How Many Is Too Many Candidates?

I recently spent four weeks at a training course for mid-level government executives where students elected a graduation speaker from among our class of 77. The stakes for the election were extremely low, with bragging rights (if any) the only reward. (Some people would have viewed winning the election as a “loss,” since it required additional effort to write a speech!) Similar elections with higher stakes are not uncommon, though, such as professors selecting a department chair from among a few dozen of their peers.

Thinking about the election from the perspective of a computer scientist who works on elections made me consider the interactions of technology and people, a theme I’ve frequently covered in these columns. How do voters make up their minds in an election for which they have relatively little information, whether a class election or a local race in a metropolitan area (where advertising would be prohibitively expensive)? Many voters simply pick the candidate associated with their preferred party, but the lack of information leads to pronounced levels of drop-offs (voters who don’t select any candidate for races further down the ballot compared to the marquis contest).

The graduation speaker election was run in a very straightforward way. Any student could nominate another student; the nominee could accept or decline the nomination. The period from opening nominations until the election was two days, so no significant electioneering was feasible, even if someone had been so inclined. There were 13 accepted nominations (and at least one person who declined to be nominated). So if votes were evenly distributed, each candidate would get six votes, and it’s unlikely that anyone would get close to a majority. The election was a single round (photos and names of the 13 candidates on a sheet of paper, and each student could select one as a more-or-less secret ballot). There were no speeches or position papers, so each of us had to make a decision based on what we had heard the candidates say in class, so all voters were minimally informed.

I guess I should say at this point that I was neither a nominator nor a nominee, and as such had no direct stake in the outcome.

I wondered whether the number of candidates was an anomaly, and learned that it’s quite typical in that training course, with the winning candidate typically receiving 10 to 14 votes (out of 70 to 80). Undervotes (not selecting a candidate) and overvotes (selecting more than one candidate) haven’t happened in this election or past elections, according to the woman who runs the program. I deliberately did not ask how many votes the winning candidate received in my class.

In my view, 13 candidates for 77 votes is not a good way to run an election, especially with a relatively uninformed electorate, because the chances of getting an undesirable candidate are relatively high due to random chance (although that was not a concern in this particular election). But what’s a better choice—and could computing play a role in any decision?

While Americans are used to the plurality or “first past the post” model (where the candidate with the most votes wins, regardless of whether it’s a majority), there are many other options for elections, some of which may be appropriate in a case like this, and some of which are in use in the US and elsewhere in the world. For example, Maine law requires use of rank choice voting, although due to legal challenges it has not yet been put into effect. The person responsible for running the election was unaware of alternatives, of which there are many. The simplest is a two-round election, where in the first round all 13 candidates are on the ballot, and a smaller number (perhaps two or three) who get the most votes go on to a final round. A second option is “approval voting,” where each voter identifies all candidates who are acceptable, and the
candidate with the most approvals wins. (My expectation is that it wouldn’t have worked in this election, where everyone was very collegial and no one had reason to disapprove of anyone else.) A third option is rank choice voting, where the voters place the candidates in order of preference, and the election proceeds in rounds with the lowest ranked candidate removed, and votes for that candidate being reallocated to those voters’ next preferred candidate. Score voting allows the voters to give each candidate a score (say 0 to 9), and the candidate with the highest average score wins (the method used in Olympic competitions). Another variant provides voters with points, which can be allocated all to one candidate, or in part to several candidates, and the candidate with the most points wins. And there are many more options, all with tradeoffs among usability, complexity, and side effects. Hybrids are also possible—approval voting to narrow down the choice to those with a majority approval level, then proceeding to have a plurality vote. It’s worth noting that there is no single “best” voting method; each one has surprising characteristics that under various conditions, some pathological, will lead to an undesirable result. So I am not arguing for a particular answer, but only suggesting consideration of options.

It’s relevant to consider that everyone in my class had a computer (as well as a mobile phone) with them, but almost none of the attendees were computer scientists, and to my knowledge none (other than myself) had experience with elections and voting technology and concepts other than as a voter.

Some of these voting options are hard to do by hand accurately, although 77 votes limits the effort. Given that the stakes in this particular election were so low, the impact of an incorrect result are modest, but it’s still worth considering whether technology could help—if accuracy isn’t a metric, why bother holding the election at all?

Because there were only 77 voters and a short turnaround for the election, developing and testing new software was not possible. However, some off-the-shelf systems such as SurveyMonkey allow a question that requires ordering (for rank choice voting), although they will not perform the necessary tabulation. But would voters be able to understand a voting scheme other than plurality, and would the vote counters be able to master the counting method? How should we make tradeoffs between a “better” result (one that perhaps was more desirable to the largest number of voters) and one that would require more education of the voters?

When I was a student, a professor asked whether a computer should be used to balance a checkbook. The answer (then) was clearly “no” because the cost of computing resources did not justify the human labor saved (even though a computer clearly could do the calculation); the answer (now) is potentially “yes” depending on one’s level of trust in the bank’s recordkeeping. Similarly, we might ask whether we should computerize a simple election, even though it’s clear that a computer can be used to help with such tasks.

Another factor relating to any of the choices is strategic voting. In a plurality system, voting for any candidate other than the leaders (for instance, Trump and Clinton in the 2016 US presidential race) is a “wasted” vote in that it is highly unlikely to affect the outcome. But in a race such as this, where there was no clear front-runner, or even a group of candidates most likely to win, it was unclear which candidate(s), if any, had no realistic possibility of winning, and therefore would be a wasted vote. It was unclear whether there were any natural affinity groups (for example, about one-third of the candidates and one-third of the voters were women, so a gender split was highly unlikely—but a significant fraction of the voters were from a single government agency so that could provide some measure of affinity). I used a version of strategic voting in selecting whom to vote for: I narrowed the choice to those who had spoken up frequently in class (and hence were likely to have higher name recognition among my peers), and then selected the one I thought was most likely to give a good speech.
A variant of strategic voting that’s possible with technology (but not feasible on paper) is to have a website that shows a running total of votes for each candidate, allowing voters to change their selections for the duration of the election. This interactive model is equivalent to a runoff election, but without fixed rounds—if you see that your favorite candidate isn’t doing well, you can jump on another bandwagon, and keep switching until the election closes, maximizing your satisfaction level within the scope of the larger electorate. Given that the stakes in this election were very low, I doubt many people would have bothered to change their votes once cast. In other small races with higher stakes, however, such behaviors might be more typical—for example, selecting the chair for university academic department.

Finally, I’ll share the approach recommended by a friend to whom I described the scenario:

1. Compile a list of all those who want the job, and those who don’t.
2. Throw away the list of those who want the job.
3. Draw a random number to select the winner from among those who don’t want the job.
4. If that person refuses to serve, require him/her to appoint someone else.
5. If THAT person refuses to serve, have him/her appoint yet another person.
6. Repeat until someone agrees to serve, or until all possible candidates have refused.

Wishing you a successful outcome for whatever your next election might be!

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