



© Aramanda - Fotolia

Democracy at risk from new forms of internet influence

by Robert Epstein, PhD

Research shows how undecided voters can be swayed by search engines or social media platforms in the run-up to an election.

The free and fair election is fundamental to democracy, but the internet has made possible new, nearly invisible forms of influence that might have been influencing the outcomes of close elections worldwide for several years now. Left unchecked, these forms of influence will inevitably grow over time, slowly but surely nullifying the democratic process as we know it.

The first type of influence has been labeled “digital gerrymandering” by Harvard law professor Jonathan Zittrain. In conventional gerrymandering, the boundaries of voting districts are altered to favour one political party, virtually guaranteeing that the majority of voters in the newly-drawn districts will vote for that

party. Zittrain has pointed out that social media giants like Facebook could easily accomplish the same sort of manipulation by sending out multiple prompts to “go out and vote” only to people who are known to favour one candidate or party. In close elections, which are quite common, increasing the number of such people by even a small amount could easily flip an election.

Of greater concern, this kind of manipulation could be accomplished – or perhaps is being accomplished – without anyone being the wiser. As it is, social media companies already send out customised ads to more than a billion people daily based on gender, age, location, purchase histories, and other factors. They

could easily send out – or perhaps are already sending out – prompts to vote to select groups of people without anyone knowing that these groups are being singled out.

Facebook Flash Ads

In a controlled study conducted in 2010, researchers at the University of California San Diego, working with employees at Facebook, demonstrated that repeatedly flashing “VOTE” ads to 60 million Facebook users on an election day in the US caused 340,000 more people to vote than otherwise would have. The sample of people who received the vote prompts was supposedly selected at random, but, given Facebook’s massive database of personal information about its users, the company could easily have targeted people with known preferences for certain candidates or parties.

Search Engine Manipulation Effect (SEME)

Research I have been conducting with Ronald Robertson since early 2013 has identified another problematic source of influence over voter preferences which we call SEME, for Search Engine Manipulation Effect. SEME, we have concluded, is almost certainly already influencing close elections around the world.

In a series of five randomised, controlled experiments we have completed with more than 4,000 participants in two countries, we have demonstrated and repeatedly confirmed that when high ranking search results favour one candidate – that is, make him or her look better than his or her opponent – the voting preferences of twenty per cent or more of undecided voters shift toward that candidate.

High ranking search results alter opinions because most people mistakenly believe that search rankings are determined by an objective, omniscient, and infallible mechanism that is beyond human control. This is confirmed by a variety of research on consumer behaviour which shows that people trust and believe higher-ranked search results more than lower-ranked



Here is the kind of prompt Facebook sent its users in the 2010 experiment



© Patrick McCartney

Robert Epstein

is Professor of Psychology at The University of the South Pacific (Suva, Fiji) and Senior Research Psychologist at the American Institute for Behavioral Research and Technology (Vista, California, USA). As former editor-in-chief of PSYCHOLOGY TODAY magazine in the USA, with a PhD from Harvard University, Dr Epstein has published 15 books on artificial intelligence and other topics. You can learn more about his research at <http://aibr.org> or follow him on Twitter @DrREpstein.

» Influence that is invisible to people is the most dangerous kind, because it leaves people falsely believing that they are choosing freely - that they are not being influenced at all «

results. Over 50 per cent of all clicks go to the top two search results, and more than 90 per cent of users never leave the first page of results. Research shows that this occurs even when high-ranking items are of poor quality; it is not just for convenience sake that people click on high-ranking items but rather because of those deeply-held beliefs regarding their validity. Because of the enormous value that high-ranking items have for purchases, North American companies are now spending more than \$20 billion per year on SEO in an attempt to push their links to higher positions.

When companies, candidates, or political parties compete in an open marketplace to get people’s attention, fairness is maintained – although, of course, the players with more resources have always had the advantage. What happens, however, when the search engine company itself has preferences?

This, of course, is the topic of ongoing investigations of Google Inc. by the European Commission, which has alleged that Google unfairly favours its own products and services in its search rankings. Given the power of SEME, one must also wonder: what impact might Google have on elections if its search rankings also favoured one candidate over another?

Lok Sabha election research

Our most recent experiment, conducted in India during the 2014 Lok Sabha election – the largest democratic election in history – is especially relevant to this question. Our previous research had focused on elections that were already completed and on candidates who were unknown to the participants in order to minimise any bias the participants might otherwise have brought to the experiments – in other words, to guarantee that they were truly undecided voters.

In the new experiment, however, we used newspaper ads and online subject pools to recruit 2,150 undecided voters in 26 of India's 28 states – real voters in the midst of an intense, hotly-contested election campaign. Participants were randomly assigned to groups in which search rankings favoured either Mr Modi (the ultimate winner), Mr Kejriwal, or Mr Gandhi. As we found in our previous experiments, exposure to biased search rankings that linked to real web pages (which participants could examine freely) caused voting preferences to shift toward the targeted candidate by twenty per cent or more. In some demographic groups, such as unemployed men from Kerala, the shift was greater than 65 per cent. We got this result even though our participants were highly familiar with the candidates.

Google fined for biased search rankings

That we conducted this research in India was especially appropriate given that in March 2014, Google was fined 10 million rupees (US\$164,000) by the Competition Commission of India for biased search rankings.

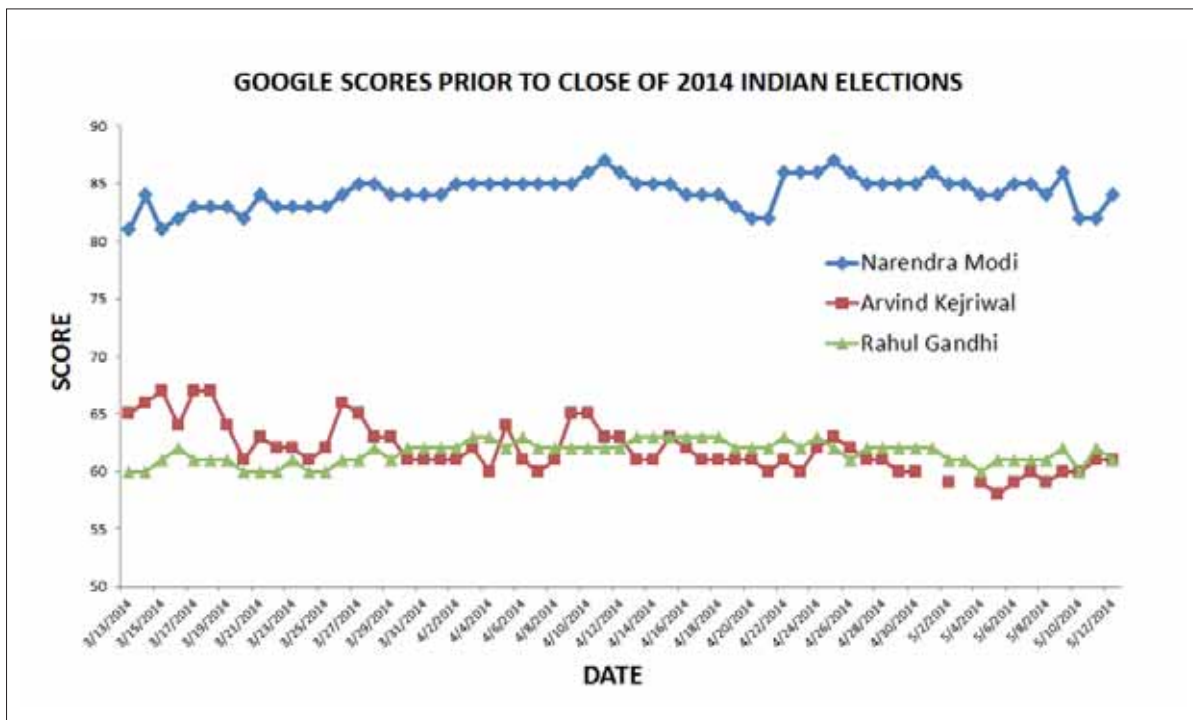
Are there any indications that actual Google search rankings might have favored Mr Modi in the Lok Sabha election? Google's own data – the daily "Google Score" it assigned to the major political candidates based on search volumes – showed that Modi outscored his opponents by at least 25 per cent for 60 consecutive days prior to the day the polls closed on May 12th.

Because activity affects search ranking, it is reasonable to assume that Mr Modi was also favoured in Google's search rankings as more than 430 million votes were cast between April 7 and May 12. If even ten per cent of India's voters with internet access were still undecided in the weeks before the polls closed, biased rankings could have driven several million votes towards Mr Modi. What's more, with an increasingly large portion of the world's population having internet access, whatever the impact of biased search rankings is today, it will certainly be much larger in the future. Our own data suggest that more than 85 per cent of people with internet access are getting at least some of their election information from internet sources – a number that is also likely to increase in coming years.

Keeping track

Couldn't researchers or government agencies simply track and rate search rankings to determine the extent to which they are biased toward one candidate or another? This is not as easy a task as it sounds, and it might even be impossible. Google's revenue model depends on being able to identify users in real time so that it can send them ads targeted to their particular needs; it provides free services so that it can collect relevant information about every user. With the company able to identify individuals and demographic groups with increasing reliability, it is also able to send out customised search rankings to an increasingly large number of users. From a regulatory standpoint, the problem here is that monitors would have no way to look at the customised rankings Google is sending to particular individuals or demographic groups. Rankings that might appear clean on one computer could be highly biased on another. Our research also demonstrates that the vast majority of voters are unaware that the search rankings they are viewing are biased toward one candidate; more than 99 per cent of participants in our India study seemed oblivious. Influence that is invisible to people is the most dangerous kind, because it leaves people falsely believing that they are choosing freely – that they are not being influenced at all.

Models we have developed suggest that opinion shifts of the magnitude we are finding are large enough to flip the outcomes of upwards of 25 per cent of the world's national elections. This coming spring, we plan to replicate SEME during the elections in the UK.



Google Scores for the major candidates in the 2014 Lok Sabha election in India for the 60 days prior to the close of polls on May 12th Source: Professor Epstein

Threat of monopolistic search

SEME wouldn't be much of a threat if the online search business were in the hands of a dozen competing companies. Because more than 90 per cent of search in most European countries and in many other countries around the world is in the hands of a single company, however, no candidate or party has a way of offsetting the influence that Google's search rankings are undoubtedly having on elections.

» SEME (Search Engine Manipulation Effect), we have concluded, is almost certainly already influencing close elections around the world «

One last point: Although it would make good business sense for Google executives to use search rankings to favour candidates that they deem preferable for their business needs, our data suggest that Google's search rankings are influencing elections even if Google's executives are keeping hands off. This is inevitable because of the nature of Google's ever-changing search algorithm. So-called organic search phenomena will inevitably boost the rankings of some candidates over others; when this happens, the preferences of undecided voters will shift towards those candidates in a kind of digital bandwagon effect.

Either way, to protect democracy, search rankings related to elections should be strictly regulated.

