

CASE STUDY

Political Scientist Gets Inside the Minds of the GOP with Revolution R Enterprise

University of Chicago's Boris Shor relies on the powerful Revolution Analytics app to predict election outcomes; Successfully forecast Senator Brown would vote with Democrats in D.C.

The Facts

Customer: Harris School of Public Policy Studies at University of Chicago

Product: Revolution R Enterprise for 64-bit Windows

User: Boris Shor, Assistant Professor

Challenge: Develop a program capable of rapidly sorting large sets of surveys and voting data to measure state-wide and nationally-comparable ideology in state legislatures.


Benefits: Revolution R Enterprise for 64-bit Windows lifts artificial restrictions on the amount of data that can be processed and the speed with which it can do so, allowing analyses to be performed more quickly than ever before, and in some instances for the first time.

Revolution R Enterprise for 64-bit Windows

How can Republican congressional candidates win in the liberal Northeast, which is dominated by Democrats?


On Jan. 19, 2010, Republican Scott Brown shocked the political world by winning the U.S. Senate special election in Massachusetts over the heavily favored Democrat Martha Coakley.

Sorting tons of voting records and survey data using Revolution R Enterprise for 64-bit Windows, political scientist Boris Shor, determined that Brown's legislative record allowed him to successfully appeal to enough voters to accomplish the upset. It wasn't a case of the Massachusetts electorate becoming more conservative; it was a case of voters' being comfortable that Brown was not an ideological renegade outside the mainstream.



“After several years of data collection, crunching those numbers requires the use of a tremendous amount of memory at once. For that I use R Enterprise for 64-bit Windows. There are no limits on the amount of memory available. Prior to Revolution’s software development of R Enterprise for Windows, the only alternative was Linux, and that was just not practical.”

Boris Shor
Assistant Professor,
Harris School of
Public Policy Studies,
University of Chicago



Shor, assistant professor at Harris School of Public Policy Studies, University of Chicago, who studies ideology among state and congressional legislators in the U.S., said the election was noteworthy for a host of reasons. First, recent polls show Brown matching or even exceeding Coakley’s electoral support, in one of the most liberal states in the entire country (and one that hasn’t elected a Republican in four decades). Second, the consequences of a Brown victory could’ve meant the derailment of the Democratic health care reform proposal, if all Senate Republicans maintain party unity.

But Shor says the election was fascinating for another reason. Brown attracted positive national and state Republican and conservative attention. On the other hand, State Assemblywoman Dede Scozzafava attracted very negative attention from conservatives in her special election campaign for the 23rd Congressional District of New York. Brown is actually a liberal Republican found to be to the left of Scozzafava. So why, then, the enthusiasm gap in support for the two?

Shor, says it’s all in the candidates’ voting records. The trick is being able to sift and analyze reams of data in a timely and efficient way to draw such a conclusion.

Shor relies on the big-data capabilities of Revolution Analytics’ Revolution R Enterprise for 64-bit Windows. Using Revolution R Enterprise, he can take data sets that were previously unmanageable and process them simultaneously overnight.

Analyzing Brown’s voting records, Shor argued that his legislative record in the state senate put him squarely in the liberal wing of his party – a state legislative caucus which was among the most liberal Republicans in the country. Shor’s technique allowed him to compare Brown to New York State’s Scozzafava; it placed Brown to Republican Sozzafava’s political “left” even though the two had never served together. It also allowed Shor to accurately forecast that Brown vote as a liberal Republican when he got to Washington, as the new senator has recently done on a Democratic stimulus bill.

Shor believes that analyzing legislative voting records using REvolution R Enterprise is superior to assessing interest group scores and other conventional analytics of voter trends. Unlike legislative voting records, interest group scores are collected and analyzed in isolation, says Shor, making it impossible to draw useful ideological comparisons between cross-state regional candidates, such as Shor did for Brown’s and Scozzafava’s.

In Shor’s view, the next step is to make this data directly useful to voters themselves: he said that he may work on a web-based application employing Revolution R Enterprise – a kind of custom poll that each voter can give himself -- that helps voters make decisions for senate and congress on Election Day based on their answers of a series of political questions.

About Revolution Analytics

Revolution Analytics was founded in 2007 to foster the R community, as well as support the growing needs of commercial users. Our name derives from combining the letter "R" with the word "evolution." It speaks to the ongoing development of the R language from an open-source academic research tool into commercial applications for industrial use.

Through our [Revolution R products](#), we aim to make the power of predictive analytics accessible to every type of user & budget. We provide free and premium software and services that bring high-performance, productivity and ease-of-use to R – enabling statisticians and scientists to derive greater meaning from large sets of critical data in record time.

We also offer our full-featured production-grade software to the academic community for [FREE](#), in order to support the continued spread of R's popularity to the next generation of analysts.

For customers such as Pfizer, Novartis, Yale Cancer Center, Bank of America and others, our flagship [Revolution R Enterprise](#) product stands for faster drug development, reduced time of data analysis, and more powerful and efficient financial models.

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