Beyond Elephants and Donkeys: Methodology Lessons from Election Polling for Energy Research

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ABSTRACT

Public opinion polling conducted during the 2012 presidential election cycle had some important lessons for energy-related data collection. The lessons were: 1) Timing matters, because it is important to consider when a data collection effort is being conducted within a program cycle and if there are any secular events which might have an unintended impact; 2) Method Matters, since the selection of a data modality is critical to ensuring the validity of results; 3) Data Matters, which is a reminder that quantitative research can inform program design evaluation as an alternative to relying upon anecdotal information, past experience, or qualitative results; and 4) Aggregation Matters, because it is important to consider all available relevant data pertinent to a particular topic. To summarize these lessons, some simple questions are offered to guide researchers as a final check of their proposed data collection efforts.

Introduction

During the 2013 presidential election cycle, numerous public opinion polls were conducted by the media, campaigns, and academics to gain an understanding of candidate preferences and the factors associated with these preferences. Particularly as Election Day approached, the polls became more numerous. Many organizations were conducting daily interviewing and computing three-day rolling averages of candidate preferences.

On the surface, it might seem that election polling is separate and different from the research we conduct as evaluators and market researchers in the energy industry. We like to pride ourselves on thinking that the research that we conduct is much more rigorous than political polls. But the public opinion polling conducted during the 2012 election cycle had some important lessons for data collection for energy market research and evaluation. And thinking about the lessons of 2012 election polling also serves as a reminder that we do not conduct energy research in a vacuum but within a wider context in which potential respondents are exposed to a wide array of survey experiences.

In this paper, we will explore four important lessons from the 2012 presidential election cycle, which include the following and summarize these lessons in the form of a checklist which energy researchers can use with respect to their data collection efforts.

Timing Matters

In 2012, it was clear that the timing of polling within an election cycle is important. For example, we saw some movement in public opinion after each of the party conventions, although perhaps not as much as in some previous years. We also saw changes once Romney became the presumptive nominee of the Republican Party after a particularly brutal and lengthy primary season, and also after widespread media reports of his remarks concerning the "47 percent". There was also a bump in Romney's support after his performance in the first debate. If you will recall, some of the polling numbers were much closer at various times in the election cycle than in the actual election.

Timing mattered in the 2012 presidential election because public opinion can be impacted by a host of secular events. The lesson for energy researchers is that we need to be judicious in determining when to conduct our research. Is research being conducted too early or too late in a program cycle to allow for informed decision-making? Are there events outside the researchers' control which dictate when a study should be fielded? Is researcher convenience rather than response efficacy the deciding factor in timing a study? Is data collection being rushed because too much time was spent planning a study relative to conducting it?

For example, if you remember back to August 14, 2003, our company was about to begin dialing for a national residential reliability survey. I was on the telephone at 4:15 that afternoon with our CATI department and suddenly, the line went dead. I was on my wireless telephone at the time and thought it had just dropped a call, but instead, the Northeast Blackout had just taken down our company telephone system and some of our telephone centers. Once we determined the cause of what had first seemed to be just a dropped call, we pulled the study for the evening. And as it turned out, we did not field the study for several months thereafter because of the public relations fallout from the blackout. Had we proceeded with the study, what we would have been measuring was opinion about the Northeast Blackout and not just overall opinions about reliability based on years of experience, which was really what we were attempting to measure. On the other hand, the timing would have been perfect if we had planned to measure consumer experiences with recent power outages and we would have been hailed as clairvoyants in the industry for our superb timing.

Most of our situations in energy research are, fortunately, not as dramatic. But what the 2012 election polling reminds us is that we need to be cognizant of the environment in which we are conducting research and to ensure that there are not secular events which might impact our results in a way we are not anticipating. Research cannot be conducted in a vacuum, even though we sometimes would like it that way. Before fielding a study, we need to make a final determination whether the timing is truly right, or if there are recent circumstances which might impact our results in unexpected ways.

And timing matters in another sense for energy research. We always need to be cognizant of how much time we are asking our respondents to give us. We need to be sure that if we are planning a 20-minute interview and that's what we tell respondents, then it should not stretch to 30 minutes. And if we are conducting a study in which we want to interview 80 of the 90 participants in an energy-efficiency program, then we have to allow more than a few days for data collection.

Method Matters

Election polls for the 2012 cycle were conducted using a variety of methodologies, including opt-in web panels, outbound IVR, telephone interviewing with landline sample only, and telephone interviewing with both landlines and wireless numbers. These methods had varying degrees of success in predicting the outcome of the election, as shown in the following table developed by Nate Silver of the New York Times (more about him later in the paper). For example,

Table 1. Pollster Accuracy and Bias, 2012 Presidential Election

Pollster Accuracy and Bias, 2012 Presidential Election

Likely Voters Polls in Last 21 Days of Campaign

Minimum 5 Polls

Pollster	# Polls	Avg. Error	Bias	Mode	Cell?
IBD / TIPP	11	0.9	R +0.1	Live Phone	Yes
Google Consumer Surveys	12	1.6	R +1.0	Internet	N/A
Mellman	9	1.6	R +0.0	Live Phone	Yes
RAND Corporation	17	1.8	D +1.5	Internet	N/A
CNN / Opinion Research	10	1.9	R +0.6	Live Phone	Yes
Ipsos / Reuters (online)	42	1.9	R +1.4	Internet	N/A
Angus Reid	11	1.9	R +0.8	Internet	N/A
CVOTER International / UPI	13	2.0	R +2.0	Live Phone	??
Grove Insight	18	2.0	R +0.1	Live Phone	Yes
SurveyUSA	17	2.2	R +0.5	Robodial	Yes
Quinnipiac	5	2.3	D +0.3	Live Phone	Yes
Marist	11	2.5	R +1.0	Live Phone	Yes
YouGov	30	2.6	R +1.1	Internet	N/A
We Ask America	9	2.6	D +0.1	Robodial	No
Public Policy Polling	71	2.7	R +1.6	Robodial	No
Gravis Marketing	16	2.7	R +2.7	Robodial	No
JZ Analytics*	17	2.8	R +0.1	Internet	N/A
Washington Post / ABC News	16	2.8	R +2.7	Live Phone	Yes
Pharos Research Group*	14	4.0	D +2.5	Live Phone	No
Rasmussen Reports	60	4.2	R +3.7	Robo + Internet	No
American Research Group	9	4.5	R +4.5	Live Phone	Yes
Mason-Dixon	8	5.4	R +2.2	Live Phone	Yes
Gallup	11	7.2	R +7.2	Live Phone	Yes

* Not used in FiveThirtyEight forecast.

Silver, Nate, "Which Polls Fared Best (and Worst) in the 2012 Presidential Race." fivethirtyeight.blogs.nytimes.com, November 10, 2012

Perhaps most notably, it was evident that telephone surveys to landlines only in 2012 election polling were not as representative of the final election results as surveys which included both landline and wireless respondents. Landline-only surveys tended to overestimate support for Romney, which is not surprising given that the wireless-only population tends to skew younger, minority, and low-income. Telephone surveys with dual-frame designs that included both landlines and wireless phones tended to reflect the outcome of the election better than those with landline-only designs and those using automated calls that excluded wireless numbers due to Federal restrictions. Somewhat surprisingly, some of the online polls did very well, even though they used an opt-in sample of panelists, possibly because they also included wireless-only respondents.

For energy researchers, the lesson is that it is important to consider data collection methodology for a particular project from the perspective of the expected respondents. Sometimes the use of the lowest-cost or most convenient methodology may not be appropriate to answer our research questions. For example, calling landlines only for an appliance saturation survey will significantly underrepresent the energy-using characteristics of the multi-family

sector and lead to biased results for purposes such as system load forecasting and energy-efficiency program planning. In contrast, the inclusion of wireless numbers, or the use of a multi-modal design (such as a mail survey with telephone follow-up) would allow for the inclusion of these households.

Sometimes there is also a temptation to utilize online surveys because they cost less than many other survey modalities. But even if you have a listing of email addresses from utility billing records or another such source, it is important to recognize that there is a still a segment of the population without Internet access. Conducting a study which excludes these respondents can lead to significant non-response bias. The important take-away is to consider the population of interest and how best to reach them.

Data Matters

Some candidates said they were surprised by the results of the 2012 elections. They dismissed polling results and instead relied upon their "gut" feeling, which told them, for example, that large crowds at candidate rallies meant success in the election. But the pre-election polls were generally successful in predicting election winners, although the percentages of votes for some races were within the margins of error for specific polls.

Many in the energy industry have encountered managers who, like some politicians, are resistant to measurement of any kind. These managers believe they know what their customers believe, what product will be successful in the marketplace, or what marketing method is best to reach customers, all without asking customers for input. Probably the worst example of this mentality that I have seen in my career is a program manager who came into a team meeting to discuss the results of the previous night's focus groups and proceeded to tell us what the respondents had said, even though he had not bothered to attend the groups.

Election polling should remind us that there is no substitute for carefully-collected data to inform energy decision-making. Our "gut" reactions should not be substituted for what customers tell us about energy efficiency, customer satisfaction, or a host of other energy-related topics. Collecting data through survey research can serve to validate our hunches, or gut knowledge, but also often surprises in a way that informs and improves utility programs and operations.

The fact that data matters also dovetails with the issue that method matters. If data are collected via the cheapest modality possible, which might exclude significant portions of respondents, then it will be less useful than information collected by using a thorough research process which is designed to minimize non-response bias and addresses other methodological challenges for information collection for a particular population or sub-population.

And a final note with respect to the fact that data matters: important decisions should not be made on the basis of qualitative research alone. We all know this, but yet I have seen instances over the years where a few focus groups were conducted and major program decisions made on the basis of those efforts. While qualitative research can provide valuable insights, it is important to remember that focus groups are based upon a relatively small number of respondents who like to participate in this type of activity and may not necessarily be representative of other customers. And it is important to guard against letting memorable focus group results/participants color your understanding of customer input even when quantitative data are available.

Aggregation matters

Aggregators and modelers of polling information, such as Nate Silver of fivethirtyeight.com and Simon Jackman of Stanford University for the Huffington Post, predicted 2012 election results with great success because they aggregated data from multiple polls, Census data, and other sources, and used modeling to determine the ultimate outcomes. Their success should remind us in the energy industry to look at multiple sources of information, if available, and to avoid making important decisions based on a single study with a small number of sample points, if possible. Bringing together information from a variety of sources strengthens the decision-making process not only in the political arena but also with respect to how energy efficiency programs are designed and their outcomes measured.

The sources of such aggregated data might include any studies conducted by a utility on a particular topic over time, as well as a literature search of any similar projects conducted by other entities (with the caveat that it may be necessary to consider the relevance of the studies to the particular topic of interest). If an important decision must be made with respect to an energy-efficiency program and there are no other relevant data available besides the results of a single study, then it might be advantageous to increase the proposed sample size to reduce the risk associated with the study.

For example, assuming a 50/50 split of responses, the margin of error is plus or minus 9.8 percent for a sample of 100, but decreases to plus or minus 4.0 percent with a sample of 600. If a truly important decision is being made, then the sample of 600 is preferred, and also has the advantage of allowing for more robust analysis than the sample of 100.

Table 2. Expected Sampling Error (Plus or Minus) at the 95% Confidence Level (Simple Random Sample)

Size of Sample or Subsample	Percentage of the Sample Displaying a Certain Characteristic at or Near:				
	10 or 90	20 or 80	30 or 70	40 or 60	50
4,000	0.9	1.2	1.4	1.5	1.5
3,000	1.1	1.4	1.6	1.8	1.8
2,000	1.3	1.8	2.0	2.1	2.2
1,500	1.5	2.0	2.3	2.5	2.5
1,300	1.6	2.2	2.5	2.7	2.7
1,200	1.7	2.3	2.6	2.8	2.8
1,100	1.8	2.4	2.7	2.9	3.0
1,000	1.9	2.5	2.8	3.0	3.1
900	2.0	2.6	3.0	3.2	3.3
800	2.1	2.8	3.2	3.4	3.5
700	2.2	3.0	3.4	3.6	3.7
600	2.4	3.2	3.7	3.9	4.0
500	2.6	3.5	4.0	4.3	4.4
400	2.9	3.9	4.5	4.8	4.9
300	3.4	4.5	5.2	5.6	5.7
200	4.2	5.6	6.4	6.8	6.9
150	4.8	6.4	7.4	7.9	8.0
100	5.9	7.9	9.0	9.7	9.8
75	6.8	9.1	10.4	11.2	11.4
50	8.4	11.2	12.8	13.7	14.0

NOTE: Entries are expressed as percentage points (+ or -).

Conclusion

It should be recognized that data collection challenges in the energy industry are not unique and that other sectors have important lessons for us, including 2012 election polling. We do not conduct our research in a vacuum and it is important to assess what we are doing on a regular basis to ensure that best research practices are being utilized. In this paper, we have explored four lessons from the 2012 presidential election cycle: timing matters, method matters, data matters, and aggregation matters.

To summarize these lessons, here are some simple questions that can be used to finalize a proposed data collection effort:

- Is this the right time in a development/decision/program cycle to conduct a survey?
- Is my survey sample size sufficient to support the decisions it is intended to support?
- Is my methodology (telephone, web, mail, IVR) appropriate for the population to be surveyed?
- Is any other information available which can be used to supplement data to be collected, either from other surveys which have been conducted for my organization or from a literature search?

Just asking these few simple questions and thinking about the answers will provide an opportunity to ensure that the research you are conducting follows best practices.