011. The overall aims of this evaluation are to:

- *assess the effectiveness of iVote in meeting the stated aims of the legislation introducing it* — in particular, assess iVote’s performance in improving the independence and empowerment of eligible voters and the system’s accuracy and ease of use;
- *obtain feedback from iVote users* — given the pioneering nature of the iVote initiative in Australia compared to previous trials, an evaluation of users’ perceptions and satisfaction with the system is essential. This is particularly important given the vulnerability of many of the eligible electors, who may previously have felt disenfranchised from the democratic process due to the absence of secrecy when voting;
- *identify areas for service improvement; and*
- *assess the overall satisfaction, benefits, applicability and cost effectiveness of using iVote in other elections* — an evaluation of the success of iVote allows for consideration of the possible extension of such a system. If the system is deemed to be successful, or has the potential to be successful with some improvements, it may be extended not only to future State elections, but also to other elections conducted by the NSW Electoral Commission such as those for Local Government, where individual councils enter into a contract or make arrangements with the Electoral Commissioner for the Electoral Commissioner to administer elections for the council.

The report is structured as follows:

- Chapter 2 describes the background to iVote;
- Chapter 3 provides an overview of the types of electronic voting and the experiences with electronic voting in Australian jurisdictions and overseas;
- Chapter 4 outlines the approach used in this evaluation;
- Chapter 5 assesses the use of iVote in the 2011 NSW General State Election;
- Chapter 6 evaluates the applicability, cost effectiveness and benefits of using iVote in other elections;
- Chapter 7 contains the study’s conclusions and recommendations; and
- Appendix A contains the questionnaire used in the survey undertaken as part of this project.

Chapter 2

Background to iVote

Blindness and vision impairment¹ are conditions that may significantly affect an individual's participation in democratic processes. As a signatory to the United Nations *Convention on the Rights of Persons with Disabilities*, Australia has an international legal obligation to protect the right of all persons with disabilities to vote by secret ballot. However, the fulfilment of this right has proven challenging.

There are approximately 70,000 electors in New South Wales who are blind or vision impaired and 330,000 with other disabilities (NSWEC 2010). Most of these individuals vote by appointing another person to mark the ballot paper on their behalf. This precludes the possibility of their ballot remaining secret (AEC 2008a; NSWEC 2010). Furthermore, as blindness and vision impairment tend to increase in prevalence with age, the total number of persons affected is anticipated to rise as the Australian population grows older (Australian Institute of Health and Welfare (AIHW) 2005). The provision of an accessible and private voting system for individuals who are blind or vision impaired will therefore become increasingly important.

In response to these issues, the Premier of New South Wales announced on 16 March 2010 that the 'Electoral Commissioner will investigate Internet voting for visually impaired people of New South Wales improving their democratic right to a secret ballot' (NSWEC 2011a).

The initiative was addressed in an amendment to the *Parliamentary Electorates and Elections Act 1912*, which required the 'Electoral Commissioner to conduct an investigation as soon as possible into the feasibility of providing Internet voting for vision-impaired and other disabled persons for elections under this Act and, if such Internet voting is feasible, to propose a detailed model of such Internet voting for adoption' (NSWEC 2011a).

The Electoral Commissioner's feasibility report on a remote electronic voting system (iVote) was sent to the Premier's office on 23 July 2010 and tabled in Parliament on 2 September 2010.

The key features of the recommended solution (iVote) were as follows (NSWEC 2011a):

- a system to allow voting by telephone or the Internet;
- electors would apply to use iVote in the same way as they apply for a postal vote;
- it would be available for an elector to cast a vote throughout the same period as is available for electors casting a pre-poll vote;
- electors can call from any telephone or use any computer with an Internet capability to access iVote;

¹ Vision impairment, or 'low vision', may be defined as limited or impaired eyesight that cannot be corrected with conventional glasses or contact lenses (Vision Australia 2010).

- telephone voting will be controlled by the telephone keypad only; and
- all instructions, candidate names and party/group names that the electors hear will be recorded in human voice (no computer-generated speech) and the candidate names will also be available to be heard on the NSW Electoral Commission website.

The rationale behind these recommendations made was to provide an additional means of voting, and one that would enable a secret vote for people who are blind or are vision-impaired.

To give effect to these recommendations, legislative amendments were required. The *Parliamentary Electorates and Elections Act 1912* was amended by the *Parliamentary Electorates and Elections Further Amendments Act 2010*. The latter Act, which included legislation for technology assisted voting and other minor amendments, was assented on 7 December 2010.

Although the initial scope of the Electoral Commissioner's report related only to blind and visually impaired voters, it became apparent through consultations that an electronic voting system would be of benefit to a broader audience of stakeholders (NSWEC 2010). Accordingly, the final legislation provided for electors to use technology assisted voting provided that they met one of the following eligibility requirements. That the:

- elector's vision is so impaired, or the elector is otherwise so physically incapacitated or so illiterate, that he or she is unable to vote without assistance;
- elector has a disability (within the meaning of the *Anti-Discrimination Act 1977*) and because of that disability he or she has difficulty voting at a polling place or is unable to vote without assistance;
- elector's real place of living is not within 20 kilometres, by the nearest practicable route, of a polling place; and/or
- elector will not throughout the hours of polling on polling day be within New South Wales.

In the case of individuals with disabilities, the rationale for the extension of the iVote system to this group is that there are around 49,000 individuals who are registered as General Postal Voters in New South Wales for reasons of 'infirmity' or 'incapacity'. These individuals may benefit from the accessibility of an Internet or telephone-based system (NSWEC 2010). With respect to rural and remote electors, iVote was perceived to be a more reliable system than the current postal voting process (NSWEC 2010). The difficulty in accessing polling booths, as well as the reliance of interstate and overseas visitors on postal voting or limited diplomatic polling venues — which involve tight timeframes for delivery — risks many missing out on exercising their democratic rights (AEC 2008b).

The major intent of iVote is therefore to allow vision-impaired electors to vote in secret and gain new levels of independence and empowerment as participants in NSW's democratic processes. In addition, the intent is to provide assistance to electors with other disabilities that have difficulty attending a polling place and those electors unable to attend a polling place on election day through being resident in a remote part of NSW or interstate or overseas at the time.

The iVote system went through a major implementation process that broadly included six major stages:

- *a feasibility analysis* — during this stage the NSW Electoral Commission investigated the feasibility of providing internet voting for vision-impaired electors and other electors with disabilities and possible models that could be adopted;
- *system implementation* — during this stage the iVote system was developed, tested, trialled and audited;
- *promotion* — this stage's focus was the promotion of the iVote system through different means including TV, press, radio, mail outs, community groups and the NSW Electoral Commission and other government websites;
- *registration* — during this stage, all iVote users were required to register with the NSW Electoral Commission in a process similar to applying for a postal vote. Participants could register for iVote either through a dedicated iVote call-centre or via the Internet. After the elector applied, and provided a 6-digit PIN, a letter of affirmation was sent to their enrolled address confirming their application for iVote. The elector was then supplied with an iVote number that enabled them to access the iVote system and vote. This iVote number was either mailed, sent by email or SMS or provided over the phone for those who had difficulty in accessing written material. The iVote number was an 8-digit number, which was provided once the Electoral Roll closed;
- *voting* — in this stage, registered iVote users could cast their vote using the Internet or the phone. Electronically assisted voting (like pre poll voting) was available in the two weeks before Election Day. To use iVote the elector needed both the iVote number and the PIN provided by the elector at the time of registration;
- *admission and counting of votes* — during this stage the iVote electronic ballot box was opened after the close of polls and all votes were securely printed in one batch. A quorum of election officials with electronic 'keys' opened iVote to print the votes and scrutineers were present to observe the 'unsealing' and the printing of iVote ballots. The printed ballots were then sorted for each district and went into the normal processes to be counted with the other votes. Before printing all votes were checked to test if the elector has voted via other means (e.g. pre-poll or postal) and determined whether the iVote vote could be admitted into the count; and
- *iVote evaluation* — this final stage of the process involves evaluating the iVote initiative. The legislation requires a technical audit to be conducted at the system's conclusion. This reports constitutes a further input into the iVote evaluation. The overall aim is to evaluate the contribution this voting option makes to the NSW electoral system and whether there are additional areas of electoral application. Additional aims are to obtain feedback from users of iVote and identify where iVote performance could be improved. The results of the evaluation will be summarised in the NSW Electoral Commission's report to the NSW Parliament on the conduct of the NSW State Election 2011.

Chapter 3

Electronic Voting Overview

This chapter examines the different types of electronic voting that may be used in elections. It also outlines the experiences of those jurisdictions that have previously used electronic voting in one form or another, both in Australia and internationally. These experiences have then been drawn together to illustrate the issues and complexities of using electronic voting, as well as the applicability of prior experiences to the iVote system.

3.1 Types of electronic voting

Electronic voting occurs where voters use electronic or computerised devices for all or part of the voting casting and/or counting process (Nesci and Burton 2009). Electronic voting systems can be broadly grouped into Direct Recording and Enumeration (DRE) systems, and Remote Electronic Voting (REV) systems, both of which can be used alongside traditional paper ballots.

DRE systems are devices installed at polling locations, such as computer terminals adapted for people who are blind or have low-vision, which enable direct control over voting procedures (NSWEC 2010). DRE systems count votes, whilst similar kiosk-based systems store votes on CDs or transmit them to central processing centres to be counted separately, or printed and combined with paper ballots for counting (AEC 2008a; Nesci and Burton 2009). DREs require significant infrastructure investments and stakeholders must still travel to polling booths, tending to make them cost-effective only in smaller electorates (AEC 2008a; Nesci and Burton 2009; NSWEC 2010).

By contrast, REV systems use voters' own telephone and Internet infrastructure to enable voting from any location. Whilst facing greater security issues due to operation over public networks, REV systems are less costly for electoral authorities, more accessible to voters and found to reduce levels of informal voting (Nesci and Burton 2009; NSWEC 2010).

3.2 Experiences with electronic voting in Australian jurisdictions

The Australian Capital Territory (ACT) is the only Australian jurisdiction with electronic voting as a normal part of electoral process (NSWEC 2010). Other jurisdictions including the Commonwealth, Victoria and Tasmania have trialled a variety of electronic voting systems.

The Commonwealth

The Australian Electoral Commission (AEC) conducted two trials of electronic voting during the 2007 federal election. The first was a REV system enabling Australian Defence Force (ADF) personnel to vote over the internet using computers set up in Afghanistan, Iraq, Timor-Leste and the Solomon Islands (AEC 2008b; NSWEC 2010). Voters were provided with pin codes to access the voting system, with software and data stored on the AEC's Canberra servers from which votes were printed and dispatched to the relevant counting centres (AEC 2008b). The system used significant security measures, including computers being connected to the Defence Restricted Network rather than the Internet, pin code requirements, a receipt number to check whether the vote was recorded, and technical safety requirements were met (AEC 2008b; AEC 2007a).

Awareness about electronic voting options was raised by both the ADF and AEC, including notices on the ADF intranet, newspapers and communications through commanding officers; information provided during pre-deployment training; and media releases (AEC 2007a). The more than 1,500 users were highly satisfied, and had a higher rate of formal votes compared to the general population using paper voting (Nesci and Burton 2009). Increased uptake in the future is expected to reduce the relatively high cost per vote (AEC 2008b; AEC 2008c).

The second trial used electronically assisted voting systems to enable blind and vision impaired people to vote in 29 pre-polling locations (AEC 2008d). Voters had the option of listening to instructions on headsets or viewing the large print on screen, with ballot entries printed in code form and placed into ballot boxes for later decoding. Younger voters were generally more comfortable with the use of the electronic system, while older voters tended to need assistance. There was lower turnout in locations which were unfamiliar polling place places, were difficult to access and which did not have support from organisations for blind and vision impaired persons. Although 97 per cent of users of were highly satisfied, the limited effectiveness of media campaigns rendered the cost per vote quite high (AEC 2007b; AEC 2008d).

Cost concerns led the former Federal Joint Standing Committee on Electoral Matters (JSCEM) to recommend that electronically assisted voting be discontinued. The AEC, former JSCEM members and stakeholder groups have since worked to develop alternatives, the first of which was a call centre for the 2010 Federal election which was accessible from 126 AEC offices (Blind Citizens Australia 2011). This was not an electronic system, and it faced problems of convenience and accessibility, with mixed responses regarding privacy (Blind Citizens Australia 2011; Starkey 2011).

Australian Capital Territory (ACT)

The ACT has progressed furthest among Australian jurisdictions in its use and scope of electronic voting and counting technologies. It has used DRE-style kiosks in every election since the Legislative Assembly election in October 2001 (NSWEC 2010), and has recently expanded to electronic electoral rolls and intelligent character recognition technology to scan paper ballots (Australian Capital Territory Electoral Commission (ACTEC) 2009). Voting kiosks and servers are installed in selected pre-poll centres, with data stored and transported on compact discs, which are more secure than transmission over public networks such as the Internet (NSWEC 2010). The kiosks operate in 12 languages and provide a range of audio and visual features to assist the blind, vision impaired and those with language difficulties (ACTEC 2002).

Electronic voting is available for up to 3 weeks before the election day and has enabled many people to vote secretly for the first time, and together with electronic counting has significantly improved the speed and accuracy of elections, improved voter turnout and reducing counting times (ACTEC 2009; ACTEC 2002; AEC 2008a; NSWEC 2010). Up to 20 per cent of the vote, or around 44,000 votes, were made electronically in the October 2008 election (NSWEC 2010), and the vast majority of voters were satisfied with the experience (ACTEC 2009; ACTEC 2002).

Victoria

The 2006 Victorian State election incorporated a trial of electronically assisted voting which did not count votes. It involved voting kiosks comprised of personal computers enabling customised font sizes and audio preferences (although language was restricted to English as per the terms of the trial legislation), together with low-technology aids such as magnifying sheets and fat pencils (VEC 2007). The kiosks were connected to a local network and installed in 6 special voting centres catering persons with disabilities, with votes saved on CDs, printed in a separate location and redistributed to the relevant voting centres (AEC 2008a; VEC 2007).

This physically contained system was expanded in the 2010 election to include telephone voting, with both the kiosks and telephone systems being anonymous — voters having registered beforehand and obtained a pin codes (Blind Citizens Australia 2011; NSWEC 2010). The Victorian approach was more convenient and private than the voting call centre used in the 2010 Federal Election (Blind Citizens Australia 2011).

The Victorian elections involved significant awareness campaigns through print, radio and television media undertaken by the VEC and major advocacy groups including Vision Australia and Blind Citizens Australia. This likely contributed to the rate of uptake of electronic voting and overwhelmingly positive feedback, with word-of-mouth communication of good experiences increasing voters' use of electronic voting (VEC 2007).

Tasmania

The 2007 Tasmanian State elections trialled one voting kiosk in Hobart, which provided options to audio guidance or the magnification of candidates' names on screen. The kiosk directly printed ballot papers and worked well despite a low user turnout (AEC 2008a).

3.3 Experiences with electronic voting in overseas jurisdictions

Most countries that have used electronic voting have done so only in trials to supplement traditional paper votes, and favour machines at polling venues to REV (Smith 2009). A number of developing and middle-income countries such as Brazil, India and Estonia have strongly moved towards electronic voting, compared to the cautious approach taken in the Britain, Ireland, Canada, New Zealand and United States (Smith 2009).

Comprehensive electronic systems

A number of countries have trialled and implemented comprehensive electronic systems with mixed success, various issues and to differing extents. These experiences are detailed below.

Estonia

The Estonian government is seen as a leader in promoting Internet use and paperless government in its drive for modernisation (Alvarez, Hall and Trechsel 2009, in Smith 2009). Estonia allows electronic voting in all elections, and in 2005 was the first country to use REV in a national election (Consuleanu and Gaidric 2007). Internet voting is allowed for the 3 days before polling day, and uses national identity cards, pin codes, and requires electronic signatures to verify voters' identities. Votes are encrypted and voters can change their vote by casting a paper ballot.

Voting is not compulsory in Estonia, and electronic options have significantly increased voter turnout. New laws are now in place to allow voting using mobile phones (Consuleanu and Gaidric 2007; Smith 2009).

Brazil

Brazil was the first country to make electronic voting machines the primary voting mechanism, and since 2002 over 90 per cent of voters have used the electronic machines (Smith 2009). These machines are connected to local and national networks, and votes are backed up in both digital and paper form (Carneiro 2002 and Grose 2002, in Smith 2009). Electronic voting is particularly suited to the complex Brazilian voting system (which requires multiple votes per election) and has reduced fraud, however there have been technical difficulties and cost concerns (Smith 2009).

India

A number of Indian states now exclusively use battery operated electronic voting machines to record votes, with over one million machines in use in 2004 (Jeffrey 2004, The Australian 2004 and The Canberra Times 2004, in Smith 2009). The machines are moved to counting centres from which results are sent to a central tally room, however unlike the Brazilian system there is no paper backup of results. The machines are credited with reducing incorrect voting and fraud, and there have been few technical failures (Swamy 2009, The Hindu 2009c, The Times of India 2009a and The Times of India 2009b, in Smith 2009).

Switzerland

In response to reasons including falling voter turnout, Switzerland is undertaking a cautious rollout of REV systems, and fully implementing them where trials have been successful. Voters register and obtain a personal identification number before each election, and votes are recorded on centralised servers (Smith 2009). The positive voter response has resulted in cantons such as Geneva that trialled electronic voting now making it a normal voting option (Smith 2009). Between 20 and 68 per cent of eligible voters now use and are generally satisfied with electronic voting (Braun and Brandli 2006 and Christin and Trechsel 2005, in Smith 2009), while the vast majority of others cast postal votes (Smith 2009).

The Netherlands

Until 2006, the Netherlands was one of the most extensive users of electronic voting systems, using them in 99 per cent of municipalities (Smith 2009). Electronic voting machines had been used at polling locations since 1965 and REV voting allowed expatriates to vote over the Internet (Smith 2009). Voting machines recorded votes and printed out totals, and REV voting was undertaken following registration prior to election days (OSCE/ODIHR 2007a, in Smith 2009).

However, in 2006 tests by a computer hacking group revealed security problems that were later confirmed by government testing, resulting in a mistrust of electronic systems (Smith 2009). Further problems arose from a court decision, which ruled that the government had not legally approved the use of electronic voting (Smith 2009). The Netherlands Government did not take measures to rectify the security or legal issues, and the Netherlands has consequently reverted to paper based voting (Smith 2009).

Conservative approaches

The Westminster countries that have comparable voting systems to Australia's are generally making cautious forays into electronic voting, mainly motivated by the need for accessibility and private voting by blind, vision impaired and electors with disabilities; as well as to improve voter turnout and convenience.

Britain

Low voter turnout and high general enthusiasm for on-line service delivery have resulted in the British government trialling a number of electronic and postal vote initiatives in local and regional elections (Barry et al 2002; Norris 2005, in Smith 2009). Electronic voting systems were generally positively received, however, the trials have generated mixed results with postal voting having a greater impact on voter turnout than electronic voting (however younger people are more likely to take-up internet voting) (Norris 2005 and The Electoral Commission 2002, in Smith 2009).

Restrictions on voter registration for electronic voting, together with privacy concerns have lowered enthusiasm for electronic voting, resulting in it falling off the national agenda with no further trials planned (The Electoral Commission 2005 and Wills 2009, in Smith 2009).

Ireland

Ireland trialled electronic voting in 2002 in order to improve voter participation and enable faster vote counting. Vote counting had been a time consuming exercise when done manually due to the structure of Ireland's electoral system (Barry et al 2002). The Irish Government trialled DRE systems in three constituencies at the May 2002 general election, and extended it to further constituencies for the 2002 referendum and general elections in 2003 (Wadsworth and Wichmann 2004).

Despite positive voter responses, planned extensions of electronic voting in the 2004 elections were not pursued due to security concerns (Barry et al 2002; Commission on Electronic Voting (Ireland) 2006; Wadsworth and Wichmann 2004). The Commission on Electronic Voting, which had been established in 2004 to evaluate and recommend electronic voting options, was dissolved in 2006 and the Irish Government decided in 2009 not to proceed with electronic voting due to costs and public satisfaction with paper ballots (Commission on Electronic Voting (Ireland) n.d.; Gormley 2009).

Canada

Although Canada has been investigating electronic voting options since 1991, the national electoral body is only proposing trials of phone and Internet voting. Some local areas have introduced kiosks at voting centres, and while Quebec experimented with a large-scale shift to electronic voting in 2005, technical problems increased wariness about electronic voting systems (Directuer General des Elections du Quebec 2005, in Smith 2009).

Nonetheless, there have been highly successful trials of electronic voting in Canada. The Town of Markham offered REV voting in 2003 to pre-registered voters who used a PIN code to vote online in the lead up to polling day (Delvinia 2003; Goodman et al 2010). This was paired with extensive marketing to residents which included a website outlining voting options and election details — marketing that greatly contributed to the trial's success (Delvinia 2003; Goodman et al 2010). Voter turnout in the advanced polls tripled compared to previous years, many voted online due to convenience and all of these people indicated that they would vote online again (Delvinia 2003; Goodman et al 2010).

The City of Peterborough undertook a similar trial in 2006 requiring pre-registration and PIN codes, paired with aggressive marketing (Goodman et al 2010; The City of Petersborough undated and Geist 2006, in Smith 2009). Despite having an older and more disparate population than Markham, Petersborough had a similar take-up of electronic voting and positive responses from voters (Goodman et al 2010).

New Zealand

There has been one instance of electronic voting for a public authority in New Zealand (Webb 2008, in Smith 2009). The New Zealand government has plans to pilot electronic voting from 2014–2020, initially for blind and vision-impaired voters. The debate has focussed on Internet voting, and the nation is split in preference for paper versus electronic ballots (Pullar-Strecker 2008a and Pullar-Strecker 2008b, in Smith 2009). This caution sits beside cost and privacy concerns regarding electronic voting, particularly those voiced by the Chief Electoral officer (Pullar-Strecker 2004 and Smith 2002, in Smith 2009).

United States

Most elections in the United States use DRE-style systems that print paper records, however security failures and fears of fraud have recently restricted their use (Nesci and Burton 2009). This wariness extends to REV systems, which generate greater risks due to data transmission over public Internet and telephone networks (Goodman et al 2010). A number of major studies the United States warn against REV voting due to this potential for fraud and security risks (Alvarez and Hall 2004, in Goodman et al 2010), and interest groups voicing security concerns have been able to derail many trials before implementation (Alvarez and Hall 2008, in Goodman et al 2010).

3.4 Lessons from electronic voting experiences

Differences in the design of ballot papers, software, and voting systems among other election-specific details make it difficult to directly compare experiences in different elections. Nonetheless, the experience with electronic voting systems both in Australia and internationally illustrates the issues faced by different jurisdictions in implementing this type of voting. There are a variety of lessons that can be gathered from the past experiences, which provide useful considerations for the use of iVote.

While generally electronic voting systems can increase participation rates and offer greater convenience to voters, voters still have concerns with their usage as outlined by previous experiences. While some jurisdictions have had success with electronic voting and have achieved high take-up rates, security concerns have had a negative impact on various voting systems and, in some instances, lead to electronic voting being disbanded altogether. Hence, data security is essential to ensure confidence in electronic systems. In addressing these issues marketing and support has been of key importance to raise voter awareness and comfort with electronic voting.

While past experiences are important in highlighting matters that may be relevant to future use, there are a variety of issues associated with drawing conclusions from them about future use. Many of the experiences with electronic voting systems have been of a trial like nature, either being used on small scales or in specific areas. This has important impacts for generalised conclusions about the expansion of electronic voting systems to wider audiences. Further, electronic voting has predominately been used alongside traditional voting methods or for specific groups without general implementation and this may influence the results from these experiences.

It can take a considerable amount of time for a community to adjust to new ways of casting a vote, with initial uptake levels being heavily influenced by a community's culture and values which impact on their willingness to use new voting systems. In jurisdictions where electronic voting systems have been used for extended periods of time or where the systems have been integrated with other voting methods, it would be anticipated that higher levels of usage would be observed.

Therefore, while prior experiences demonstrate important insights about the need for high levels of security as well as the importance of promotion of a system, which can be related to iVote, it is important to consider the nature of these experiences when analysing their applicability to iVote.

Chapter 4

Evaluation methodology

4.1 Approach to this evaluation

The evaluation of the iVote initiative was undertaken broadly in four stages:

- project establishment and planning;
- data and information gathering;
- data consolidation and analysis; and
- reporting.

The evaluation complements the mandatory audit of the iVote system required by the legislation, as well as the independent 2011 General Elector Survey commissioned by the NSW Electoral Commission. The information and data used for the analysis was collected through the following means:

- a review of existing literature in relation to the use of electronic voting in Australia and overseas jurisdictions;
- a review of previous iVote documents (for instance, the iVote feasibility study and other background documents on the NSW Electoral Commission website);
- a survey iVote registrants conducted by the Allen Consulting Group and the Social Research Centre in relation to the March 2011 NSW State Election;
- a review of a 2011 General Elector Survey commissioned by the NSW Electoral Commission in relation to the March 2011 NSW State Election; and
- discussions with relevant NSW Electoral Commission officials who were involved in the evaluation, planning and implementation of iVote.

Additional information about the survey of iVote registrants is provided in the sections below.

4.2 Survey of iVote registrants

The Allen Consulting Group worked with the Social Research Centre to undertake a survey of iVote users to provide information about electors' perceptions and satisfaction with the system. The survey was undertaken between the 19th of April and the 1st of May 2011. A random sample of registered users was selected from a list of iVote registrants provided by the NSW Electoral Commission. The selected sample of registrants was approached to complete the survey either online or via Computer-Assisted Telephone Interviewing (CATI). A copy of the survey is provided in Appendix A.

Of the 1,302 people approached to carry out the survey in its two forms, a total of 530 people completed the survey. Two-thirds of these respondents completed the survey online, with the remaining third completing it via CATI. A breakdown of the number of participants in the survey is provided in Table 4.1. This table also identifies the 95 per cent Confidence Interval (CI) for estimates arising from analysis of the survey. The CI is used to indicate the reliability of an estimate. An example of how the CI can be interpreted is provided below.

Suppose that 50 per cent of respondents in the blind or vision-impaired group indicated that they are very satisfied with the iVote system. Then, based on the CI we can say that, if all 778 blind or vision impaired registered iVote users were surveyed, we could be 95 per cent certain that the percentage of those who are very satisfied with the iVote system would range somewhere between 40.7 per cent and 59.3 per cent as the CI is 50 per cent +/- 9.3 per cent.

Table 4.1

SAMPLE SIZE, POPULATION AND CONFIDENCE INTERVAL FOR ESTIMATES OF iVOTE REGISTRANTS

	Sample size	Population (registered users)	95 % CI
People who are blind or vision impaired	97	778	+/- 9.3 %
People with other disabilities	115	1,457	+/- 8.8 %
People in remote, rural areas	109	1,830	+/- 9.1 %
People outside the State	209	47,038	+/- 6.8 %
Total	530	51,103	

Source: Allen Consulting Group analysis based on registered users data provided by the NSWEC.

Survey response rates

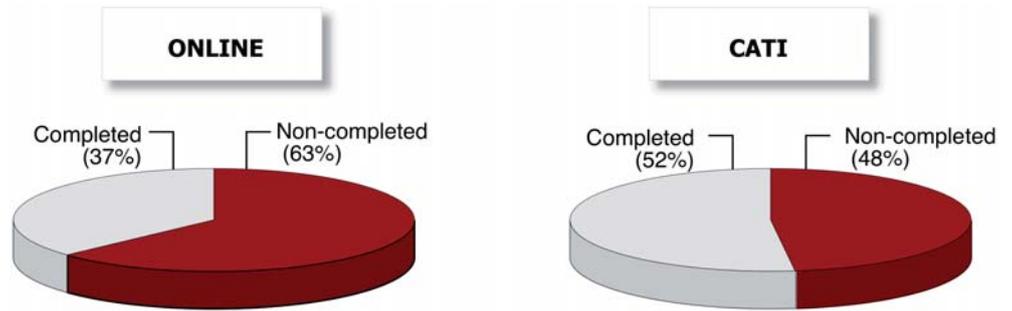
The online survey was distributed to 964² registered users of iVote via an email from the NSW Electoral Commission that contained a unique link to enable respondents to complete the survey online. Of these, 354 completed the survey. The Social Research Centre also used CATI to interview potential respondents. A total of 338 registered users of iVote were contacted in this way, with 176 completing the survey.

Overall, the response rates achieved by the surveys were high. As illustrated in Figure 4.1, the CATI survey had a higher response rate, with 52 per cent of the registered iVote users approached in this way responding to the survey. The online survey also had a high response rate with 37 per cent of registered iVote registered users contacted responding.

² This figure has been calculated by deducting the 21 emails, which bounced back from the total emails sent out (985).

Figure 4.1

COMPLETION RATES OF THE ONLINE AND CATI SURVEYS, PER CENT

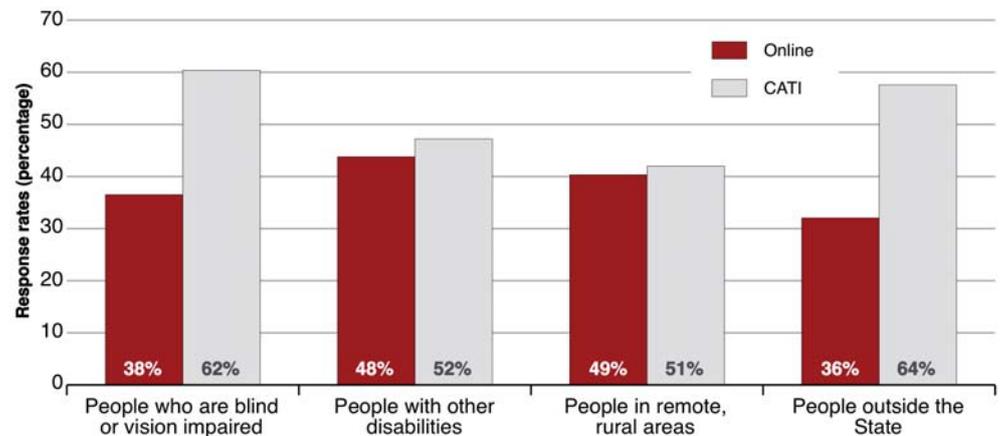


Source: Social Research Centre Survey conducted on behalf of the Allen Consulting Group.

Figure 4.2 examines the response rates by reason for registration and registration method. It further demonstrates the higher response rates achieved by the CATI survey for all reasons for registration. It also shows that significantly higher response rates were achieved for people outside the State and people who are blind or vision impaired in the CATI survey than through the online survey. Similar response rates by registration method were achieved for people with other disabilities and people in remote or rural areas.

Figure 4.2

REGISTERED VOTERS RESPONSE RATE BY REASON FOR REGISTRATION, PER CENT



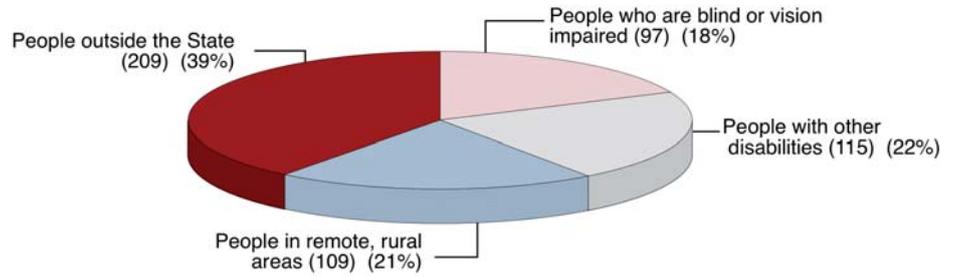
Source: Social Research Centre Survey conducted on behalf of the Allen Consulting Group.

Survey respondents demographics

Figure 4.3 shows the number and percentage of survey respondents by reason for registration. The greatest number of survey respondents (39 per cent) had registered to use iVote as they would be out of the State on Election Day. Importantly, the three other reasons of registration had similar numbers of respondents, with each reason for registration comprising approximately 20 per cent of the total number of respondents. As such, the survey results have been informed by a significant percentage of respondents from all reasons for registration.

Figure 4.3

SURVEY RESPONDENTS BY REASON FOR REGISTRATION, NUMBER AND PERCENTAGE



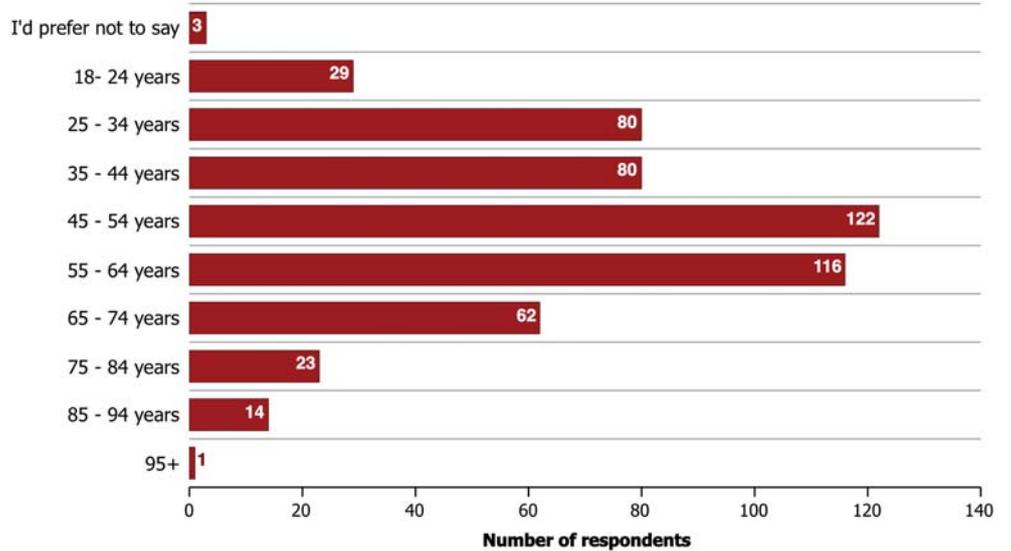
n= 530

Source: Social Research Centre Survey conducted on behalf of the Allen Consulting Group.

Survey respondents were spread across a variety of age groups. Figure 4.4 shows that a greater number of responses were gathered from the 45-64 year age group. The age demographic between respondents was largely consistent across the four reasons for registration.

Figure 4.4

NUMBER OF RESPONDENTS BY AGE GROUP



n=530

Source: Social Research Centre Survey conducted on behalf of the Allen Consulting Group.

One per cent of respondents surveyed were of Aboriginal descent and one per cent of respondents preferred not to identify their origin. The remaining respondents (98 per cent) were neither of Aboriginal or Torres Strait Islander descent.

Nearly six per cent of respondents identified that English was not their main language. English was the main language of 94 per cent of respondents, with less than one per cent preferring not to comment.

The vast majority (96 per cent) of those surveyed used iVote to vote in the NSW General State Election on Saturday the 26th of March 2011. This was relatively consistent across reasons for registration.

Chapter 5

iVote and the 2011 NSW General State Election

Due to the pioneering nature of the iVote system in the 2011 NSW State General Election (SGE) it is important to assess its appropriateness and effectiveness and evaluate its users' perceptions and satisfaction. In light of this, this chapter:

- examines the iVote uptake and the reasons why eligible users did not use the system;
- assesses iVote's effectiveness — that is, the achievements of iVote in meeting its stated aims;
- examines satisfaction levels of iVote users with respect to the registration process, the voting process, the information received about the system and the assistance provided to use iVote;
- examines any issues with the system faced by iVote users during the registration and voting process; and
- assesses areas where iVote can be improved.

The analysis in this chapter is based on three major information sources:

- the survey conducted by the Allen Consulting Group and the Social Research Centre in relation to the March 2011 NSW State Election;
- data provided by the NSW Electoral Commission on the number of people who registered and used the iVote system in the 2011 NSW SGE; and
- a 2011 General Elector Survey commissioned by the NSW Electoral Commission in relation to the March 2011 NSW State Election.

5.1 iVote uptake

The NSW Electoral Commission estimated the number of iVote eligible electors to be over 430,000 people as shown in Table 5.1. Importantly, this figure does not take into account the number of voters who are eligible to use iVote due to the fact that they were out of the State on Election Day.

Table 5.1

ESTIMATED NUMBER OF iVOTE ELIGIBLE ELECTORS*

Group	Estimated No. of eligible electors
People who are blind or vision impaired	70,000
People with other disabilities	330,000
People in remote, rural areas**	31,000
Total	431,000

Notes: * Excludes people outside NSW on Election Day. **The *Report on the feasibility of providing 'iVote' Remote Electronic Voting System*, used 20km as the 'crow flies' to measure the distance to a polling place giving an estimated population of 6,500, while the NSWEC Enrolment Branch estimated a population of 31,000 as per legislation definition of 'by nearest practical route'. Source: NSWEC 2010 and NSWEC Enrolment Branch.

The NSW Electoral Commission's iVote feasibility report (New South Wales Electoral Commission 2010), estimated the potential take-up rate of iVote (see Table 5.2). The feasibility study estimated that around 11,000 voters (excluding those people who were outside the State) might choose to use iVote to vote in the 2011 NSW SGE.

However, while estimating the use of iVote to be approximately 11,000 voters, the feasibility study noted that the system would be considered successful if around 5,000 votes or more were received through iVote (NSWEC 2010). If a total of over 5,000 votes were received, the feasibility study suggested that the system would be deemed to be successful given prior efforts in NSW and Australia to facilitate a secret vote for people who are blind or vision impaired. For example, in 2007 around 850 votes were received during a trial by AEC and 52 votes were received using Braille ballot papers in the NSW Local Government Election (LGE) in 2008 (NSWEC 2010).

In total 51,103 people registered to use the iVote system and a total of 46,864 actually used it to vote in the 2011 NSW State Election. That is, the actual number of users was in the order of four times the original estimates. This is a measure of the success of the system.

The composition of iVote users is outlined in the table below. Key points to note are that:

- the blind or vision impaired group and the group of electors with other disabilities experienced lower than estimated take-up rates, with only 2,000 people from these groups casting their vote using iVote;
- the registrations and votes received from people in remote or rural areas exceeded original take-up estimates by almost three fold; and
- the vast majority of iVote registrants (92 per cent) and users (92 per cent) were people outside the State on Election Day.

This suggests that the success of iVote (in terms of its uptake) was mainly driven by people who used it because they were outside of NSW on Election Day. If the iVote system had not been extended to cover people outside NSW, then based on the feasibility study estimates, the 3,600 votes cast by the other three groups would mean the initiative would fall short of the required 5,000 votes needed to deem it successful.

Table 5.2

ESTIMATED AND OBSERVED iVOTE TAKE-UP RATE FOR NSW 2011 SGE, NUMBER OF PEOPLE

Group	Average estimated take-up	Observed take-up	
		Registrations	Votes using iVote
People who are blind or vision impaired	7,000	778	668
People with other disabilities	3,300	1,457	1,296
People in remote, rural areas	650	1,830	1,643
People outside NSW	N/A	47,038	43,257
Total	10,950	51,103	46,864

Source: NSW Electoral Commission 2010 and data provided by NSWEC.

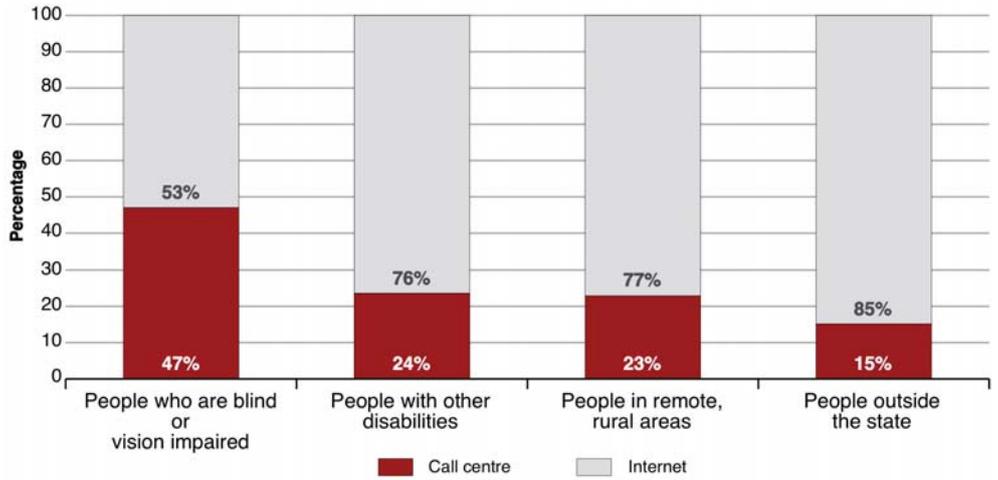
Registration method

To participate in the initiative, all iVote users were required to register with the NSW Electoral Commission in a process similar to applying for a postal vote. Electronically assisted voting (like pre poll voting) was available in the two weeks before Election Day. Participants could register for iVote either through the call centre or via the Internet and were required to identify their reason for registration. A significant majority (84 per cent) of those who registered to use iVote did so via the Internet. Only 16 per cent of registered users registered through the call centre.

As shown in Figure 5.1, over three quarters of those voters who registered for iVote as they have a disability, because they live in remote locations or because they were going to be outside NSW on Election Day, used the Internet to register. Importantly, however, 47 per cent of registered iVote users who are blind or vision impaired registered through the call centre. This suggests that the call centre was particularly important for blind and vision impaired users.

Figure 5.1

COMPARISON OF PEOPLE REGISTERED FOR iVOTE BY REASON FOR REGISTRATION AND REGISTRATION METHOD, PER CENT



n=51,103

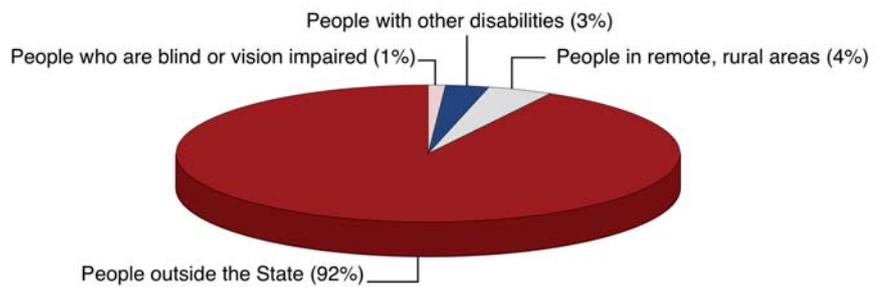
Source: The Allen Consulting Group, data provided by NSWEC.

iVote usage in the 2011 NSW State Election

As mentioned above, 46,864 people cast their vote in the 2011 NSW SGE using the iVote system. Almost 92 per cent of those who registered to use iVote actually used the system to vote in the election. The majority of those who voted using iVote did so as they were going to be outside NSW on Election Day, as shown in Figure 5.2.

Figure 5.2

NUMBER OF PEOPLE WHO USED iVOTE BY REASON FOR REGISTRATION, PER CENT



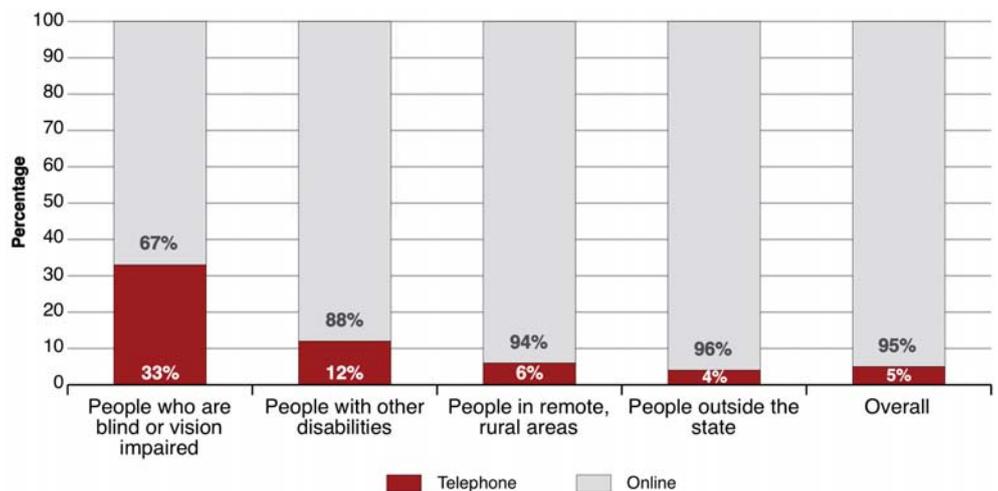
n= 46,864

Source: The Allen Consulting Group, data provided by NSWEC.

The vast majority (95 per cent) of voters who used iVote to vote in the NSW SGE voted online, with only 5 per cent of voters voting via the telephone. As shown in Figure 5.3, a higher percentage (33 per cent) of blind or vision impaired voters voted via telephone compared to online. While to a lesser extent, this method was also used by a relatively greater percentage of voters with a disability (12 per cent). The majority of voters who registered because they live in remote locations or because they were going to be outside NSW on Election Day voted online. This suggests that telephone voting was particularly important for the blind and vision impaired, and to a lesser extent to people with disabilities.

Figure 5.3

COMPARISON OF iVOTE VOTING BY REASON FOR REGISTRATION AND REGISTRATION METHOD, PER CENT



Source: The Allen Consulting Group, data provided by NSWEC.

Similar results were obtained when analysing the responses to the survey conducted by the Allen Consulting Group and the Social Research Centre. The majority of respondents surveyed voted in the election online (85 per cent). Additionally, blind or vision impaired respondents (24 per cent) and voters with a disability (16 per cent) had a greater tendency to vote over the phone than people in remote/rural areas and those out of the State on Election Day.

The survey results do not indicate that there was a noticeable difference in the method of voting (online/telephone) by origin or main language spoken. However, it was observed that older voters have greater tendency to vote via phone than younger voters, who predominately voted online.

Why people did not use iVote?

People who were eligible to use iVote and did not use it can be split in two groups:

- people who were eligible to use the system but did not register (and hence did not use it to cast their votes) — the analysis of this group of people is informed by a 2011 General Elector Survey undertaken by the NSW Electoral Commission; and

- people who were eligible and registered to use the system, but did not use it to cast their vote in the 2011 NSE State Election — the analysis of this group is informed by the survey conducted by the Allen Consulting Group and the Social Research Centre.

Eligible people who did not use iVote

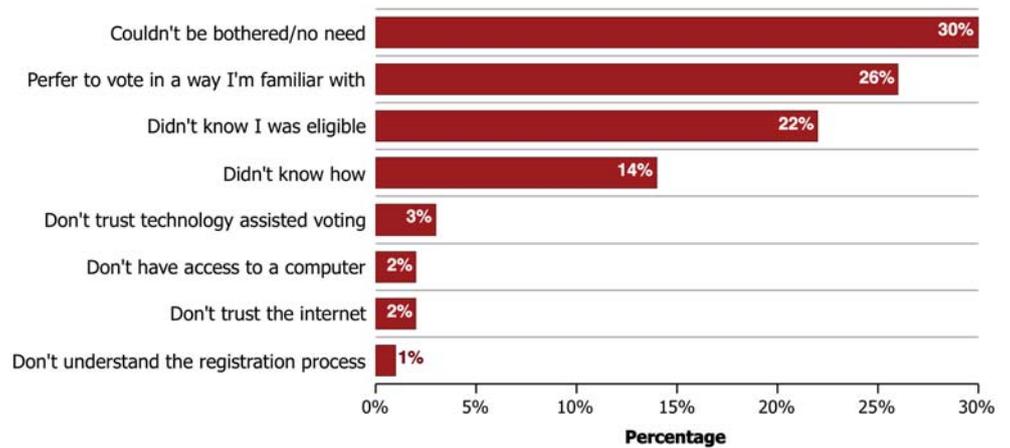
The total number of eligible users cannot be precisely calculated with the available data, as it is not known how many people were out of the State on Election Day. Further, the numbers of people in rural areas, with disabilities or blind or vision impaired are estimates. As such, the results of the NSW Electoral Commission’s 2011 General Elector Survey have been used to comment on the number of eligible people who used iVote.

The NSW Electoral Commission’s 2011 General Elector Survey found that less than one per cent of those who were eligible to use the iVote system actually used it. The primary reason people did not use iVote was that they were not aware of it (83 per cent had not heard of it).

The NSW Electoral Commission’s 2011 General Elector Survey also asked those who were aware of, and eligible to use, iVote why they did not register to use it. As shown in Figure 5.4, the main reasons given for not using iVote related to a lack of interest or relevance (30 per cent), a preference to vote in familiar way (26 per cent) and the fact that they did not realise they were eligible (22 per cent). A lack of trust in technology assisted voting was mentioned by just three per cent of these respondents.

Figure 5.4

WHY PEOPLE DID NOT REGISTER FOR iVOTE, PER CENT



n=160

Source: NSWEC General Elector Survey, 2011.

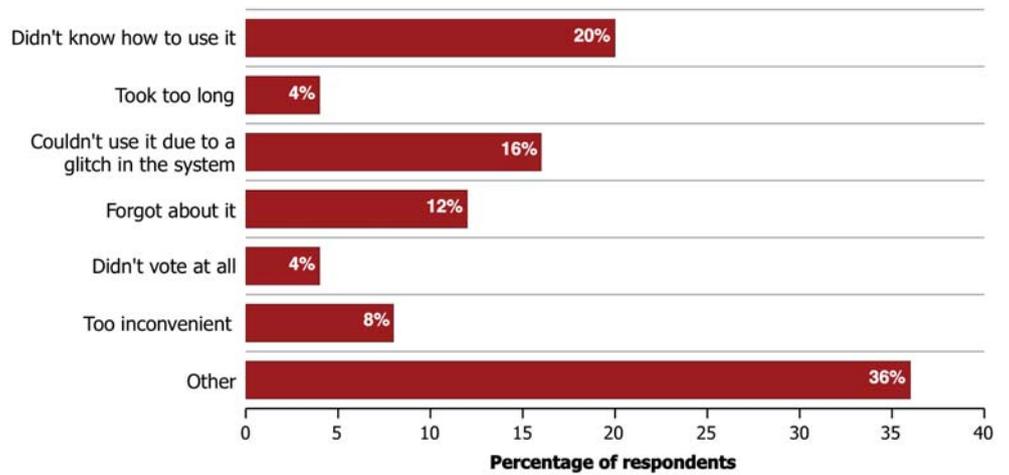
Registered users who did not use iVote

Only a small percentage of respondents (4 per cent or 25 respondents) to the survey conducted by the Allen Consulting Group and the Social Research Centre did not use iVote to cast their vote in the 2011 NSW State Election. When asked about the reasons for not using it, the main reasons identified were not knowing how to use the system and an inability to use it due to a glitch in the system.

Notably, as shown in Figure 5.5, the majority of respondents to this question selected ‘other’ as the reason for not using iVote. These ‘other’ reasons included people using postal voting instead of iVote, a lack of computer or Internet access and problems with using the system, such as forgetting a password or passwords not arriving.

Figure 5.5

REASON FOR NOT USING iVOTE, PER CENT



n=25

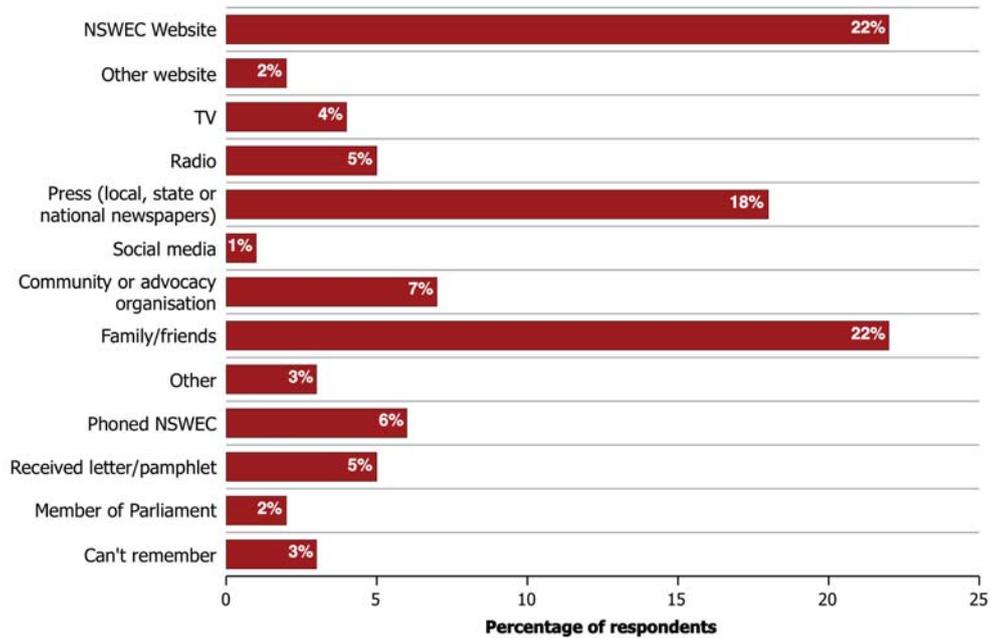
Source: Social Research Centre Survey conducted on behalf of the Allen Consulting Group.

How did people hear about iVote?

The survey conducted by the Allen Consulting Group and the Social Research Centre showed that most people surveyed had heard about iVote through the NSW Electoral Commission’s website or family and friends, closely followed by the press. Other responses were spread across a number of methods, as shown in Figure 5.6.

Figure 5.6

MECHANISM FOR HEARING ABOUT iVOTE, PER CENT



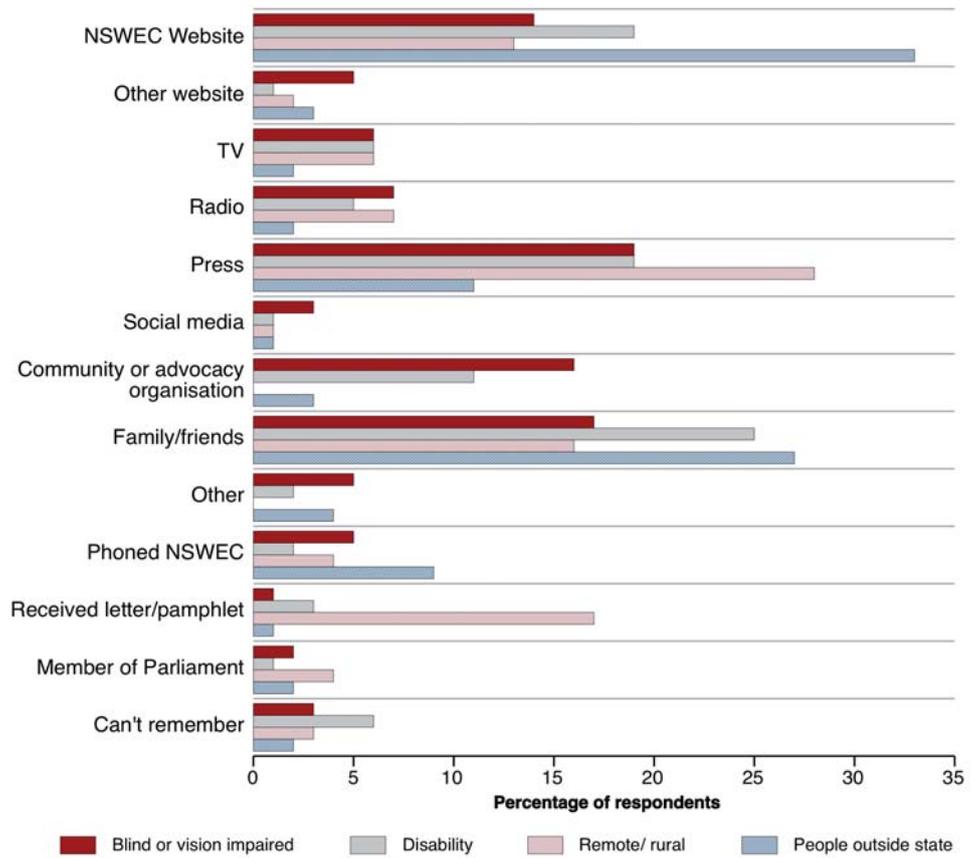
n= 562. Survey participants could answer more than once.

Source: Social Research Centre Survey conducted on behalf of the Allen Consulting Group.

The NSW Electoral Commission’s website, family and friends and the press were highly important in informing all respondents about iVote. However, as shown in Figure 5.7, when analysing the mechanism for hearing about iVote by reason for registration, differences are apparent. Notably, community and advocacy organisations were particularly important for blind and vision impaired respondents and those respondents with a disability. Furthermore, a significant number of rural/remote respondents (17 per cent) heard about iVote through a letter or a pamphlet.

Figure 5.7

MECHANISM FOR HEARING ABOUT iVOTE – COMPARISON BY REASON FOR REGISTRATION, PER CENT



n= 562. Survey participants could select multiple answers.

Source: Social Research Centre Survey conducted on behalf of the Allen Consulting Group.

There were also some notable differences observed in how different age groups heard about iVote with younger age groups more likely to have heard about iVote from family and friends, while older age groups were more likely to have heard about iVote through the press, as shown in Table 5.3.

Table 5.3

MECHANISMS FOR HEARING ABOUT iVOTE BY AGE GROUP, PER CENT

	18-34 years	35-64 years	65+
NSWEC Website	21	23	19
Other website	4	2	2
TV	2	5	4
Radio	1	6	6
Press	6	18	30
Social media	1	2	0
Community or advocacy organisation	8	6	6
From family/friends	40	19	16
Other	4	2	3
Can't remember	4	3	4
Phoned NSWEC	4	7	4
Received letter/pamphlet	4	6	2
Member of Parliament	1	2	4

n= 562. Survey participants could select multiple answers.

Source: Social Research Centre Survey conducted on behalf of the Allen Consulting Group.

5.2 iVote effectiveness

This section examines the effectiveness of the iVote system at meeting its stated aims. It does this by examining the benefits of iVote, including time savings, and the impacts associated with the use of iVote for voters. These aspects are considered against the systems stated aims to explore its effectiveness.

Benefits of iVote

Respondents to the survey conducted by the Allen Consulting Group and the Social Research Centre noted that the main benefits of using iVote were that it made voting easier, allowed voting while out of the State, was more convenient and it helped gain new levels of independence and empowerment. Respondents also noted that iVote offered greater convenience as it enable them to vote from home, enabled them to vote at a convenient time, eliminated travel time and costs, enabled more careful consideration of voting options and did not require someone to assist in the voting process.

For people in remote/ rural areas and those out of the State on Election Day the main benefits of iVote were highly correlated with their reason for registration. These respondents cited the main benefits as being easier, more convenient, enabling them to vote when they otherwise wouldn't be able to and enabling them to vote when they were outside the State on Election Day. A notable proportion of respondents with a disability also suggested that the main benefits of using iVote as being easier and more convenient to vote.

Importantly, a significant proportion of blind or vision impaired respondents and respondents with a disability (26 per cent and 18 per cent respectively) identified the main benefit as helping them gain new levels of independence and empowerment. Further, a comparatively high number of non-English speaking respondents (17 per cent) also identified this as the main benefit of iVote.

These benefits are consistent with the stated aim of iVote for each group. As previously mentioned, the stated aims of the iVote system are:

- to allow vision-impaired electors to vote in secret and gain new levels of independence and empowerment;
- to provide assistance to electors with other disabilities that have difficulty attending the polling place; and
- to provide assistance to those electors unable to attend a polling place on Election Day because they reside in a remote part of NSW or are interstate or overseas at the time of election.

Importantly for people in remote/ rural areas, those out of the State on Election Day and respondents with a disability the main benefits related to the ability and convenience of getting to a polling place, consistent with the aim of the system. For blind and vision-impaired respondents the main benefit as helping them gain new levels of independence and empowerment, which is also consistent with the aim of iVote. Hence, it can be concluded that the iVote system has been effective in meeting its stated aims.

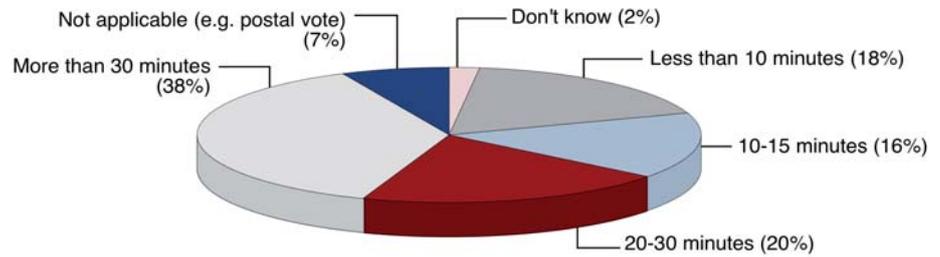
Time saving

An analysis of the time saved by using the iVote system can also assist in exploring the system's benefits. If the system reduces the time taken to vote, then these savings are benefits experienced by its users. To establish any time savings associated with the use of iVote, survey respondents were asked about the time taking to vote previously, including the time taken to get to the polling place and the time taken to cast votes using traditional methods. These responses were then compared to the time taken when using iVote to examine if there had been a reduction in the time taken to vote.

The majority of people (91 per cent) surveyed had previously voted in a State Government election prior to March 2011. As evident in Figure 5.8, the time taken by respondents to get to a polling place the previous time they voted in a State Government election was varied. Notably, a significant percentage took over 30 minutes to get to a polling place. As may be anticipated, it generally took longer for those in remote/ rural to vote in the last State election. On average, the time taken to get to a polling place across groups was 25 minutes.

Figure 5.8

TIME TAKEN TO GET TO POLLING PLACE IN PREVIOUS SGE, PER CENT



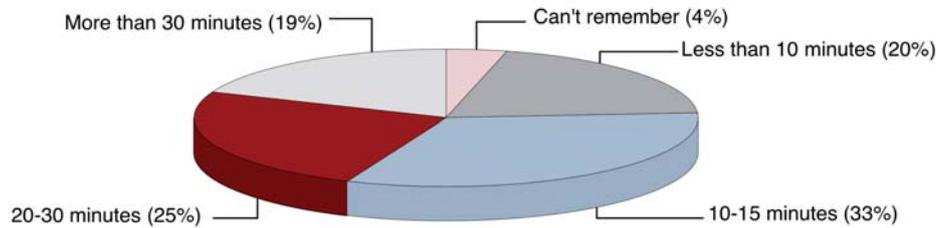
n=480

Source: Social Research Centre Survey conducted on behalf of the Allen Consulting Group.

As evident in Figure 5.9, the time taken by respondents to cast their vote using traditional voting methods was varied. The time taken to vote was evenly dispersed by reason for iVote registration. On average, the time taken to vote across groups was 21 minutes.

Figure 5.9

TIME TAKEN TO VOTE IN PREVIOUS SGE USING TRADITIONAL VOTING METHODS, PER CENT



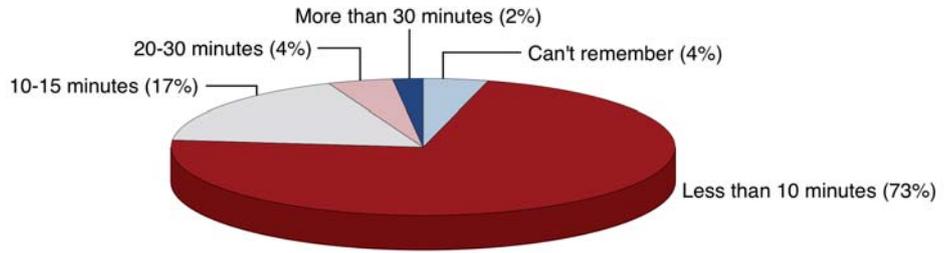
n=480

Source: Social Research Centre Survey conducted on behalf of the Allen Consulting Group.

In comparison to the time taken to vote in previous SGE using traditional methods (which was on average 46 minutes including the time taken to get to the polling place and cast a vote), it took the majority of iVote users less than ten minutes to vote (see Figure 5.10). As might be anticipated it generally took longer for those whose main language is not English, and those who registered for iVote due to blindness or vision impairment or a disability to vote using iVote. However, differences in time taken to vote across these groups were not significant.

Figure 5.10

TIME TAKEN TO VOTE USING iVOTE, PER CENT



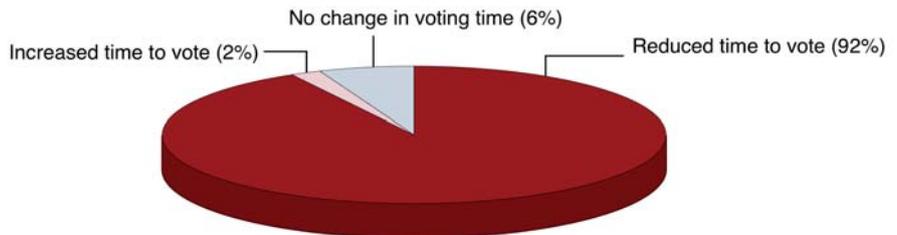
n=507

Source: Social Research Centre Survey conducted on behalf of the Allen Consulting Group.

By adding the time taken for respondents to get to the polling place and the time taken to vote the last time respondents voted in a State Government election using traditional methods, the total time taken to vote previously can be estimated. In doing so, this estimation can then be compared to the time it took respondents to vote using iVote, allowing comparisons to be drawn between the time taken for respondents to vote using iVote and their previous voting experience. The comparison, illustrated in Figure 5.11, shows that iVote reduced the time taken to vote for the majority of people. It is estimated that the use of iVote reduced the time taken to vote for 92 per cent of respondents.

Figure 5.11

PERCENTAGE OF PEOPLE WHO EXPERIENCED A REDUCTION IN TIME TAKEN TO VOTE USING iVOTE (COMPARED TO TRADITIONAL VOTING METHODS)



n=460

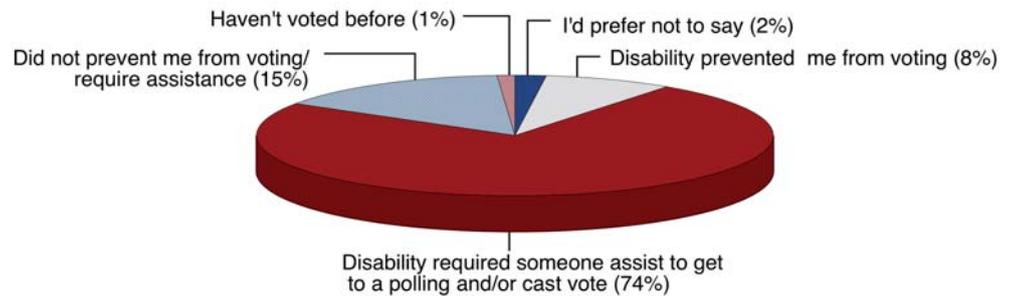
Source: Source: Social Research Centre Survey conducted on behalf of the Allen Consulting Group.

Impact of iVote on blind or vision-impaired voters and voters with a disability

When asked about the last NSW State Election, eight per cent of blind, vision-impaired respondents and respondents with a disability said that their disability had previously prevented them from voting. A further 74 per cent noted that it had required them to have someone assist them to get to a polling place or cast their vote. In total, therefore, 82 per cent of blind or vision impaired respondents or respondents with a disability had either being prevented from voting or required assistance, as seen in Figure 5.12.

Figure 5.12

IMPACT OF DISABILITY ON VOTING, PER CENT



n=165

Source: Social Research Centre Survey conducted on behalf of the Allen Consulting Group.

These survey results support the conclusion that iVote has allowed blind and vision-impaired voters and voters with a disability to vote in secret and gain new levels of independence and empowerment. Further, the iVote system has enfranchised a number of people who would otherwise not have voted. In doing so, the system has been effective in achieving its major aim.

5.3 Satisfaction with iVote

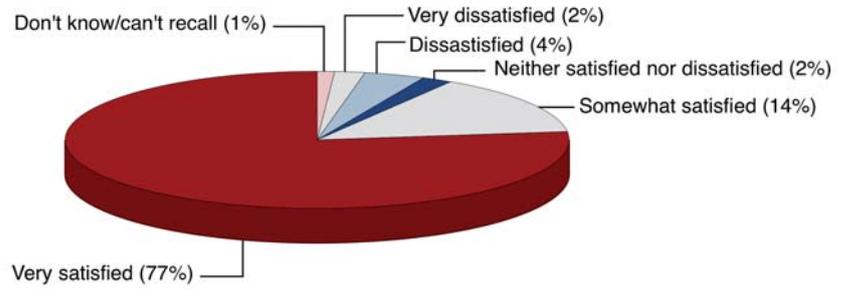
This section examines satisfaction levels of iVote users with respect to the registration process, the voting process, the information received about the system and the assistance provided by the NSW Electoral Commission. This analysis is based on the survey of iVote registrants conducted by the Allen Consulting Group and the Social Research Centre.

Satisfaction with iVote registration

Overall, the vast majority (91 per cent) of respondents were either satisfied or very satisfied with the iVote registration process. The breakdown of satisfaction levels is illustrated in Figure 5.13. Only a small proportion of respondents were dissatisfied (4 per cent) or extremely dissatisfied (2 per cent). Satisfaction levels with registration were similar across all reasons of registration.

Figure 5.13

SATISFACTION WITH iVOTE REGISTRATION, PER CENT



n=530

Source: Social Research Centre Survey conducted on behalf of the Allen Consulting Group.

In relation to satisfaction with the registration process across different demographic groups, it is important to note that no respondents of Aboriginal descent were dissatisfied. However, a slightly larger number of non-English speaking respondents (10 per cent) were dissatisfied with the registration process, than English speaking respondents (7 per cent).

The two main reasons for dissatisfaction with the iVote registration process were that it was difficult to find information about how to register and the registration process was too inconvenient. However, significant differences were observed between respondents according to their reason for registration, as seen in Table 5.4.

Table 5.4

REASON FOR DISSATISFACTION WITH THE iVOTE REGISTRATION PROCESS, PER CENT

	Blind or vision impaired	Disability	Remote/rural	People outside State	All groups
It was difficult to find information about how to register	18	60	0	19	20
Fears of security of my personal information	0	20	0	6	5
Took too long	9	0	25	6	10
Didn't trust the process	0	0	13	0	3
Too inconvenient	45	0	13	13	20
Other	27	20	50	56	43
Total	100	100	100	100	100

Note: Totals may not add to 100 due to rounding.

n=40

Source: Social Research Centre Survey conducted on behalf of the Allen Consulting Group.

People with a disability and those outside the State were predominately dissatisfied with the registration process because they thought it was difficult to find information about how to register and this was particularly prevalent for people with a disability. The main source of dissatisfaction for blind or vision-impaired respondents was that the registration process was too inconvenient. Respondents in remote/rural areas were predominately dissatisfied with the registration process as they thought it took too long.

The respondents who were dissatisfied with the registration process because it was too inconvenient suggested this was due to problems such as:

- computers not accepting details;
- the limited availability of computers in rural/remote areas;
- a need to be home to obtain a password; and
- inconvenience associated with having to wait for authorisation.

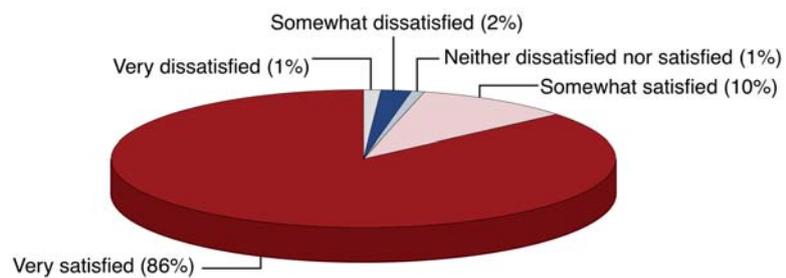
Other reasons for dissatisfaction with the registration process given included technical problems, confusion, issues with the timing of voting and registration and difficulties in understanding the process.

Satisfaction with iVote during the voting process

The vast majority (96 per cent) of iVote users surveyed were either satisfied or very satisfied with the way iVote worked when casting their vote (see Figure 5.14). Across all reasons for registration, over 95 per cent of respondents were satisfied with iVote during the voting process. Respondents of Aboriginal descent and from a non-English speaking background also experienced similar levels of satisfaction. Additionally, satisfaction levels with online and telephone voting were also high.

Figure 5.14

SATISFACTION WITH iVOTE DURING VOTING, PER CENT



n=507

Source: Social Research Centre Survey conducted on behalf of the Allen Consulting Group.

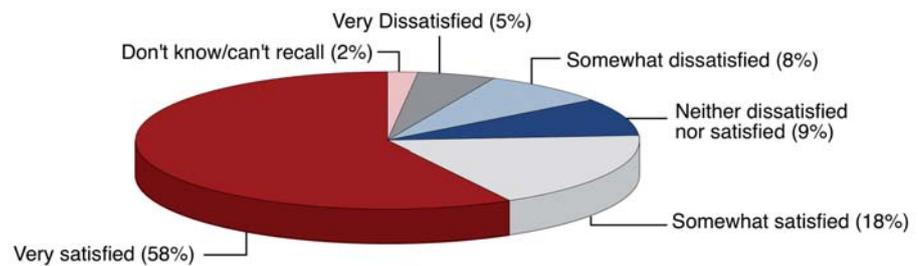
With only a limited amount of respondents dissatisfied with iVote during the voting process, the reasons given for dissatisfaction included voting taking too long, lack of ability to vote informally and a lack of available information.

Satisfaction with iVote information

Satisfaction levels with the information received from the NSW Electoral Commission in making respondents aware of the iVote system were moderately high. As shown in Figure 5.15, some 76 per cent of respondents were somewhat satisfied or very satisfied with the information they received, while 13 per cent of respondents were somewhat dissatisfied or very dissatisfied with the information they received.

Figure 5.15

SATISFACTION WITH INFORMATION ABOUT iVOTE, PER CENT



n=530

Source: Social Research Centre Survey conducted on behalf of the Allen Consulting Group.

The main suggestion to improve the information provided was to increase the promotion and advertisement of iVote. It was also suggested that the NSW Electoral Commission should make the iVote website easier to navigate and more user friendly.

Satisfaction with iVote assistance

Overall, 19 per cent of surveyed respondents sought assistance when registering for or using iVote. Importantly, this was relatively consistent across method for registration, although blind or vision impaired voters were more likely to seek help, with 32 per cent of these respondents seeking assistance.

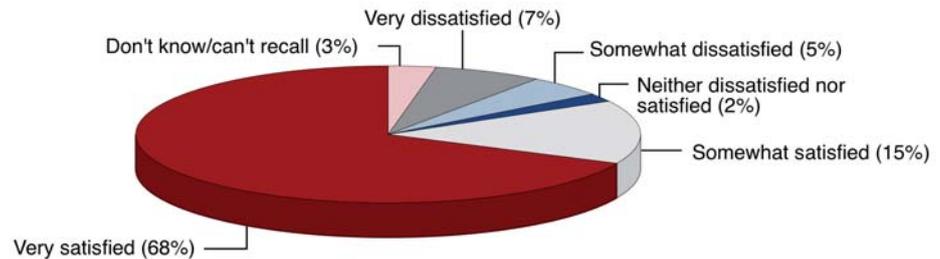
Levels of assistance sought were slightly higher for online voting and registration (19 per cent) than telephone registration and voting (11 per cent). Additionally, while levels of assistance for those of Aboriginal descent were consistent with the overall levels, those respondents from a non-English speaking background were slightly more likely to seek assistance (23 per cent).

Satisfaction levels with assistance received when problems were experienced with the iVote system were high. As illustrated in Figure 5.16, 83 per cent of those who received assistance were very satisfied or somewhat satisfied with the assistance available. Twelve per cent of those who sought assistance were somewhat dissatisfied or very dissatisfied with the assistance they received.

Importantly, satisfaction levels with assistance received over the phone were significantly lower (50 per cent). However, it is important to note that this result comes from a particularly small sample size (total of 8 respondents). Satisfaction levels with assistance received by those from a non-English speaking background were also slightly lower (71 per cent) than overall satisfaction levels. However, again it is important to note that this result comes from a particularly small sample size (total of 7 respondents).

Figure 5.16

SATISFACTION WITH ASSISTANCE WHEN EXPERIENCING PROBLEMS WITH iVOTE, PER CENT



n=100

Source: Social Research Centre Survey conducted on behalf of the Allen Consulting Group.

Satisfaction with the conduct of the election

The majority of respondents (79 per cent) thought the NSW Electoral Commission had conducted the election impartially and without bias. A notably minority of respondents (19 per cent) stated that they would prefer not to comment, and only a small percentage (2 per cent) of respondents thought that the NSW Electoral Commission had not conducted the election impartially and without bias. However, it is important to note that this result comes from a particularly small sample size, with only a total of 10 respondents suggesting they felt this way.

Reasons for respondents dissatisfaction included:

- that counters after Election Day were one-sided favouring one party;
- a suggestion that some voters can vote more than once; and
- that proof of identity is not required when voting.

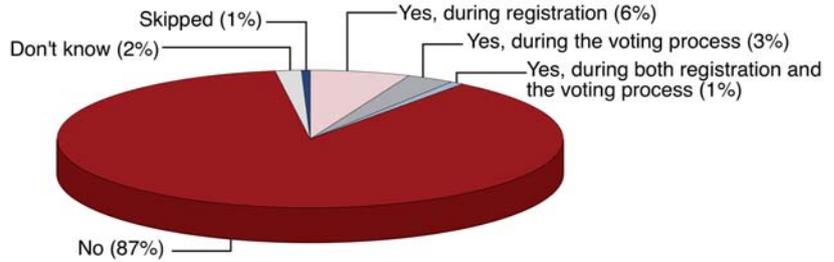
5.4 Issues experienced by iVote users

Both the iVote registration and voting process appear to have been relatively problem free. As shown in Figure 5.17, very few technical problems were experienced either during the registration or voting processes, with 87 per cent of respondents not experiencing any technical glitches.

Notably, there was not a significant difference in the number of problems by method for registration, with a similarly low level of problems experienced for those who voted over the phone and online. Further, there were not meaningful differences in the number of problems experienced by reason for registration or age group.

Figure 5.17

IVOTE USERS THAT EXPERIENCED TECHNICAL PROBLEMS, PER CENT



n=530

Source: Social Research Centre Survey conducted on behalf of the Allen Consulting Group.

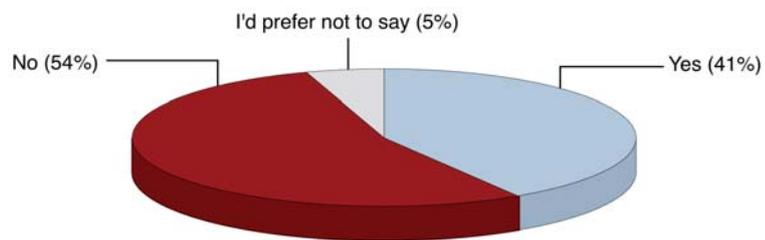
Only 6 per cent of respondents experienced technical problems during the registration process. A further 3 per cent experienced technical problems during voting, while just 1 per cent experienced problems both during the registration and voting process. In total, therefore 10 per cent of respondents had some technical problem with the iVote system.

Technical problems did not lead to high levels of concern about the security of respondents vote. Of the 10 per cent of respondents who did experience problems, the majority (81 per cent) suggested that this did not raise concerns about the security of their vote. Only 13 per cent of those who experienced technical problems (or 7 respondents) suggested that technical problems did raise security concerns.

5.5 Areas for improvement

A noteworthy percentage of respondents (41 per cent) suggested that the NSW Electoral Commission could improve iVote (see Figure 5.18).

Figure 5.18

CAN iVOTE BE IMPROVED?

n=530

Source: Social Research Centre Survey conducted on behalf of the Allen Consulting Group.

While this is a significant percentage it should be noted that some respondents who suggested that iVote could be improved, suggested that in order to improve iVote it should be extended to the wider population. This suggestion may bias the percentage as it can be argued that this should not be classed as a need for improvement of the iVote system. It may instead, indicate that the system does not need improvement as respondents are suggesting it be extended.

Importantly, a large number of those who suggested improvements suggested that the system was in need of increased promotion. Survey respondents noted that to improve the system it needed to be advertised and promoted to a greater extent.

Other areas cited as requiring improvement included:

- making the NSW Electoral Commission's iVote website easier to navigate;
- making the registration process easier;
- providing clearer information;
- fixing technical glitches; and
- eliminating the paper mail interface.

Chapter 6

iVote and future elections

This chapter assesses the overall satisfaction, benefits, applicability and cost effectiveness of using iVote in future elections. The analysis is based on three main information sources:

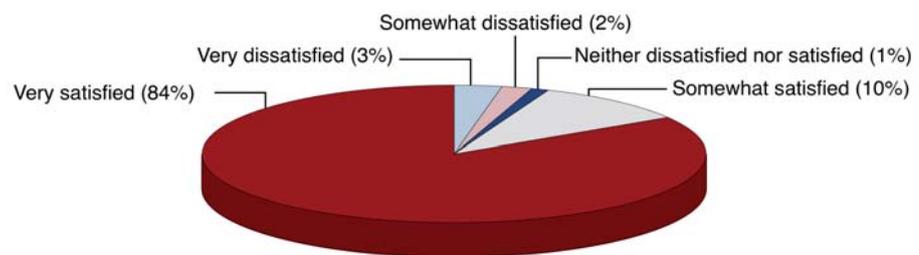
- the survey conducted by the Allen Consulting Group and the Social Research Centre;
- data provided by the NSW Electoral Commission on costs of using iVote in future State General Elections and Local Government Elections; and
- information sourced from the iVote feasibility study.

6.1 Overall satisfaction with iVote

Overall satisfaction levels with the iVote system were high. Figure 6.1 shows that 94 per cent of respondents were very satisfied or somewhat satisfied with iVote and only 5 per cent of respondents were somewhat dissatisfied or very dissatisfied with the iVote system overall. Similar levels of overall satisfaction for all four methods of registration were observed. However, dissatisfaction levels of those from a non-English speaking background were slightly higher (13 per cent) than overall dissatisfaction levels.

Figure 6.1

OVERALL SATISFACTION WITH iVOTE, PER CENT



n=530

Source: Social Research Centre Survey conducted on behalf of the Allen Consulting Group.

These high levels of satisfaction suggest that the users of iVote in the 2011 NSW SGE are likely to be willing to use the system again in future elections. Further, a vast majority (94 per cent) of respondents to the survey conducted by the Allen Consulting Group and the Social Research Centre suggested that they would recommend iVote to people they know. Importantly, this was fairly consistent across reason for registration, descent and main-language spoken, suggesting that the system is suitable to these differing user groups.

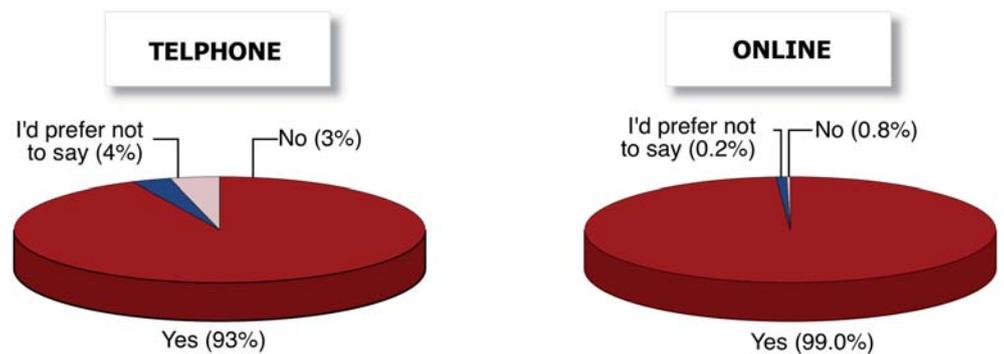
It could be expected that subsequent users would also experience similar benefits to those outlined by respondents to the survey conducted by the Allen Consulting Group and the Social Research Centre. These include making voting easier, allowing voting while out of the State, greater convenience and gaining new levels of independence and empowerment. Additionally, for the eight per cent of blind respondents or respondents with a disability who said that their disability had previously prevented them from voting, iVote is particularly important. By extending iVote to future elections participation rates for blind voters and voters with a disability may be increased in a similar way.

As well as those benefits identified by survey respondents, there are a number of wider benefits for the community. For example, whilst increased participation rates directly benefit the individuals voting, they also lead to a more effective democratic process, where all members of the community influence the outcome of elections. Further, it was noted by respondents to the survey, conducted by the Allen Consulting Group and the Social Research Centre, that iVote reduced the level of assistance required to vote. As well as increasing independence for these electors this may have wider community benefits by reducing the need for assistance during voting.

Most importantly, when asked directly about the extension of iVote to future elections, the vast majority of respondents surveyed (98 per cent) directly supported its use. This was replicated across all reasons for registration. While this was also true for both methods of registration, those respondents who registered online were more likely to support the use of iVote in other elections (see Figure 6.2). Reasons given by respondents for not supporting the use of iVote in other election included a belief that it should be developed further first as well as some suggestion that iVote takes too long to use.

Figure 6.2

SURVEY RESPONDENTS WHO SUPPORT THE USE OF iVOTE IN OTHER ELECTIONS BY REGISTRATION METHOD, PER CENT



Telephone n=74, online n=432

Source: Social Research Centre Survey conducted on behalf of the Allen Consulting Group

The results of the 2011 General Elector Survey conducted by the NSW Electoral Commission are also consistent with this view. Over half (56 per cent) of respondents to this survey suggested they would use the iVote system if they were eligible. Notably, the results of this survey also suggest that younger voters were significantly more likely to use the system than older voters.

These findings add further support for the use of iVote in subsequent elections. However, in considering the use of iVote in further elections the reasons given by survey respondents for not recommending iVote to others may warrant consideration. These reasons included security and validity concerns such as voting fraud, the reliability of the system and that it is not suitable for member of the community that are technologically challenged.

6.2 Applicability of iVote to future elections

Recently, the NSW Parliament passed the *Local Government Amendment (Elections) Act 2011*, which was assented on 27 June 2011. The Act amends the *Local Government Act 1993* and has a variety of objectives. Of most relevance to this study, it provides that councils, in general, are to administer council elections, council polls and constitutional referendums rather than the NSW Electoral Commissioner. In relation to iVote, these changes mean that it may be unlikely that individual councils or groups of councils will provide electronic voting for voters due to the costs involved in setting it up for a limited number of users.

However, a council may, within 12 months after an ordinary election of councillors for the area, resolve that the council is to enter into a contract or make arrangements with the Electoral Commissioner for the Electoral Commissioner to administer all elections for the council (other than elections of mayors and deputy mayors by councillors). If this occurs, iVote could potentially be used in LGEs and this option is therefore discussed in this report.

By using iVote in future State elections and potentially expanding the system to LGEs, cost savings and synergies may be achieved. It could be anticipated that the number of users would increase in subsequent elections through increased awareness of the system, the high satisfaction noted and the fact that many users suggested they would recommend the system. Further promotion as well as word of mouth advertising would be expected to increase the number of iVote users in later elections.

The rationale behind the implementation of the iVote system in the 2011 NSW SGE would apply in a similar way to future elections. Extending the use of iVote to future elections would allow blind or vision impaired people to vote in secret, thereby allowing them to gain new levels of independence and empowerment. Extension to other elections would also provide assistance to electors with other disabilities that have difficulty attending a polling place. Further, it would aid those electors unable to attend a polling place on Election Day through being resident in a remote part of NSW or interstate or overseas at the time.

It is therefore anticipated that, if iVote was available in future SGEs or extended to LGEs, it would be well received by users.

6.3 Cost effectiveness

The adoption of iVote as a voting mechanism and the associated estimated usage of the system are fundamental in analysing the potential use of iVote in future elections. However, also crucial to the future use of the system is its cost, including relative to traditional voting alternatives.

The 'average cost per vote' is often used as a measure of cost effectiveness for voting systems. In light of this, this section:

- analyses the estimated and actual cost per vote of iVote in the 2011 NSW SGE;
- assesses the estimated cost per vote for future SGEs based on alternative take-up rates (number of users);
- analyses estimates of cost per vote for using iVote in a LGE;
- compares the average cost per vote of traditional paper-based voting systems, the costs associated with recent trials of different voting systems, the cost per vote of iVote in the 2011 NSW SGE and the estimated cost of future use of iVote in other elections; and
- estimates a monetary value for the time savings associated with the use of iVote.

Estimated, actual and future iVote costs for a SGE

The average cost of the iVote system per vote cast in the 2011 NSW SGE was approximately \$74. Importantly, the actual average cost per vote for this election was significantly lower than estimates calculated prior to the event as shown in Table 6.1. The reduction in cost per vote is due to the higher than anticipated number of users, rather than a reduction in actual costs.

In terms of the overall cost of the system, prior to the election, it was estimated to amount to nearly \$3.2 million dollars, while in total the iVote system actually cost just over \$3.5 million. However, prior to the election the costs were distributed across 10,000 users, where as there were actually approximately 50,000 users, hence leading to the large reduction in cost per vote.

Table 6.1 also includes estimates for a subsequent SGE based on the costs incurred in the 2011 SGE. Notably, while there are some synergies arising from further use of the system, the estimated costs per vote for the same number of users remain fairly similar.³ Cost savings if the system was to be used again have been identified in iVote system software and configuration and interfaces to existing systems.

However, these cost savings have been largely offset by increases in other areas, including hardware, equipment and external audit and testing. The NSW Electoral Commission noted that these increases could be attributed to areas where the Commission had decided more time, effort and money needed to be spent if the system was to be used again. Hence, if the iVote system was to be used again in another SGE, with the same number of users, similar costs to those incurred in the 2011 election would be anticipated. This suggests that there are not cost efficiencies or synergies to be achieved by using the system for more than one election.

Notably, while the cost per vote is estimated to remain fairly similar for the same number of users, if the take-up of iVote is greater, the estimated cost per vote falls. With a take-up of 200, 000 users, the cost per vote is estimated to be reduced to approximately \$24 per vote. This reduction in costs is attributable to the fact that there are a number of fixed costs in using the system such as those associated with project and contract management, external audit and testing, contingency funds and awareness and promotion. These fixed costs suggests there are significant economies of scale to be achieved if the number of users is increased.

³ It should be noted that the estimated costs from a subsequent SGE include a \$300,000 contingency. Without this contingency cost, costs per vote would be reduced to \$63.58.

Table 6.1

IVOTE COSTS FOR A SGE, \$

	Pre election estimated cost for SGE 2011	Actual cost for SGE 2011	Estimated costs for a subsequent SGE*	Estimated costs for a subsequent SGE*
Capacity (No. of users)	10,000	46,864**	50,000	200,000
Project & contract management	419,577	461,679	400,000	400,000
Procurement & specialist advice	494,490	1,069,782	1,500,000	1,700,000
Registration & support	290,000	71,596	200,000	500,000
iVote system Software & configuration	900,000	887,175	294,000	790,000
Voice script recording	25,000	-	35,000	35,000
Interfaces to existing systems	85,000	57,333	100,000	100,000
Hardware	94,000	87,590	100,000	250,000
Equipment & IVR hosting	104,125	177,778	200,000	200,000
External audit and testing	75,000	-	200,000	200,000
iVote awareness & promotion	200,000	381,763	150,000	250,000
Contingency	512,438	-	300,000	300,000
Other costs	-	257,673	-	-
Additional logistic resources	-	8,588	-	-
Unallocated	-	7,739	-	-
Total	3,199,630	3,468,696	3,479,000	4,725,000
Cost per vote	319.96	74.02	69.58	23.63

Note: * based on actual costs incurred in 2011 SGE. ** based on the actual number of voters in the 2011 SGE.
Source: Data provided by the NSWEC and NSWEC 2010.

Estimated iVote costs for a LGE

Based on the costs incurred for the use of the iVote system in the NSW 2011 SGE, costs for the use of the system in a LGE can be estimated. The NSW Electoral Commission estimated the costs for using the iVote system in a LGE to be significantly lower than for a SGE for the same number of users (see Table 6.2). However, it should be noted that these costs are estimated under a different set of assumptions, namely:

- the LGE version of the system would operate without phone voting;
- iVote would be used with declaration conditions the same as postal voting; and
- a human intermediary would assist all absent voting and vision impaired use (the system would not be interactive voice response assisted).

An additional assumption related to estimations of the cost of the system under a proposed usage of one million users is that declaration conditions would be the same as pre-poll voting. These figures also assume that the system would also heavily marketed to attract this number of users.

Table 6.2 shows that there are significant economies of scale to be obtained with increased numbers of iVote users in LGEs. This is such as the fixed costs, for instance those associated with project and contract management and interfaces, to existing systems are spread over a greater number of users.

While the costs per vote are significantly lower than those for the use of iVote in SGEs, as noted above, this can be attributed to the fact that it is based on different assumptions as to the operation of the system. In addition it should also be noted that it is very difficult to forecast cost per vote for future LGEs with any accuracy because of factors such as:

- the greater complexity and size of an LGE
- the number of elections and by-elections; and
- the larger number of candidates who differ in each Local Government Area.

This has been further complicated by the recent changes to the conduction of LGE's, as noted earlier.

If the iVote system is to be considered for future LGEs, then the following will need consideration:

- additional legislative changes to enable the use of the iVote system in LGEs;
- the funding model for use at LGEs; and
- the operation of the system at by-election events.

Table 6.2

ESTIMATED iVOTE COSTS FOR A SUBSEQUENT LGE, \$

	Scenario 1	Scenario 2	Scenario 3
Capacity (No. of users)	200,000	500,000	1,000,000
Project & contract management	400,000	400,000	400,000
Procurement & specialist advice	1,500,000	1,700,000	2,000,000
Registration & support	200,000	600,000	1,000,000
iVote system Software & configuration	730,000	1,080,000	1,330,000
Voice script recording	N/A	N/A	N/A
Interfaces to existing systems	150,000	150,000	150,000
Hardware	200,000	250,000	300,000
Equipment & IVR hosting	100,000	120,000	150,000
External audit and testing	100,000	120,000	150,000
iVote awareness & promotion	200,000	300,000	400,000
Contingency	300,000	400,000	600,000
Total	3,880,000	5,120,000	6,480,000
Cost per vote	19.40	10.24	6.48

Source: NSWEC

Cost benchmarking

An assessment of the cost of iVote has two components. Firstly, the cost can be compared to other voting systems with similar objectives and secondly, the costs can be compared to traditional voting mechanisms based on estimated take-up rates. To measure the cost effectiveness of iVote, this section compares the average cost per vote of iVote with the average cost per vote of other voting systems, as well as the average cost based on differing levels of users. Table 6.3 outlines the costs of traditional paper-based voting systems, the costs associated with recent trials of different voting systems, the cost per vote of iVote in the 2011 NSW SGE and the estimated cost of future use of iVote in other elections.

Table 6.3

COST BENCHMARKING OF DIFFERENT VOTING SYSTEMS, \$

Voting event	Average cost per vote
Average of all votes cast in March 2007 NSW State General Election	Approx. \$10
Average of all votes cast in March 2011 NSW State General Election	Approx. \$8
Braille ballot papers used for NSW LGE 2008	\$478
AEC 2007 ADF trial of Remote Electronic Voting System	\$521
AEC 2007 Electronically Assisted Voting for Electors who are Blind or have Low Vision	\$2,597
VEC 2006 trial of electronic voting kiosks for Electors who are Blind or Vision Impaired	\$3,750
Average of votes cast using iVote in March 2011 NSW State General Election	Approx. \$72
Estimated cost of future use of iVote in future NSW State General Election	
With 50,000 votes cast	Approx. \$70
With 200,000 votes cast	Approx. \$24
Cost per elector in the 2008 NSW Local Government Election	\$5.71
Estimated cost of future use of iVote in future NSW Local Government Election	
With 200,000 votes cast	Approx. \$19
With 500,000 votes cast	Approx. \$10
With 1,000,000 votes cast	Approx. \$6

Source: Data provided by the NSWEC and NSWEC 2010.

While noticeably more expensive than the average of all votes cast in the 2011 NSW SGE, Table 6.3 clearly shows that when compared to other voting systems with similar objectives, iVote is cost effective. In the 2011 NSW SGE the average cost of all votes cast was approximately \$8, while the cost of iVote at approximately \$74 per vote in the 2011 NSW SGE. However, when compared to the cost of a range of other mechanisms that have been used in the past for a similar target audience, iVote is significantly cheaper. For example, Braille ballot papers used for the NSW LGE in 2008, cost \$478 per vote, over six and a half times the cost per vote of iVote.

The additional benefit of iVote is that while aimed at improving the voting experience of its four target groups it can be easily and readily expanded to the wider population. If this was to occur, it is anticipated that the benefits experienced by previous iVote users would flow to the wider population. Again, it is noted that for this to occur, legislative changes would be necessary.

Importantly, the number of votes cast significantly impacts on the cost per vote as a high proportion of these costs are fixed per election, as discussed above. Hence, as outlined in Table 6.3 the future adoption rates of the system will significantly affect the cost per vote. Importantly, in relation to future SGEs it is estimated that increasing the usage of iVote to 200,000 votes would lower the cost to around \$24 per vote. At this level, the cost per vote is even cheaper than other relevant voting mechanisms and is only three times the average cost of votes cast in the 2011 NSW SGE.

With increased usage beyond 200,000 users, it is anticipated that the cost per vote would continue to decline. It has been suggested by NSW Electoral Commission's officials that if the number of votes cast using iVote was increased to around 500,000, then at this point the cost per vote for using iVote would be broadly comparable to the average cost for votes cast during a SGE. This has important implications, since not only would the system be improving outcomes for its users but it would also be as cost effective as traditional methods.

For use in LGEs, iVote is even more cost effective. While it is important to note the difficulty in accurately estimating these costs and the different assumptions they are based on (such as the system operating without phone voting), with an uptake of 500,000 users the system would cost around \$10 per vote cast. Again, increased uptake would further reduce the cost per vote, with estimations of approximately \$6 per vote cast if one million voters used the system. If the number of votes cast did reach this level, this would bring the cost per vote to a similar level of the cost per elector (\$5.71) in the 2008 NSW LGE.

Hence, it is estimated that the use of iVote is not only cost effective when compared to other mechanisms that allow blind or vision-impaired voters or voters with a disability to vote, but, if future take-up levels are high enough, it may be comparable (or possibly cheaper) than traditional voting methods.

It is noted that increases in the number of votes cast using the iVote system will mean that other voting alternatives are not being used. This has an important ramification for costs, as the actual cost of using iVote will be offset by a reduction of costs associated with reduced usage of more expensive alternatives. As such, the use of iVote may reduce other election costs and add to its cost effectiveness.

Time saving

As part of the questions asked by the survey, conducted by the Allen Consulting Group and the Social Research Centre, respondents were asked about the amount of time taken to vote in previous elections without iVote and the time taken using iVote. These questions then allowed for calculations to be made about the amount of time saved through the iVote initiative, which represents a private benefit for iVote users.

As noted in the previous chapter, the use of iVote reduced voting time for 92 per cent of respondents. By making some assumptions about the average time taken in each given time range (e.g. if people nominated voting taking between 10-15 mins, assigning a time of 12.5 minutes to their answer) allows a calculation of how much time iVote saved respondents. As illustrated in Table 6.4, it is estimated that traditional voting methods took respondents an average of 46 minutes in total to vote (including travel to and from the polling place). In contrast, iVote, on average, is estimated to have taken respondents only 8 minutes in total. Therefore, it is estimated that iVote saved users an average of 38 minutes by using iVote instead of traditional voting methods.

Table 6.4

AVERAGE TIME TAKEN TO VOTE, MINUTES

Voting method	Description	Av. Time
Traditional voting methods	Time taken to get to the polling place	25
	Time taken to vote	21
	Total time using traditional methods	46
iVote	Time taken to vote	8
Estimated time saved		38

Source: Social Research Centre Survey conducted on behalf of the Allen Consulting Group.

The estimated time savings can be used to obtain an estimate of the value of time saved as a dollar amount, by multiplying the time saved by average weekly earnings. Based on data obtained from the ABS in February 2011, average weekly full time adult ordinary time earnings in NSW were \$1,317.60 (ABS, 2011). This would equate to a saving of just over \$22 per voter.

Taking these private savings into account when considering the cost per vote of iVote, would reduce the cost per vote significantly. Additionally, if the estimated cost of time savings were included when assessing iVote against other trial initiatives, it would prove to be even more cost effective. By taking these savings into account, the average cost per vote for a subsequent SGE with 50,000 users, would potentially be reduced to \$47. This is by far the most cost effective mechanism out of those trialled to date.

Chapter 7

Conclusions and recommendations

7.1 Conclusions

- The iVote system has been proven to work and be appropriate in a real election environment. It provided a convenient, reliable and secure method of voting in the 2011 NSW SGE for people who are blind or vision impaired, have a disability, live in remote or rural areas or who were outside NSW on Election Day.
- The take-up of the iVote system was highly successful. A total of 51,103 people registered to use iVote and a total of 46,864 (or 92 per cent) actually used it to cast their votes in the 2011 NSW SGE. The actual number of users was in the order of four times the original estimates.
 - The blind or vision impaired group and the group of electors with other disabilities experienced lower than estimated take-up rates, with only 2,000 people from these groups casting their vote using iVote.
 - The registrations and votes received from people in remote or rural areas exceeded original take-up estimates by almost three fold.
 - The vast majority of iVote registrants and users were people outside the State on Election Day.
- The above suggests that the success of iVote (in terms of its uptake) was mainly driven by people who used it because they were outside of NSW on Election Day.
- The majority of iVote registrants used the Internet to register. However, 47 per cent of blind or vision impaired users registered through the call centre. This suggests that the call centre was particularly important for blind and vision impaired users.
- The vast majority of iVote users (95 per cent) cast their vote online. However, telephone voting was particularly important for the blind and vision impaired, and to a lesser extent, for people with other disabilities.
- Most registrants had heard about iVote through the NSW Electoral Commission's website or family and friends, followed by the press. Community organisations were particularly important to the blind or vision-impaired and other people with disabilities.
- The main benefits of iVote identified by users were that it made voting easier, allowed voting while out of the State, was more convenient and it helped gain new levels of independence and empowerment. Users also noted that iVote offered greater convenience as it enable them to vote from home, to vote at a convenient time, eliminated travel time and costs, enabled more careful consideration of voting options and did not require someone to assist in the voting process.

- iVote was effective in facilitating a secret and independently verifiable vote for voters who are blind or vision impaired. A significant number of blind and vision-impaired users also identified the main benefit of iVote as helping them gain new levels of independence and empowerment. Further, the iVote system has enfranchised a lot of people who would otherwise not have voted. In doing so, the system has been effective in achieving its major aims.
- Satisfaction levels with the iVote registration process, the voting process, the information received about the system and the assistance provided to use iVote were significantly high:
 - 91 per cent of users surveyed were either satisfied or very satisfied with the iVote registration process;
 - 96 per cent of users surveyed were either satisfied or very satisfied with the way iVote worked when casting their vote;
 - 76 per cent of respondents were somewhat satisfied or very satisfied with the information received from the NSW Electoral Commission about the iVote system; and
 - 19 per cent of surveyed users sought assistance when registering for or using iVote. Of this, 83 per cent were very satisfied or somewhat satisfied with the assistance provided.
- Only 6 per cent of respondents experienced technical problems during the registration process. A further 3 per cent experienced technical problems during voting, while just 1 per cent experienced problems both during the registration and voting process. In total, therefore 10 per cent of respondents had some technical problem with the iVote system.
- A noteworthy percentage of respondents (41 per cent) suggested that the NSW Electoral Commission could improve iVote.
 - A large number of those who suggested improvements suggested that the system was in need of increased promotion.
 - Some of the suggestions to improve iVote related to extending the system to the wider population. This suggestion may bias the percentage of respondents that suggested that iVote could be improved as it can be argued that this should not be classed as a need for improvement of the system. It may instead indicate that the system does not need improvement as respondents are suggesting it be extended.
 - Other areas cited as requiring improvement included making the NSW Electoral Commission's website easier to navigate, making the registration process easier, providing clearer information, fixing technical glitches and eliminating the paper mail interface.
- The average cost per vote cast using iVote was lower than originally anticipated, but this was mainly due to the eligibility extension to people outside the State during Election Day.

- While there are not significant cost savings or efficiencies by using the iVote system for more than one election, the fixed costs associated with its use suggest there are significant economies of scale to be achieved if the number of users is increased. Therefore, the cost per vote of the iVote system is likely to continue to reduce with further increases in take-up levels.
- While more expensive than the average of all votes cast in the 2011 NSW SGE, iVote is cost effective when compared to previous voting arrangements provided to cater for special needs groups.
 - In relation to future SGEs it is estimated that increasing the usage of iVote to 200,000 votes would lower the cost to around \$24 per vote. At this level, the cost per vote is even cheaper than other relevant voting mechanisms and is only double the average cost of votes cast in the 2007 NSW SGE.
 - With increased usage beyond 200,000 users, it is anticipated that the cost per vote would continue to decline. It has been suggested by NSW Electoral Commission's officials that if the number of votes cast using iVote was increased to around 500,000, then at this point the cost per vote for using iVote would be comparable to the average cost for votes cast during a SGE.
 - The use of iVote for future LGEs appears to be even more cost effective. While it is the difficulty in accurately estimating these costs and the different assumptions they are based on (such as the system operating without phone voting) are noted, with an uptake of 500,000 users the system would cost around \$10 per vote cast. Again, increased uptake would further reduce the cost per vote, with estimations of approximately \$6 per vote cast if one million voters used the system. If the number of votes cast did reach this level, this would bring the cost per vote to a similar level of the cost per elector in the 2008 NSW LGE.
 - While the cost effectiveness of the use of iVote for future LGEs is noted, recent legislative changes to the way LGEs are conducted (which allow councils to administer council elections, council polls and constitutional referendums rather than the NSW Electoral Commissioner) mean that it may be unlikely that individual councils or groups of councils will provide electronic voting due to the costs involved in setting it up for a limited number of users.
- It is estimated that the use of iVote is not only cost effective when compared to other mechanisms that allow blind or vision-impaired voters or voters with a disability to vote, but, if future take-up levels are high enough, it may be comparable (or possibly cheaper) than traditional voting methods.
- Taking time savings into account when considering the cost per vote of iVote, would reduce the cost per vote significantly. Additionally, if the estimated cost of time savings were included when assessing iVote against other trial initiatives, it would prove to be even more cost effective.

7.2 Recommendations

In any future implementation of iVote for future elections, the following considerations are recommended.

- iVote received a highly positive reception and most users are interested in using it again and would recommend it to other people. Also, many of the suggestions for improving the system were around extending it to other groups/general population. Extending eligibility to the system to other groups or the general population is also likely to result in lower costs per vote. In light of this, it is recommended that consideration be given to changing the legislation to extend iVote eligibility to other groups (for instance, postal voters) or the general population.
- The majority of people who were eligible to use iVote and did not register to use it stated that the reasons for not registering were a lack of familiarity with the system or knowledge about how to use it or about eligibility requirements. Hence, to increase participation of eligible iVote users, greater familiarity with the technology and promotion of the accessibility to the technology is required to overcome reluctance to try new ways of casting a vote.
- Further promotion of the iVote system could be achieved through:
 - the continuation of community and advocacy organisations to promote higher iVote usage by blind or vision impaired users and users with a disability; and
 - a stronger media campaign in radio, TV and press to raise general awareness of the existence and eligibility requirements of iVote.
- It is recommended that possible areas for cost synergies be explored to lower the cost per vote for subsequent elections. It would be anticipated that if the iVote system was going to be used consistently in the future then over time cost efficiencies and synergies should become available. For example, this may include looking at purchasing hardware that can be reused or establishing long-term contracts with software supplies, both of which would be anticipated to lead to cost savings.
- In addition to promotion of the system, it is recommended that the NSW Electoral Commission explore additional strategies to facilitate higher level of take-up in the future. While promotion would assist in this area, consideration might be given to aspects such as access to the system, such as providing publically available computers. This would assist in increasing the take-up of the system in future elections.
- Other general recommendations include:
 - making the NSW Electoral Commission’s iVote website easier to navigate;
 - fixing the few technical glitches experienced by users during the 2011 NSW SGE; and
 - making the registration process easier and simpler.

Appendix A

Survey instrument

Survey introduction

The Allen Consulting Group and the Social Research Centre have been engaged by the NSW Electoral Commission to undertake an evaluation of the iVote initiative.

As part of this research, we are undertaking a survey to obtain feedback from users on iVote and identify where iVote performance could be improved. You have been selected to participate in this research as you registered to use the iVote system. It is important that we speak to both people who **have** and **haven't** used the system to vote on the 26th of March State election, so we would really appreciate if you could participate in this survey even if you did not vote using iVote.

The survey will take around 15 minutes to complete.

Your details have been provided to us by the NSW Electoral Commission under strict confidentiality conditions. Your details will not be used for any purpose other than for the conduct of this survey and we will destroy all our records containing your contact details and any other identifiable information of a personal nature after the completion of this survey. The answers you provide will be treated confidentially. All data will be presented in group form, so your particular responses will remain anonymous.

If you didn't vote in the past 26th of March State election please be assured that this information will remain confidential and you cannot be penalised as a result of your survey responses. Your name will not be linked to the data. The information you provide as part of this survey will not be used to test compliance with the *Parliamentary Electorates and Elections Act 1912* or the *Local Government Act 1993* and will not be used as a basis for issuing penalties for not voting.

If you have any questions or concerns regarding this survey, you can contact the NSW Electoral Commission via the email:
surveyresponses@elections.nsw.gov.au.

Table A.1

SURVEY QUESTIONS

<p>1. How did you hear about iVote?</p>	<p>(Multiple responses allowed)</p> <p><input type="checkbox"/> NSWEC website</p> <p><input type="checkbox"/> Other website (please specify)</p> <p><input type="checkbox"/> TV</p> <p><input type="checkbox"/> Radio</p> <p><input type="checkbox"/> Press (local, state or national newspapers)</p> <p><input type="checkbox"/> Social media</p> <p><input type="checkbox"/> Through a community or advocacy organisation</p> <p><input type="checkbox"/> From family/friends</p> <p><input type="checkbox"/> Other (please specify)</p> <p><input type="checkbox"/> Can't remember</p> <p><input type="checkbox"/> I'd prefer not to say</p>
<p>2. What is the main reason why you registered to use the iVote service?</p>	<p><input type="checkbox"/> Have a vision impairment</p> <p><input type="checkbox"/> Have a reading disability such as poor reading skills or illiteracy</p> <p><input type="checkbox"/> Have other disability that makes it difficult to get to a polling place</p> <p><input type="checkbox"/> Live more than 20 Kms from a polling place/live in remote area (go to question 4)</p> <p><input type="checkbox"/> Was interstate or overseas on election day (go to question 4)</p> <p><input type="checkbox"/> Other (please specify) (go to question 4)</p> <p><input type="checkbox"/> I'd prefer not to say (go to question 4)</p>
<p>3. Thinking about the last NSW State Election before iVote was available, did your disability prevent you from voting or require you to have someone assist you to get to a polling place and/or to cast your vote?</p>	<p><input type="checkbox"/> Yes, it prevented me from voting</p> <p><input type="checkbox"/> Yes, it required me to have someone assist me to get to a polling place and/or to cast my vote</p> <p><input type="checkbox"/> No</p> <p><input type="checkbox"/> Haven't voted before</p> <p><input type="checkbox"/> I'd prefer not to say</p>

4. To what extent were you satisfied or dissatisfied with the iVote registration process?

- 1 - Very Dissatisfied
- 2 - Somewhat Dissatisfied
- 3 - Neither Dissatisfied Nor Satisfied (**go to question 6**)
- 4 - Somewhat Satisfied (**go to question 6**)
- 5 - Very Satisfied (**go to question 6**)
- 6 - Don't know/can't recall (**go to question 6**)
- 7 - I'd prefer not to say (**go to question 6**)

5. What is the reason for your dissatisfaction with the iVote registration process?

- Multiple responses allowed
- It was difficult to find information about how to register
- Fears of security of my personal information
- Too inconvenient (please specify what was inconvenient about it)
- Took too long
- Didn't trust the process
- Other (please provide comment)
- I'd prefer not to say

6. Did you use iVote to vote in the recent State election on Saturday the 26th of March?

- Yes
- No (**go to question 14**)
- I'd prefer not to say

7. What were the main benefits of using iVote for you?

- (Multiple responses allowed)
- It helped me to gain new levels of independence and empowerment when voting
- Greater secrecy of my ballot cast
- It allowed me to vote when I was out of the country/ State
- Greater convenience (please specify what was convenient about it)
- It allowed me to vote — I wouldn't be able to vote otherwise (e.g. I live in a rural part of NSW)
- I think iVote makes voting more accurate
- It was easier to vote
- Other (please specify)
- I'd prefer not to say

8. In the recent State election, on Saturday the 26th of March, what method did you use to vote? [CATI ONLY] Was it online or over the telephone?
- Over the phone
 Online
 I'd prefer not to say
9. To what extent were you satisfied or dissatisfied with the way iVote worked when casting your vote?
- 1 - Very Dissatisfied
 2 - Somewhat Dissatisfied
 3 - Neither Dissatisfied Nor Satisfied (**go to question 11**)
 4 - Somewhat Satisfied (**go to question 11**)
 5 - Very Satisfied (**go to question 11**)
 6 - Don't know/can't recall (**go to question 11**)
 7- I'd prefer not to say (**go to question 11**)
10. What is the reason for your dissatisfaction with way iVote worked when casting your vote?
- Multiple responses allowed
- Fears of security of my vote
 Too inconvenient (please specify what was inconvenient about it)
 Took too long
 Didn't trust the system
 Other (please provide comment)
 I'd prefer not to say
11. How long did it take you to cast your vote using iVote (including holding time/loading time)?
- Less than 10 minutes
 10-15 minutes
 20-30 minutes
 More than 30 minutes
 Can't remember
 I'd prefer not to say
12. Have you voted in a State Government election prior to March 2011? (If interviewee noted in Q3 that has never voted before, skip to question 15)
- Yes
 No (**go to question 15**)
 I'd prefer not to say

13. Thinking about the *last* time you voted in a State Government election using traditional methods (using a pencil to mark boxes on ballot papers)...

a) How long did it take you to get to the polling place (including the time it took you to park your car if you drove to the polling place)?

- Less than 10 minutes
- 10-15 minutes
- 20-30 minutes
- More than 30 minutes
- Not applicable (e.g. postal vote) (**go to c below**)
- Can't remember
- I'd prefer not to say

(If interviewee does not have a disability – e.g. is overseas/interstate – go to c below)

b) On this last occasion, did someone help you get to the polling place and help you cast your vote (e.g. a carer if disabled)?

- Yes
- No
- Can't remember
- I'd prefer not to say

c) On this last occasion where you used traditional voting methods (using a pencil to mark boxes on ballot papers), how long did it take to vote, from the time you joined the queue to enter the polling place to when you left? Or if you voted via postal vote, how long did it take you to complete the ballot papers?

- Less than 10 minutes
- 10-15 minutes
- 20-30 minutes
- More than 30 minutes
- Can't remember
- I'd prefer not to say

(go to question 15)

<p>14. Why didn't you use iVote in the recent State election?</p>	<p>Multiple responses allowed</p> <p><input type="checkbox"/> Didn't know how to use it</p> <p><input type="checkbox"/> Too inconvenient (please specify what was inconvenient about it)</p> <p><input type="checkbox"/> Took too long</p> <p><input type="checkbox"/> Didn't trust the system</p> <p><input type="checkbox"/> Couldn't use it due to a glitch in the system</p> <p><input type="checkbox"/> Forgot about it</p> <p><input type="checkbox"/> Didn't vote at all</p> <p><input type="checkbox"/> Other (please provide comment)</p> <p><input type="checkbox"/> I'd prefer not to say</p>
<p>15. Did you experience any technical glitch with the iVote system during the registration and/or voting process?</p>	<p>Multiple responses allowed</p> <p><input type="checkbox"/> Yes, during the registration</p> <p><input type="checkbox"/> Yes, during the voting process</p> <p><input type="checkbox"/> No (go to question 17)</p> <p><input type="checkbox"/> Can't remember (go to question 17)</p> <p><input type="checkbox"/> I'd prefer not to say (go to question 17)</p>
<p>16. Did this problem raise any concerns about the security of your vote?</p>	<p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p> <p><input type="checkbox"/> Can't remember</p> <p><input type="checkbox"/> I'd prefer not to say</p>
<p>17. Did you seek any assistance when registering for or using the iVote system?</p>	<p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No (go to question 19)</p> <p><input type="checkbox"/> Can't remember (go to question 19)</p> <p><input type="checkbox"/> I'd prefer not to say (go to question 19)</p>
<p>18. To what extent were you satisfied or dissatisfied with the <i>assistance</i> available when you had problems with the iVote systems?</p>	<p><input type="checkbox"/> 1 - Very Dissatisfied</p> <p><input type="checkbox"/> 2 - Somewhat Dissatisfied</p> <p><input type="checkbox"/> 3 - Neither Dissatisfied Nor Satisfied</p> <p><input type="checkbox"/> 4 - Somewhat Satisfied</p> <p><input type="checkbox"/> 5 - Very Satisfied</p> <p><input type="checkbox"/> 6 - Don't know/can't recall</p> <p><input type="checkbox"/> 7 - I'd prefer not to say</p>

<p>19. Overall, to what extent were you satisfied or dissatisfied with the <u>information</u> you received from the NSW Electoral Commission in making you aware of the iVote system?</p>	<p><input type="checkbox"/> 1 - Very Dissatisfied</p> <p><input type="checkbox"/> 2 - Somewhat Dissatisfied</p> <p><input type="checkbox"/> 3 - Neither Dissatisfied Nor Satisfied</p> <p><input type="checkbox"/> 4 - Somewhat Satisfied</p> <p><input type="checkbox"/> 5 - Very Satisfied</p> <p><input type="checkbox"/> 6 - Don't know/can't recall</p> <p><input type="checkbox"/> 7 - I'd prefer not to say</p>
<p>20. What could be done to improve the information provided by the NSW Electoral Commission on iVote?</p>	<p>Please provide comment</p>
<p>21. Taking everything into account, what is your overall level of satisfaction with the iVote service?</p>	<p><input type="checkbox"/> 1 - Very Dissatisfied</p> <p><input type="checkbox"/> 2 - Somewhat Dissatisfied</p> <p><input type="checkbox"/> 3 - Neither Dissatisfied Nor Satisfied</p> <p><input type="checkbox"/> 4 - Somewhat Satisfied</p> <p><input type="checkbox"/> 5 - Very Satisfied</p> <p><input type="checkbox"/> 6 - Don't know/can't recall</p> <p><input type="checkbox"/> 7- I'd prefer not to say</p>
<p>22. Do you think iVote should be used in other elections (for example Local Government by-elections)</p>	<p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No (please explain why)</p> <p><input type="checkbox"/> I'd prefer not to say</p>
<p>23. Is there anything the NSW Electoral Commission could do to improve iVote?</p>	<p><input type="checkbox"/> Yes (please provide comment)</p> <p><input type="checkbox"/> No</p> <p><input type="checkbox"/> I'd prefer not to say</p>
<p>24. If iVote was available for general use in future elections (i.e. for the general population, not only for people with disabilities, in remote areas or out of state), would you recommend it to people you know?</p>	<p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No (please explain why)</p> <p><input type="checkbox"/> I'd prefer not to say</p>
<p>25. Do you think the NSW Electoral Commission conducted the election impartially and without bias?</p>	<p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p> <p>Please explain why do you think this.</p> <p><input type="checkbox"/> I'd prefer not to say</p>

26. How old are you?

18 – 20 years

21- 24 years

25 – 34 years

35 – 44 years

45 – 54 years

55 – 64 years

65 – 74 years

75 – 84 years

85 – 94 years

95+

27. Are you of Aboriginal or Torres Strait Islander origin?

Yes, Aboriginal

Yes, Torres Strait Islander

No

28. Is English the main language you speak at home?

Yes

No

Source: The Allen Consulting Group.

Thank you for your time.

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