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Point, Click, and Vote: The Future of Internet Voting.

By R. Michael Alvarez, and Thad E. Hall. Washington, D.C.: The Brookings Institution, 2004. \$46.95 Cloth, \$18.95 Paper..

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"As long as I count the votes, what are you going to do about it?" – "Boss" William Marcy Tweed.

Internet Voting has given rise to considerable controversy, underscored by the recent cancellation of this year's trial of SERVE, which was to provide Internet Voting for 100,000 military personnel. Could Internet voting promote deliberative democracy? Would Internet voting increase voter participation and engagement? Would it increase the accuracy of the reported vote? Would it improve people's trust in the electoral process? Is current Internet technology capable of supporting secure voting?

In *Point, Click, and Vote*, Alvarez and Hall (henceforth "A&H") argue that remote Internet Voting (henceforth "I.V."), in which voters are permitted to register and vote in elections via any Internet-connected computer, could solve "many of the pressing problems with U.S. elections" (p. 147) and stimulate participation and interest. They argue, furthermore, that critics of I.V. have substantially overstated the security risks. Unlike previous reports on internet voting, which have called for delaying its introduction until polling-place computerized voting is firmly in place, A&H argue that a secure, reliable, and fair system of internet voting should be instituted before the end of the decade -- starting with the immediate use of I.V. for overseas military personnel and culminating with its widespread use in all national elections. To achieve this goal, they call for controlled experimentation with I.V., coupled with government funding to both support research into security and to subsidize Internet access.

A&H write clearly and directly: with careful attention to both empirical evidence and to previous research, and with a minimum of jargon. In eight chapters, the authors proceed from a review of the debates to recommendations:

- In chapters one and two, A&H review the debates surrounding Internet voting, particularly the reports of the California Internet Voting Task Force, and the report of the NSF sponsored National Workshop on Internet Voting. A&H argue that the debates have been framed incorrectly: Rather than wait for problems with security and access to disappear before implementing I.V., implementation of I.V. for the neediest population should be used to drive the development of broader solutions.
- In chapter three A&H examine the "digital divide" between those groups with and without Internet access, and the implications of this divide for voting. They point out that significant divisions in voter participation already exist, and that existing voting and registration systems can present disproportionate challenges to

- different groups. They argue convincingly that the existence of a digital divide is not itself a compelling reason to avoid I.V.: Instead, one should ask how a combination of I.V. and subsidies for Internet access could improve the participation of currently under-represented groups.
- Chapter four examines the potential roles for the Internet in deliberative and direct democracy. Although A&H propose a Madisonian stance against direct democracy, their main point is to distinguish I.V. (as applied to elections) from direct voting. Their point is well made, and well taken.
 - In Chapter five, A&H argue that the security of Internet voting is not qualitatively different from that of other voting methods, and could be made better.
 - In chapter six and seven, A&H provide an interesting and in-depth analysis of Oregon's experience with universal voting by mail, along with a thorough and thoughtful review of previous trials of internet voting. They argue that although trials of Internet voting have yielded very limited information, experience with voting by mail suggests that voter participation can be significantly increased without significantly increasing fraud.
 - Finally, in chapter eight, A&T summarize their main arguments, make a set of policy recommendations geared toward achieving widespread I.V., and sketch a plan for implementing I.V. before the end of the decade.

According to experts, an ideal voting system would be robust, and resistant to interruption, voter fraud, and insider fraud. It would preserve the anonymity of the voter, while providing confirmation of the vote, and preventing the sale or transfer of votes. It would provide a physical audit trail that can support independent confirmation of the vote. It would be demonstrably accurate. Furthermore, it should be easy for all voters to access, to understand, and to use, and it should be simple, cheap, and fast to run. This is a tall order for any voting system. And I.V., like many other voting systems, has its critics. And recent failures of

The most highly publicized criticisms on I.V. have come from computer scientists, many of whom have accused I.V. of being fatally vulnerable to disruption and fraud, and incapable of providing an adequate audit trail. In the wake of several security incidents at different manufacturers of voting equipment, the press has also taken a particular interest in this issue. One of the latest expert analyses, the report of the Caltech/MIT Voting Technology Project (which one of the authors helped write), states that I.V. is "not ready for wide-scale use" because of concerns over voter coercion and because "large scale fraud is more likely": "it is easier to hack the entire system if it is on the Internet, than it is to coordinate many millions of voters voting at precincts or thousands of poll workers."

A&H correctly point out that such criticisms are based on expert opinion rather than quantitative analysis. They also argue clearly that initial use of I.V. should be limited to overseas military voters, and not made available on a wide-scale. Unfortunately, while their call for quantifying and comparison of voting systems risks has much merit, this chapter also has notable gaps and inconsistencies. For example, A&H argue that the risks of attacks on I.V. can be quantified, yet they provide no estimates. They assert that current security is less effective than it could be because corporations often lack the

diligence and foresight to implement financially-sound security, but then argue that market pressures will improve security. They point to findings from the Caltech/MIT Voting Project showing that many votes are lost due to existing voting technologies, but do not discuss related findings that show paper and optical systems lose significantly fewer votes than computer-based systems. They discuss (only) one method for providing an independent audit trail, the 'FROG' system (which uses physical tokens), but do not discuss the claims of its designers that FROG cannot be securely adapted to I.V. They justify limited use of I.V. as a solution to the current barriers to voting that confront military personnel and the disabled, but do not provide an estimate of the severity or extent of these barriers: How many military votes are not counted because of problems with military mail? How many potential voters give up because of problems with the current absentee ballot system?

One wishes that A&H had provided a direct comparison of the costs and benefits of I.V. versus other proposed voting reforms. This elision may be a result of A&H belief that I.V. is "inevitable" and the "future of voting" (p. 27). However this belief is not itself fully argued. The concept of remote voting is far from new (Buckminster Fuller proposed voting by phone in 1940). Why is I.V. now inevitable? Assuming, for argument's sake, that I.V. may not be inevitable (and A&H do state later that I.V. could suffer a permanent setback if development is rushed) – is it better than other proposed reforms?

A&H themselves suggest several changes in addition to I.V.: liberalized absentee voting by mail, same-day on-line registration, and allowing votes to be recorded over a period of days instead of a single day. The Caltech/MIT project has suggested improving registration systems and aggressive use of provisional ballots. Others have suggested that computers could be used to record votes over the Internet from within a secured public kiosk and combined with the use of a physical audit trail. How much greater is the risk of fraud for these approaches? How many more people, in general, would participate? How many more disabled and military personnel would participate? How many fewer votes would be lost to errors?

A&H do point to examples of existing technologies that are, in some ways, arguable as bad as I.V. However, while it is arguably true that lever machines are not auditable, that North Carolina's absentee voting scheme lacks anonymity, and that King County's delays in mailing absentee ballots produced a type of 'denial of service', these examples do not provide support *for* I.V., nor a thorough basis for comparison of voting systems.

These issues aside, one also wishes for a more thorough discussion of Secure Electronic Registration and Voting Experiment (SERVE), which A&H have been contracted to evaluate. The need for scientific trials is one of their recurring themes, they strongly criticize previous trials of IV for not following basic principles of experimental design, and assert that SERVE will do better. Yet, they leave unanswered the questions that they raise of other trials: Which specific hypotheses are SERVE designed to test? How does the randomized selection mechanism function? How is the broader impact of SERVE to be measured?

Nevertheless, even staunch opponents of I.V. should gain insights from this book. To A&H's credit, they attempt to quantify the benefits of I.V. And, in doing so, they substantially succeed in moving the debate over I.V. from the qualitative to the quantitative realm -- which is a good thing. Scholars, students, and policy-makers with an interest in the future of Internet Voting would do well to include this in their reading list.