

Electoral pilot scheme evaluation

Shrewsbury & Atcham Borough Council

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Translations and other formats

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Tel: 020 7271 0500

Email: publications@electoralcommission.org.uk

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Summary

In response to a prospectus issued to local authorities in England inviting applications for electoral pilot schemes at the May 2007 elections, Shrewsbury & Atcham Borough Council submitted an application to pilot a series of innovations, including:

- advance remote electronic voting using the internet and touch tone telephone
- electronic voting kiosks in three advance voting stations (a shopping centre and two village halls)

Conclusions and findings

The pilot scheme facilitated and encouraged voting. By offering alternative ways to vote, over a longer period of time, and yet retaining the ability to vote conventionally on polling day, the pilot succeeded in facilitating and encouraging voting.

The pilot scheme marginally improved the counting of votes. The counting of electronic votes was immediate, and it was easy to add these figures to the postal and conventional votes. If the proportion of electronic votes had been higher, the overall time taken for the count would have been less, as there would have been fewer paper votes to count.

The pilot scheme had a negligible effect on turnout. Turnout was up very marginally from 2006 (from 41.2% to 42.6%), but down significantly from the previous comparable elections in 2003 (54.8%, when electors were required to choose which channel of voting they wanted to use). Based on opinion research conducted with electronic voters, there is some limited evidence to suggest that around one-third of users (29%) would not have voted had the pilot scheme not been taking place.

The pilot scheme provided a voting method that was easy to use. Seventy-two per cent of voters who used the advance voting provisions considered that they were convenient, and 78% said they found the electronic voting provisions easy to use, with only one person in seven saying that they were difficult to use.

The pilot scheme does not appear to have led to any increase in personation or other offences or malpractice. There were no complaints to the Council or the police regarding the pilot procedures or regarding potential fraud or security breaches.

The pilot scheme led to an increased cost. The additional total cost of conducting the pilot scheme, in addition to the conventional election costs, was over £1 million. This led to a cost per electronic voter of £625 and cost per voter who used an advance voting station of £847. While not providing value for money at this stage, rolling this system out over a larger electorate would provide economies of scale,

allowing this to happen without increasing the cost and resulting in a much lower cost per voter. The Electoral Commission recognises that hosting such an innovation on a very small scale proves very expensive. Indeed, even on a larger scale, e.g. across neighbouring councils as the original application stated, the cost of providing electronic channels of voting would be significantly higher than conventional methods, and it is arguable at this stage whether it would be justifiable given the small number of voters who use the innovation.

In addition to the conclusions regarding the five statutory evaluation criteria, the Commission also found that:

- The pilot scheme improved access to voting, although not for any specific group.
- Levels of user awareness and comprehension of the voting methods being tested were relatively high.
- Confidence of users and stakeholders in the kiosks was high, although people were less confident about the security of telephone voting.
- The pilot, as trialled, had an adverse effect on the Council's administration of the elections, creating more work (in manual checking of advance voting identifiers and creating marked registers to very short timescales) for the staff.

1 Introduction

1.1 Under the Representation of the People Act (RPA) 2000, any local authority in England and Wales can submit proposals to the Secretary of State for Justice (prior to 9 May 2007, the Secretary of State for Constitutional Affairs) to carry out an electoral pilot scheme. Electoral pilot schemes can involve changes to when, where and how voting at local government elections is to take place, how the votes cast at the elections are to be counted, or candidates sending election communications free of postage charges. The Electoral Commission has a statutory duty to evaluate and report on any pilot scheme approved by the Secretary of State.

1.2 A total of 312 local authorities in England held elections in May 2007. In October 2006, the Department for Constitutional Affairs¹ and the Commission issued a joint prospectus to local authorities inviting applications for electoral pilot schemes at the May 2007 elections. Fourteen applications were received in response to the prospectus, and in January 2007 the Secretary of State for Constitutional Affairs announced that he had approved 12 pilot schemes in a total of 13 local authority areas. A full list of all the authorities that held pilot schemes in May 2007 is available on the Commission's website at www.electoralcommission.org.uk.

1.3 This report presents the Commission's evaluation of the electoral pilot scheme carried out by Shrewsbury & Atcham Borough Council at the elections on 3 May 2007. The evaluation includes a description of the pilot scheme and an assessment as to:

- the scheme's success or otherwise in facilitating voting or the counting of votes, or in encouraging voting or enabling voters to make informed choices at the elections
- whether the turnout of voters was higher than it would have been if the scheme had not applied
- whether voters found the procedures provided for their assistance by the scheme easy to use
- whether the procedures provided for by the scheme led to any increase in personation or other electoral offences, or in any other malpractice in connection with elections
- whether those procedures led to any increase in expenditure, or to any savings, by the authority

1.4 In addition to these statutory requirements, the Commission's evaluation also considers, where appropriate:

- the extent to which the pilot scheme facilitated or otherwise encouraged participation among particular communities, including young people, people from minority ethnic communities and disabled people
- overall levels of user awareness and comprehension of the voting method being tested, including an assessment of the effectiveness of any literature or other materials used in the promotion of the pilot scheme

¹ Hereafter referred to as the Ministry of Justice following the machinery of government changes on 9 May 2007.

- the attitudes and opinions of key stakeholders, including voters, with a view to determining overall levels of confidence in the voting method being tested
- whether the pilot scheme resulted in measurable improvements, or had any adverse impact, with respect to the provision of more efficient and effective service delivery to voters
- whether the pilot scheme resulted in measurable improvements to, or had any adverse impact on, the existing system of electoral administration
- whether the pilot scheme represented good 'value for money'

1.5 Where appropriate, the Commission may also make recommendations as to whether changes should be made to electoral arrangements more generally through roll-out of the pilot scheme procedures.

1.6 The Commission is required to submit its evaluation report to the Secretary of State and any of the local authorities involved in the pilot scheme, and those local authorities are required to publish the evaluation report within three months of the elections. The Commission has also published this report on its website, together with a copy of the Statutory Order that allowed the pilot scheme to take place.

1.7 In preparing this report, the Commission has drawn on its own observations and assessment of the pilot scheme, as well as on the views expressed to it by a number of other stakeholders. The report also incorporates findings from work undertaken by the following contractors:

- Public opinion research carried out by ICM Research:
 - Five interviews were conducted from the main telephone survey with internet voters through random selection methods. In addition, two depth interviews were conducted with internet voters.
 - A total of five interviews were conducted with telephone voters via the main telephone survey. Two depth interviews were conducted with telephone voters. Due to such small sample sizes for both telephone and internet voting, no detailed results of users' views can be reported.
 - ICM Research conducted 264 telephone interviews with Shrewsbury & Atcham voters (144) and non-voters (120), using a questionnaire that was consistent across all pilot scheme areas and types.
- An evaluation of technical elements of the pilot by Actica Consulting.
- An accessibility evaluation of the pilot by PA Consulting, Equal Ability CIC and Churchill, Minty & Friend Ltd.

1.8 Copies of the reports produced by the Commission's contractors are available from its website, and in other formats on request.

1.9 The Commission would particularly like to thank the Returning Officer and the Electoral Services department of Shrewsbury & Atcham Borough Council for their assistance in undertaking this evaluation and for supplying it with the information and data to support the evaluation.

2 Context

The area

2.1 The borough of Shrewsbury & Atcham is one of five district councils in the county of Shropshire, in the West Midlands region. The borough covers an area of approximately 60,200 hectares, which is roughly one-fifth of the total area of Shropshire. Shrewsbury & Atcham has an estimated population of 96,000² and most of its inhabitants live in Shrewsbury (around 60,000), with other significant populations to be found living in the nearby villages of Bayston Hill and Pontesbury.

2.2 It was estimated in the Census 2001 that approximately 1% of the borough population were from black and minority ethnic communities. Thirty-six per cent of the 2001 population were aged 50 or over, slightly higher than the national average of 33%. The employment rate is high, with 70% of people in Shrewsbury economically active in 2001 compared with a national average of 67%. According to the 2004 indices of deprivation, Shrewsbury & Atcham was ranked 201 out of 354 council areas in terms of deprivation (with 1 being the most deprived).³ None of the wards within the borough fell within the top 10% most deprived wards in England.

The Council

2.3 Shrewsbury & Atcham Borough Council has 40 elected councillors, representing 24 single- and two-member wards. There are 43 parishes situated within the borough. As elections are held by thirds, there were elections in 13 wards in 2007. While the Council's total electorate as of March 2006 was 73,851, this meant that only the 40,098 electors in the 13 wards were eligible to vote at the May 2007 elections. There were also 19 parish councils theoretically up for re-election in 2007, although in the event only one parish election (Great Hanwood) was contested.

2.4 The political composition of Shrewsbury & Atcham Borough Council prior to the 2007 elections was: Conservative – 21; Labour – 10; Liberal Democrat – six; Independent – three. The current Member of Parliament representing the Shrewsbury & Atcham constituency is Daniel Kawczynski (Conservative).

² Except where otherwise stated, all demographic information was obtained from the census carried out in 2001 by the Office for National Statistics.

³ Office of the Deputy Prime Minister, *The English Indices of Deprivation 2004 (revised)* (2004), www.communities.gov.uk/index.asp?id=1128440

3 Pilot scheme description

The pilot scheme application

3.1 In response to the October 2006 electoral pilot scheme prospectus, Shrewsbury & Atcham Borough Council (hereafter known as 'the Council') submitted an application to pilot a series of innovations and changes to electoral procedures, including internet and telephone voting, advance voting and electronic counting.

3.2 The application was made jointly with two other district councils in Shropshire: Bridgnorth and North Shropshire. The other two councils subsequently withdrew due to a lack of political support, but Shrewsbury & Atcham Borough Council continued with its bid.

3.3 In a Written Ministerial Statement on 29 January 2007,⁴ the Secretary of State for Constitutional Affairs announced that the Government had given approval for the Council to pilot:

- advance remote electronic voting (e-voting) using the internet and touch tone telephone
- e-voting kiosks in three advance voting locations (a shopping centre and two village halls)

3.4 However, the Secretary of State refused the application for the electronic counting of ballot papers.

3.5 The final Pilot Order, Shrewsbury & Atcham Borough Council (Advance Voting) Pilot Order 2007, was made on 27 March 2007 and came into force on the same day.⁵

Pilot scheme summary

Remote electronic voting

3.6 The Council made remote internet and touch tone telephone voting available to its electors from 12 midnight on 21 April until 11.59pm on 1 May, two days before polling day. The system employed by the Council was provided by Opt2Vote.

3.7 As with the other four e-voting pilot schemes that took place at the May 2007 local government elections (in Sheffield, South Bucks, Rushmoor and Swindon), voters were required to pre-register using a paper form, and provide personal identifiers for security purposes. These identifiers were a signature, date of birth and password (consisting of numbers only). On receipt, these forms were to be scanned and the personal identifiers linked to the voter. The final date to register was 18 April 2007.

⁴ Official Record (House of Lords), 29 January 2007, Column WS1.

⁵ The Commission's response to all Pilot Orders can be found on the Commission website at www.electoralcommission.org.uk/files/dms/AllResponses_25780-19142_E_N_S_W_.pdf

3.8 Once the voter had been pre-registered for internet or telephone voting, the supplier's system randomly created a voter identification number (VIN), which was then despatched by post to the voter, allowing them to access the system, either remotely or in person at the advance voting stations during voting hours. Voters were also able to cast their vote at the advance voting station without having pre-registered.

3.9 Once registered, voters could then vote by using the website address or the freephone telephone number provided on the secure poll card. Having entered their password and VIN in order to obtain access to the e-voting system, voters were directed to cast their vote, confirm (or change) their selection and then exit the system. Voters were allowed to under- or over-vote, or spoil their ballots. Unlike the similar pilot schemes occurring in Sheffield, South Bucks, Rushmoor and Swindon, voters received no confirmation receipt of voting.

3.10 The votes were stored on Opt2Vote's central server and security-relevant events (but not the votes themselves) were captured on an audit log, to which Opt2Vote's Project Manager had access.

Electronic voting kiosks

3.11 The advance voting locations supported by e-voting kiosks were situated in the Pride Hill Shopping Centre, and village halls in Bomere Heath and Bayston Hill.

3.12 They were open on the following dates and times:

- at Pride Hill Shopping Centre from Saturday 21 April 2007 to Saturday 28 April 2007, 9am–5.30pm; and Sunday 22 April 2007, 10am–4pm
- at Bomere Heath and Bayston Hill on Sunday 29 April 2007, 9am–12 noon and 2pm–5pm, respectively

3.13 Electors had the option of arriving in person at the advance voting station without having pre-registered, and being able to vote online using the kiosks at the advance voting station. A member of staff from the Council's supplier was in attendance, and would register the elector in person, generating a random VIN for them while they waited at the advance voting station.

3.14 All electors across the borough were eligible to vote at any of the advance voting locations, as the electoral register was online at each advance voting station and networked to a central server. The risk of duplicate voting in different advance voting locations by the same voter was minimised by only one advance voting station being open at any one time.

3.15 These processes are discussed in more detail in Chapter 4, 'Evaluation', with further technical information available in the technical report provided by the contractors Actica Consulting.

Objectives of the pilot scheme

3.16 In its pilot scheme application, the Council stated that the proposed innovations aimed to:

- make voting more convenient and easier
- extend choice, security and ease of voting

3.17 Commenting on pilot scheme applications, the Commission stated that a small number of further e-voting pilots would enable a detailed assessment of patterns of usage and take-up, accessibility, security and confidence in e-voting to be undertaken.⁶

3.18 However, the Commission also expressed concern that the initial application from the Council did not provide sufficient evidence of risk management for e-voting. These issues were the subject of subsequent negotiations between the Council and the Ministry of Justice (MoJ) prior to the acceptance of the pilot.

3.19 The background paper attached to the approval provided by the Secretary of State noted the Government's view that providing remote internet and touch tone telephone voting would build on the evidence available from pilot schemes undertaken in 2003.⁷

3.20 The Council's application laid out the aims and objectives of conducting the pilot in terms of:

- accessibility
- increased security
- demonstrating the scalability of different voting methods
- testing new methods of voting
- fulfilling voter demands/expectations
- increased efficiency

3.21 The following section summarises these objectives as they relate to the statutory evaluation criteria specified in Chapter 1, 'Introduction'. Additional learning objectives have also been added where appropriate.

Facilitating voting and ease of use

3.22 It was expected that the pilot scheme evaluation would provide a detailed assessment of patterns of take-up and usage for remote e-voting and e-voting in fixed locations. The Council's application stated that advance voting at convenient locations would enhance access to voting for those whose lifestyles dictate that they are able to spend little time in the area in which they live.

3.23 The Council also stated that it drew on its experiences in previous pilots of multi-channel elections, taking on board comments from electors not able to participate in those pilot schemes. From these comments it drew evidence of the demand and expectation that voting methods in Shrewsbury & Atcham should keep pace with current technology.

⁶ Comments by the Commission on pilot scheme applications under Section 10, RPA 2000, December 2006, www.electoralcommission.org.uk/templates/search/document.cfm/17797

⁷ Official Record (House of Commons), 29 January 2007, Column 3WS.

3.24 The electoral pilot scheme prospectus noted that e-voting pilot schemes provided a further opportunity to assess demand among those aged 18–24. The prospectus also identified likely learning on how barriers to accessibility might be reduced through remote e-voting and related instructions provided to electors. The Council cited electors with a visual impairment or those who speak English as a second language as being examples of how e-voting might improve accessibility.

Facilitating the counting of votes

3.25 Although not a stated objective of the pilot scheme, a relatively high take-up of e-voting would potentially reduce the time required for the manual count of ballot papers. There was no advance counting of e-votes cast at the advance voting stations.

Turnout

3.26 No specific objective of increasing turnout was referred to in the Council's application. However, if the provision of greater convenience to the electorate through remote e-voting and advance voting encouraged voting, this could result in an increase in turnout.

Security and confidence

3.27 The Council stated that the objective of increasing security would be achieved by the use of pre-registration for e-voting, including the use of a password generated by the elector in order to access the e-voting system.

3.28 The pilot scheme would also facilitate a wider assessment of security and user confidence in relation to e-voting. This would include any technical measures undertaken to secure the e-voting system, the management of e-voting processes and outcomes and the extent to which they were auditable or transparent, as well as efforts to strengthen the secrecy of the remote electronic ballot.

Efficiency

3.29 The main impact of e-voting on the overall efficiency of the elections was expected to be the additional costs incurred through the provision of hardware and software and printing costs for the pre-registration process. For this pilot scheme, the majority of these costs were met by the MoJ. However, there is also the need to consider the no less tangible impact of managing pilot scheme processes on the time required by the Returning Officer's staff to manage and administer the remainder of the elections.

3.30 The Council's original application – in co-operation with the two other Shropshire districts – included the objective of demonstrating the scalability of the use of the same electronic platform over a number of districts, and hence achieving a more cost-efficient use of the software and supplier resources. As detailed in paragraph 3.2, the pilot went ahead only in Shrewsbury & Atcham, thus limiting the demonstration of economies of scale. It is noted, however, that the system could accommodate up to 14 million electors. A more large-scale pilot scheme would have had the potential to result in more cost-efficient elections.

4 Evaluation

Efficiency

Project management

4.1 The electoral pilot project was run by the Council and its supplier, Opt2Vote, using PRINCE2 methodology. A project initiation document was drafted at the commencement of the project, which detailed, among other things, the project's objectives, deliverables, scope, risk management, roles and responsibilities, stakeholder management plan and milestones.

4.2 A formal organisational structure was established, incorporating each member's roles and responsibilities. The Returning Officer held the role of executive and played a hands-on leadership role throughout the duration of the project. Project management was shared between an officer at the Council and a specific Project Manager from the Council's supplier, Opt2Vote. The Council and supplier had a very good working relationship and benefited from having worked together during previous electoral pilot schemes.

4.3 Project Board meeting dates were set out in the initial version of the project initiation document and adhered to. A representative of the Commission was present at all meetings and found them thorough, discursive and analytical. Both the Council and supplier were represented at the meetings, and MoJ officials were present on two occasions, although they were available for discussion via the telephone throughout the whole process. The meetings were chaired by the Returning Officer on all but one occasion, when the Deputy Returning Officer chaired the meeting.

4.4 However, the size, complexity and short timescales governing the pilot scheme dictated that project management documentation was often not completed or provided during the progress of the project. Project initiation document updates were irregular and inconsistent, and Project Board meeting agendas and minutes were not regularly or punctually circulated. Risk and issues logs and registers were discussed in detail at Project Board meetings but were slow to be updated in document form. This was also reflected in the MoJ's quality assurance audit process, which identified the incomplete and inconsistent project documentation as the main issue of concern.

4.5 The lack of priority given to project documentation can be explained by the necessity to ensure that the elections as a whole were delivered securely and on time under very tight time constraints, which was achieved. However, this was in many respects due to the dedication and effort put in by officers from both the Council and the supplier, and relied heavily on their leadership. The issues with the project management documentation may have become of greater concern if, for example, there had been a sudden absence of any of the key members of the project team.

Training

4.6 The Council provided full training for the staff who were involved in the pilot scheme. The supplier provided both training material and practical sessions, specifically on:

- the internet voting application
- the telephone voting application
- the Returning Officer application (the application that controlled and ran the whole elections – training was given to senior staff)

4.7 In addition, Council staff manned a call centre to assist any electors who might have been having trouble accessing the system remotely. Council staff observed by the Commission at the advance voting station were confident in dealing with any queries, and felt that the training given had been comprehensive. There was also a representative from the supplier on hand at all times to assist.

4.8 In addition, the Council arranged for a briefing for candidates and agents in which the process and technology were presented to them. A Commission representative attended this briefing and found it thorough and well presented by the Council and supplier.

Supplier management

4.9 The working relationship between the Council and the supplier, Opt2Vote, was sound and effective. Communications were regular and in the lead-up to the elections the supplier's Project Manager worked full-time from the council offices. The successful delivery of the elections is in no small part due to the relationship between the Council and Opt2Vote.

4.10 However, the supplier had problems with the printer contracted to print ballot papers, which were delayed and could only be sent out at the latest possible time. The management of the print process is one area that suffered because of the time constraints and year-by-year nature of the pilot schemes. A more long-term strategy towards pilots would allow longer-term contracts and relationships to be built on, increasing understanding within the external suppliers and allowing more long-term planning. Further information on these issues is detailed in the Commission's technical evaluation report.

4.11 Underlying these issues is the lack of time and planning which is afforded to the process. The Council felt that the timetable laid out by the MoJ – only announcing the successful pilot scheme authorities at the end of January – was not conducive to conducting such a large-scale electronic programme. Additionally, the new electoral timetable implemented by the Electoral Administration Act 2006 compressed the time between, for example, the deadline for registration and the date by which the pre-registration forms had to be sent out. In this light, the number of issues that arose between the Council and its suppliers was not surprising, and the delivery of the elections despite this can be seen to be a success.

Use of technology

4.12 The technology used by the supplier, Opt2Vote, employed an industry-standard three-tier architecture solution, with presentation (user interface), application (business rules) and data (information storage) layers. Each of the kiosk, internet and telephone channels provided access to a common core application, through which votes were cast. Additionally, scanning devices and their associated applications were used to capture personal identifiers during the pre-registration period.

4.13 The data was captured and stored on servers which were hosted by a third-party hosting partner – Rackspace – which has strong credentials and references from customers such as financial institutions and the Armed Forces. Some aspects of the technology and hardware used were shared with the pilot scheme being carried out by Sheffield City Council, which Opt2Vote was also running. However, the elections were run on separately managed systems. The report produced by the Commission's technical contractors, Actica Consulting, which is available from the Commission's website, discusses in more detail the technical aspects of the pilot scheme.

4.14 The quality assurance process encompassed a life-cycle testing strategy which would be expected of such a system. User acceptance testing was conducted at the council offices, and was observed by the Commission's technical evaluator. The testing scripts were found to be of a good standard. Although the first run-through of testing raised several issues with telephone voting, these were ironed out for the second test and did not pose a problem in further testing. However, in common with issues raised in paragraphs 4.4 and 4.5, formal documentation of the acceptance testing was limited in its nature.

4.15 Penetration testing was conducted by the supplier's subcontractors (Sopra Newell & Budge, in conjunction with the pilot scheme being conducted by Sheffield City Council) and by the MoJ's contractor (MWR InfoSecurity). The results showed no high risk of the system being infiltrated.

4.16 Although, overall, the technology worked well and delivered the elections successfully, and the majority of stakeholders had confidence in the security and integrity of the elections, a number of issues and learning points became apparent throughout the process.

4.17 One issue arose during the advance voting period when an elector attended an advance voting station to cast their vote. The supplier's operator at the advance voting station assigned the elector a VIN; however, the operator omitted to assign a ward to vote in, which subsequently locked the elector out of the system. Although the Council had requested the functionality to enable the operator to enter the system and manually correct such errors, the MoJ had not agreed to this.

4.18 The elector was therefore unable to cast their vote at the advance voting station and was invited to go to their polling station on polling day and cast a tendered ballot – because altering or removing any votes already cast was not

allowed by the MoJ. This problem could have been resolved by allowing post-registration access to each voter's records, or by importing their ward details from the Council's electoral register (run on a different system from Opt2Vote's) at the same time as their personal details.

4.19 In addition, the process of checking the scanning of postal vote applications revealed that the software was not accurately picking up a number of personal identifiers. The Council estimated that there was a rejection rate of around 6%. While this aspect was not related to the pilot scheme directly, in light of the inaccuracy of the scanning of postal vote applications, the Council put in place manual checking of all e-voting pre-registration forms, which was particularly resource intensive. The technical evaluation report also highlights the fact that more suitable supplier resources should be made available for specific tasks, as the evaluator considered that the Project Manager did not always have the required technical knowledge to carry out certain tasks.

4.20 Towards the end of the advance voting period, a risk emerged regarding the production of the marked register for Poll Clerks on polling day. Officers from the Council and the supplier were concerned that there might be functionality problems in transferring the data of those who had voted, from Opt2Vote's hosting system to the Council's electoral register. This risk was compounded by the agreement between the MoJ and the Council to extend the advance voting period to closer to polling day, leaving less time to prepare the marked register for the Poll Clerks.

4.21 Council staff put in place contingency measures for manually creating a list of voters who had already cast their votes, in case the system did not work. As things turned out, the system did work; however, such risks could have been highlighted and reduced earlier in the process.

Voting

Public awareness and feedback

4.22 The original project initiation document included a very brief communications plan, which did not appear to have evolved into a full, separate communications plan. The Council included details in its Council Tax leaflet sent to every household in the borough; issued a supply of flyers to post offices, parish clerks, candidates and agents; publicised the pilot scheme on its website; and alerted the local media to it. Senior officers at the Council did a number of media interviews in the run-up to and during the advance voting period. The post-election opinion poll revealed that 63% of voters who knew about the pilot scheme found out from leaflets or flyers from the Council, whereas 28% found out from the local media and 10% from their poll card.

4.23 However, on observing the advance voting station at Pride Hill Shopping Centre, there was no visual media, such as posters, apparent in the shopping centre or local areas. The Council informed the Commission that it was disappointed that the shopping centre management had refused permission to put up posters in the centre. In addition, the location of the advance voting station in the shopping centre was not prominent and would not have attracted passing trade, meaning posters raising the profile of the advance voting station could have played a useful role.

4.24 Public awareness of the pilot scheme arrangements in Shrewsbury & Atcham was significantly higher (65%) than for the pilot scheme average at the 2007 elections (48%). This level of unprompted awareness was the second highest of all the pilot scheme areas. The presence of telephone and internet voting correlates with relatively high awareness of the pilot scheme: each e-voting area in these elections reveals a statistically significantly higher level of awareness than areas employing other (non-electronic) methods.

4.25 Upon prompting, four in five respondents (81%) were aware of at least one scheme being piloted in the Shrewsbury & Atcham area. Two-thirds (65%) were aware of advance voting, two-thirds (65%) were aware of internet voting and more than half (55%) were aware of the opportunity to vote in advance over the telephone.

Impact on voting

4.26 In total, 1,737 voters used the advance voting facility, which is 4.3% of the total electorate and 10.2% of those who voted. Table 1 shows that the remote facility was by far the most popular channel used, with 1,070 voters preferring this method, compared with 401 telephone voters and 266 voters using the advance voting station. Table 1 also reveals that 23 April was the most popular advance voting day, and that usage tailed off towards the end of the week, before being more heavily used over the second weekend and towards the end of the advance voting period.

Table 1: Advance voting usage by day and channel

Day of e-voting period	Telephone votes	Remote internet votes	Advance voting station votes	Total
21 April	66	132	30	228
22 April	36	100	11	147
23 April	60	147	34	241
24 April	16	86	44	146
25 April	29	78	34	141
26 April	38	54	16	108
27 April	34	53	46	133
28 April	12	53	24	89
29 April	23	96	27	146
30 April	43	144	N/A	187
1 May	44	127	N/A	171
Total	401	1,070	266	1,737

4.27 Table 2 shows the number of advance voters by ward, revealing that the wards of Column and Underdale provided the highest percentage of advance voters compared with total voters, whereas the voters in the wards of Hanwood and Longden and Sundorne used the service the least. Ten voters also used the service to cast votes for the elections to Great Hanwood Parish Council, making the total number of e-votes cast 1,747, but the total number of voters 1,737.

Table 2: Advance voting usage by ward

Ward	Total number of votes	Total number of advance votes	Advance votes as percentage of total votes
Bagley	1,098	116	10.6
Bayston Hill	1,817	192	10.6
Belle Vue	1,496	171	11.4
Castlefields and Quarry	1,524	142	9.3
Column	1,724	207	12.0
Copthorne	1,682	164	9.8
Hanwood and Longden	1,022	70	6.8
Haughmond and Attingham	875	83	9.5
Meole Brace	1,753	167	9.5
Montford	803	79	9.8
Pimhill	702	71	10.1
Sundorne	1,151	97	8.4
Underdale	1,453	178	12.3
Total	17,100	1,737	10.2

4.28 According to public opinion research, satisfaction with the actual process of voting in Shrewsbury & Atcham was broadly in line with the average across all pilot schemes (70% satisfied compared with 74%). Interestingly, despite the wide range of voting options available, more than three-quarters (78%) of all votes were still cast on the day of the elections. Only 31% of those who pre-registered for the remote e-voting service actually cast their vote in this manner.

4.29 Incidence of voting at a polling station in Shrewsbury & Atcham was among the highest of the pilot areas, with 77% of all votes being cast in this way (compared with the pilot scheme average of 67%, and the lowest incidence in Sunderland of 49%).

4.30 The main reasons given for not voting were roughly in line with the pilot scheme area average. Around one-quarter (24%) claimed they were too busy or working, 11% claimed they were away at the time or on holiday, 9% claimed there was not enough publicity around the elections and 8% claimed they had simply forgotten.⁸

4.31 Attitudes towards advance voting seem generally positive. Around two-thirds (62%) of the electorate believe that by offering advance voting, voter turnout can be increased. However, two-thirds (66%) of advance voters claim they would still have voted if the opportunity to vote in advance was unavailable.

⁸ The base size for this question was small (115).

Accessibility

4.32 The Commission's accessibility report found that the pilot scheme succeeded in making the elections more accessible through the use of telephone and internet voting, although there is no evidence of increased accessibility for a particular group.

4.33 However, a number of learning points arose from the pilot. Communications techniques were found to be limited in their nature, with the Council relying on flyers and the internet as its main sources of publicity. The flyer colours – orange and black – were found to be difficult for colour-blind people to see. On the accessibility of the voting process itself, feedback suggested that the time-out function on the internet site caused problems, and that the use of VINs and passwords, alluded to below, caused some confusion. Finally, the pre-registration process was found to be limited in its accessibility due to being paper based, with detailed forms to complete. This aspect was a requirement from the MoJ for security reasons, while the Council had applied to allow paperless pre-registration over the internet.

4.34 A number of accessibility issues were also raised by the technical evaluation from which learning can be taken:

- A number of electors had trouble entering their correct dates of birth due to having to enter a four-digit year figure (e.g. 1977 rather than 77).
- The use of the term 'password' (rather than 'passcode') for a purely numeric code may have contributed to the number of electors who tried to input letters into their 'password' field – 92 electors tried to access the system and failed, hence being locked out, and there is evidence to suggest that this was through errors in the data that was being inputted.
- There was no facility to prompt electors who had forgotten their password – the Council believes that allowing this could have cut down on the number of electors who had to have their details reset.

4.35 The public opinion research revealed that 96% of users noted nothing difficult about the advance voting stations. It also highlighted a concern regarding internet voting in that it is a system that could, if it were the only method of voting available, effectively marginalise certain segments of the electorate. One voter, in particular, warned that councils should not become too reliant on a system or technology that risks this:

If you have a computer or are computer literate then it's no problem, but if you don't then there's a problem. It could be a problem for the elderly and partially sighted...

Voter, Shrewsbury & Atcham

Campaigning

4.36 The main issue brought to light by candidates was that of access to the marked register. This was raised both at an initial briefing provided to candidates by the Commission, and by candidates and agents to the Commission's representative on the night of the count. They argued about the difficulty they faced in canvassing without the benefit of a daily marked list of returned postal votes and e-votes already cast.

4.37 Although the Commission acknowledges the added difficulty in canvassing without an up-to-date list of voters, consistent with its position on the marked register at conventional elections, the Commission considers that this should not be available until after the close of poll.

Impact on counting

4.38 The pilot scheme had little effect on the counting process, in the absence of electronic counting. All candidates were sent a briefing that explained how the count would proceed, detailing how the advance e-votes would be counted and added to the postal votes and conventional votes before being displayed. More detail on the technical aspect of the counting is available in the Commission's technical evaluation.

4.39 At the count, the process of counting and displaying the e-votes was efficient and accepted by all in attendance. At 10pm on the night of the count, the Returning Officer activated the count of the e-votes, which were downloaded onto a computer at the count location (in public view) and a paper copy was printed out. The process was observed by candidates so that they could see the process occurring, but the results were kept secret from them at that stage.

4.40 The first ward result was declared around 11.30pm, with results coming in steadily from that time, finishing shortly after 12.15am. Recounts in three wards were necessary. However, even in wards where the finish was close and the addition of the e-votes was particularly significant, there was no questioning by candidates of the reliability or veracity of the results. Electronic votes were regarded as equal in value to paper ballots cast by post or at polling stations, with no suggestion of possible challenges to the results on the basis of lack of transparency or confidence in the system.

4.41 The Commission's observer noted that there was an issue with the layout of the count area, in that the laptop on which results of the parish election count were displayed to the Returning Officer was on a table on the stage, separate from the other counts, and could have been viewed by anyone in the room from certain positions.

Turnout

4.42 The overall aggregate turnout for the May 2007 elections to the Council was 42.6% (53% in the parish council election). This is approximately 1.5 percentage points higher than the local government elections in 2006 (41.2%), when the Council trialled advance voting only in an advance voting station, and postal vote tracking. Turnout in individual borough wards at the May 2007 elections ranged from 55% in Hanwood and Longden ward to 31.3% in Bagley ward. At the last whole Council elections in 2003, turnout was 54.8%. Those elections piloted multiple e-voting channels along with postal voting, and electors were not given the opportunity to vote at a polling station on polling day.

4.43 As noted earlier in this report, a total of 10.2% of voters (1,737 people) cast their ballot for the Borough Council election using the telephone or the internet. Of these, the majority used the remote internet voting provision, with very few using the advance voting stations. Of those who voted early, only 266 visited one of the advance voting stations to cast their vote. This constitutes 15.3% of advance voters, 1.6% of all voters and only 0.7% of the total electorate.

Security and confidence

Security

4.44 The supplier, Opt2Vote, was required by the MoJ to provide a security risk assessment in the form of a risk management accreditation document set (RMADS). The Commission's technical evaluation shows that the RMADS did not show a full understanding of the specific risks relating to e-voting. The evaluator was also concerned that the document was a draft, and that it was not available to MoJ quality assurance officials before the elections.

4.45 However, as detailed above, there were no high risks revealed by pre-election penetration testing, and the Commission has not been made aware of any allegations of electoral fraud or malpractice.

4.46 The Commission has not been made aware of any allegations of fraud or malpractice arising from the pilot scheme at these elections. At present, therefore, there is no substantiated evidence to suggest that the procedures provided by the pilot scheme led to any increase in electoral offences, or in any other malpractice in connection with elections. The Commission notes that the period in which a prosecution can be launched is one year, and so such evidence may still come to light.

User confidence

4.47 User confidence differs according to the voting option used and appears to be generally higher than in other pilot scheme areas. Confidence in the security of the e-voting kiosks was high, with 79% confident in it, of whom 50% were very confident. Less than one in 10 (7%) had some form of concern with the security of the e-voting kiosks. This is also borne out in anecdotal evidence from voters during the advance voting period, where voters did not seem to have many issues with the security of the system.

4.48 Telephone voting is not viewed by the public as a secure system of voting, as was indeed the case in all of the pilot scheme areas. As many people describe themselves as unconfident about security (42%) as they do confident (41%). Despite this, around half (54%) of residents in the Shrewsbury & Atcham area say that telephone voting should be available at all future elections, compared with an average of 38% across all pilot scheme areas.

4.49 As with telephone voting, support for internet voting is higher than in other pilot scheme areas. Six in 10 (60%) believe it should be made available at all future elections (compared with 46% across all pilot scheme areas). Only 23% believe it should not be made available at any future elections.

Stakeholder confidence

4.50 The Commission's observers at the count reported that there were no significant concerns among the candidates and agents regarding the security or accuracy of the pilot scheme. During the count, a small number of candidates mentioned to the Commission's evaluator their views as to the necessity of the pilot scheme, saying that it did not necessarily increase engagement, and they were concerned about the significant cost of the pilot. Many candidates made the point that the cost per vote was significant and very difficult to justify.

Cost and value for money

4.51 The overall cost of the pilot was £1,085,795. This comprised an actual cost of the pilot of £1,097,850 and ancillary costs of £24,041, before a discount of £36,096 (due to sharing the infrastructure with Sheffield City Council). The discount was split between the two local authorities in proportion to the size of their electorates, by mutual agreement and with the consent of the MoJ. This translated as £27 per registered elector, £63 per voter and £625 per e-voter. Table 3 details the cost of the different elements of the pilot.

Table 3: Cost of pilot, by element

Pilot cost element	Pilot cost (£)	Number of e-voters	Cost per voter (£)
Total pilot	1,085,795	1,737	625.10
Common elements	347,495	1,737	200.05
Advance voting	225,350	266	847.18
Internet and telephone	512,950	1,471	348.71

4.52 The cost of this pilot is undoubtedly high, due to the high cost of the technical element. This was also a symptom of the standalone nature of this pilot, with a relatively small electorate in Shrewsbury & Atcham who were able to take advantage of it. If the pilot scheme were rolled out across a much larger electorate, the cost per voter would be lower, and value for money would increase, although it is far from certain that this would provide value for money with such a small percentage of the electorate taking advantage of the opportunity.

5 Conclusions and findings

Statutory criteria

5.1 In terms of the five statutory evaluation criteria, the Commission's conclusions in relation to the electoral pilot scheme in Shrewsbury & Atcham are as follows.

5.2 **The pilot scheme facilitated and encouraged voting.** By offering alternative ways to vote, over a longer period of time, and yet retaining the ability to vote conventionally on polling day, the pilot succeeded in facilitating and encouraging voting. Some 10.2% of those who voted (1,737 people) chose to do so in advance. This constitutes 4.3% of the total electorate.

5.3 **The pilot scheme marginally improved the counting of votes.** The counting of e-votes was immediate, and it was easy to add these figures to the postal and conventional votes. If the proportion of e-votes had been higher, the overall time taken for the count would have been less, as there would have been fewer paper votes to count. Additionally, the Commission has some concerns surrounding the accountability and transparency of the process of counting e-votes. Candidates and agents were obviously unable to witness the counting of e-votes, and the details of the numbers of votes cast electronically were not officially revealed to them. Although the Commission understands the Council's anxiety to maintain the secrecy of the ballot, this carries implications for the transparency of the process.

5.4 **The pilot scheme had a negligible effect on turnout.** Turnout was up very marginally from 2006 (from 41.2% to 42.6%), but down significantly from the previous comparable elections in 2003 (54.8%, when electors were required to choose which channel of voting they wanted to use). Based on opinion research conducted with e-voters, there is some limited evidence to suggest that around one-third of users (29%) would not have voted had the pilot scheme not been taking place. However, it seems unlikely that e-voting was the only cause of the increase in turnout, given the small overall number of e-voters and the fact that the majority appear to have been predisposed to vote in any case.

5.5 **The pilot scheme provided a voting method that was easy to use.** Seventy-two per cent of voters who used the advance voting provisions considered that they were convenient, and 78% said they found the e-voting provisions easy to use, with only one person in seven saying that they were difficult to use.

5.6 **The pilot scheme does not appear to have led to any increase in personation or other offences or malpractice.** There were no complaints to the Council or the police regarding the pilot procedures or regarding potential fraud or security breaches.

5.7 **The pilot scheme led to an increased cost.** The additional total cost of conducting the pilot scheme, in addition to the conventional election costs, was over £1 million. This led to a cost per e-voter of £625 and cost per voter who used an advance voting station of £847. While not providing value for money at this stage, rolling this system out over a larger electorate would provide economies of

scale, allowing this to happen without increasing the cost and resulting in a much lower cost per voter. The Commission recognises that hosting such an innovation on a very small scale proves very expensive. Indeed, even on a larger scale, e.g. across neighbouring councils as the original application stated, the cost of providing electronic channels of voting would be significantly higher than conventional methods, and it is arguable at this stage whether it would be justifiable given the small number of voters who use the innovation.

Non-statutory criteria

5.8 In addition to the conclusions regarding the five statutory evaluation criteria, the Commission also found that:

- The pilot scheme improved access to voting, although not for any specific group.
- Levels of user awareness and comprehension of the voting methods being tested were relatively high.
- Confidence of users and stakeholders in the kiosks was high, although people were less confident about the security of telephone voting.
- The pilot, as trialled, had an adverse effect on the Council's administration of the elections, creating more work (in manual checking of advance voting identifiers and creating marked registers to very short timescales) for the staff.

Learning

5.9 The pilot scheme was delivered successfully, assisted in the facilitation of voting and provided easy-to-use accessible channels of voting. There are, however, a number of lessons to be learned from the project. The aspect that underlined many of the problems that were raised during the process was the lack of time to plan and execute such an ambitious process properly.

5.10 It is the Council's strong view, supported by the Commission, that a more strategic and long-term approach to pilots be developed between government and local authorities. This would allow for better planning, more realistic timescales, better relationship management between stakeholders and more realistic ambitions to be realised, allowing councils to be proactive rather than reactive in their approach to pilots.

5.11 A more realistic timetable would also ease the pressures on suppliers, candidates and the MoJ itself in carrying out their roles. A better-designed pilot scheme – for which responsibility lies with the Council, supplier and the MoJ – would have allowed for elements such as online registration, the tracking of postal votes, and advance voting available up until polling day to be included, to meet the needs of the electorate more completely.

5.12 Aside from this, it is essential that the project management of such projects is handled more effectively and thoroughly. Suppliers must ensure that adequate and timely project management documentation is produced throughout the life of the pilot, and that it is assessed at an early stage to identify and address any deficiencies in good time.

5.13 Similarly, the Commission's technical evaluation revealed that the supplier should ensure that a systematic and comprehensive risk and testing strategy is in place and, more pertinently, followed through.

5.14 In terms of accessibility, the Commission's accessibility evaluation recommends that the Council take a more proactive role in communicating with particular groups for whom accessibility is an issue at an early stage of the process, and that marginalised communities are involved in shaping and assessing the pilot plans from the outset.

5.15 Further recommendations can be found in the technical report by the Commission's contractors.