Commentary

SMS Voting Is a First Step Toward Mobile Democracy

Mobile technology will enable new forms of political behavior, for which governments are unprepared. Legislation will likely be required to control some aspects of political behavior on mobile channels.

In May 2002, U.K. local authorities conducted a number of pilots in local council elections involving voting channels that were new to the United Kingdom. In two U.K. cities — Sheffield and Liverpool — Short Message Service (SMS) text messaging was one of several new voting options, which also included one or more of:

- The Internet
- Kiosks
- Telephone interactive voice response (IVR) systems

In advance of the election, voters were provided with a unique ID, a password and a list of candidates. SMS voting was carried out by sending a text message containing the individual's ID, password and the candidate's code.

Key Findings: Some of the key findings of the SMS pilots are summarized below. Fuller information is available from the U.K. electoral commission (www.electoralcommission.org.uk).

- Slightly fewer than 20,000 voters were eligible to use SMS. The number that did so ranged from 6 percent to 11 percent of the total votes cast, depending on the area.
- SMS voters were somewhat more likely than Internet and telephone voters to be young people.
- SMS was a less popular channel than telephone or Internet voting; however, the popularity of channels varied by region.
- Citizens were generally positive or neutral about the availability of new channels; however, new channels did not result in a major increase in the percentage of citizens voting. The U.K. electoral commission believes that a citizen’s perception of the value of voting and its political impact can be a far more important influence on turnout than the voting channel.
Both voters and political parties were concerned by the potential for reduced security and increased fraud when using new voting channels; however, there was no evidence that this materialized in these pilots.

Key learning points reported by the U.K. electoral commission (which apply to all new channels) included the need for staff training, voter information and awareness campaigns, help lines and support centers, audit trails (to identify nonstandard activity) and supplying voter ID and password information in separate communications.

In our view, SMS is not a particularly user-friendly channel, nor is it well-adapted to voting; however, the level of voter interest in the U.K. pilot projects suggests that the mobile phone will play a useful role in future e-democracy initiatives. Therefore, how will future mobile technologies support and challenge the voting process?

**Security, Authentication and Anonymity:** One of the key requirements of a voting channel is that it should be both secure and anonymous. We believe that both the political parties and the authorities operating the election pilots paid insufficient attention to this issue, because SMS is not necessarily highly secure or anonymous. All SMS messages go through the mobile operators’ systems. The operator's message center knows the sender, receiver and content of the message. Although there is no suggestion that operators misused this information, we believe that this is an unacceptable risk because operator-related concerns, such as the siting of network masts, may be political issues in the future.

As mobile technology evolves, we can see several ways in which security and anonymity might be improved. For example:

- More-intelligent devices. Technologies such as Java 2 Micro Edition (J2ME) allow code to be run on the mobile device. The entire channel between the handset and election systems could be encrypted so that information is inaccessible to intermediaries such as the operator.

- General handset security improvements. Handset security is a known issue, and various security improvements are likely in areas such as user authentication and encryption. Security and fraud-reduction initiatives being implemented to enable mobile payments could be exploited by mobile democracy. Vendors have already demonstrated handsets capable of reading smart cards (such as citizen ID cards), but such handsets are unlikely to be widely adopted in the near future.

- In the U.K. SMS pilots, a voter ID and password were delivered to voters in advance, by post or by hand. Such communications might be intercepted, allowing voter impersonation. Mobile technologies, such as caller ID and network location awareness, and future advances, such as biometrics, will reduce such risks. Camera phones might allow a vote to be accompanied by a picture of the voter to act as an audit trail and deterrent to impersonation.

**Usability:** SMS usability is acknowledged as a major issue. Although it is not necessarily a deterrent to regular SMS users, it is certainly an inhibitor to a large section of the population. Usability issues can partly be addressed by providing additional voting channels for those citizens unfamiliar with SMS; however, this may not be an ideal solution. The evolution of mobile devices and networks will do much to address usability issues:

- Mobile code technologies, such as J2ME, permit more-intelligent and usable interfaces.

- Future versions of Wireless Application Protocol and related, thin-client technologies will support applications that are more Usable than SMS, albeit at a higher cost and to a more-restricted audience.
• General improvements in mobile device ergonomics, in areas such as screen size, color, picture messaging and speech recognition will improve usability, especially for older citizens and others with accessibility requirements.

Participation and Demographics: One of the most-interesting and least well-understood implications of new voting channels is the impact on voter demographics. New channels, such as SMS and the Internet, tend to be favored by younger citizens. The difference is small, but in many countries, political opinions are somewhat correlated with age, so improving the accessibility of democracy to certain age groups might well disadvantage some political parties. Furthermore, the accessibility of citizens to political campaigners may well depend on which channels can be used to contact them. The net effect will depend on many complex factors, including the mix of voting channels — for example, accessibility to older people can be improved by providing IVR as well as SMS. The impact of such issues has not yet been examined in detail.

Quality of Service and Guaranteed Delivery: One of the issues not addressed in the small-scale U.K. pilots was quality of service and guaranteed delivery. Mobile messaging is not infallible and mobile networks can be overloaded, either intentionally (as a form of denial-of-service attack) or accidentally (as has happened when popular television game shows have run interactive SMS competitions). If mobile messaging were to be used for large-scale national elections, issues to be addressed would include:

• At what point is a vote legally cast? When a message is sent or when it is delivered?

• What happens in the event of network congestion? This could be particularly important in the event of a close-run result. Greater use of electronic voting channels may allow political parties to gain a better understanding of the likely results before the election closes, and better communication may enable them to muster last-minute support, making network congestion as the polls close more likely.

Solutions might include voter education, provisions to extend voting times in the event of congestion, and audits to assess if election results were affected by network events.

Cost: Two aspects of cost are important:

• User cost. It is a basic democratic principle that voting should be equally accessible to everyone. Sending an SMS message costs money, and more-sophisticated and more-usable mobile technologies, such as Multimedia Messaging Service (MMS) or Java phones imply more-expensive handsets or higher operating costs. These will be inaccessible to some citizens. This is unlikely to be a major issue as long as mobile channels augment, rather than replace, traditional channels.

• Operational cost. The recent U.K. pilot projects were subsidized by the government, so cost was not a major impediment. In the longer term, multichannel democracy might require several new channels in addition to traditional polling methods, which implies significant costs. Although new channels offer the potential for some savings (for example, in election supervision and manual vote counting), we expect these to be outweighed by the increased operational and support costs of channels.

Campaign Issues: Mobile devices have not yet become a major channel for political campaigning, but advances in technology, combined with a greater awareness of its opportunities, will pose challenges such as:

• Is mobile a broadcast channel? Many nations regulate the political use of broadcast channels, such as radio and television, to provide equitable access to air time and ensure fair use of such a key
medium. Technologies, such as streaming and MMS video clips, will allow equivalent political commercials to be delivered to mobile devices. In an "always on" society, personal mobile devices are potentially more influential than broadcast channels. Should they be regulated as well? If so, how?

- **Rewards:** Bribing voters is generally illegal. However, mobile technology and mobile business systems will provide new forms of reward that may test the limits of acceptable behavior by political parties. For example, ring tones, mobile games or MMS pictures of pop stars have a value. Outside the political arena, voters will pay for them. Should a political party be permitted to provide them as a reward, for example, for watching a commercial? Would mobile micropayment credits, to be spent on cartoons, be an unacceptable voter incentive? What would be the status of a reward, such as a game, which also delivered a political message?

- **Political funding:** Mobile networks will deploy micropayment systems that do not yet exist in other commercial domains, allowing much larger numbers of much smaller payments to be made to a more-diverse group of recipients. Such systems may provide new ways to donate to political causes — for example, by reverse-charged messages or micropayment credits. Such mechanisms may challenge authorities tracking political donations, especially when these are directed to an informal support organization, rather than a formal political party.

- **Canvassing and other political activity:** We expect mobile devices to enable new forms of community, collaboration and communication. Examples will include communities based on time and location. Should political parties be permitted to use such mechanisms and, if so, in what ways? For example, would it be acceptable for a mobile user, walking in the countryside, to receive a message that says "The beautiful area that you are now entering is about to be built over because of [a certain political party]. Press OK to send a protest message to your representative and donate to the 'save the countryside' campaign"? Some countries have begun to address these topics (for example, the recent Federal Elections Commission ruling on SMS campaign messages in the United States). However, we expect this to be an area of concern for several years.

**Bottom Line:** Despite usability and security concerns, the U.K. election pilots have demonstrated voter interest in channels such as SMS. We expect that future mobile devices and technologies will provide more-effective and more-secure voting platforms and will become an integral part of multichannel democracy. However, the potential for new mobility applications to test the limits of acceptable political behavior is likely to demand legislative control.