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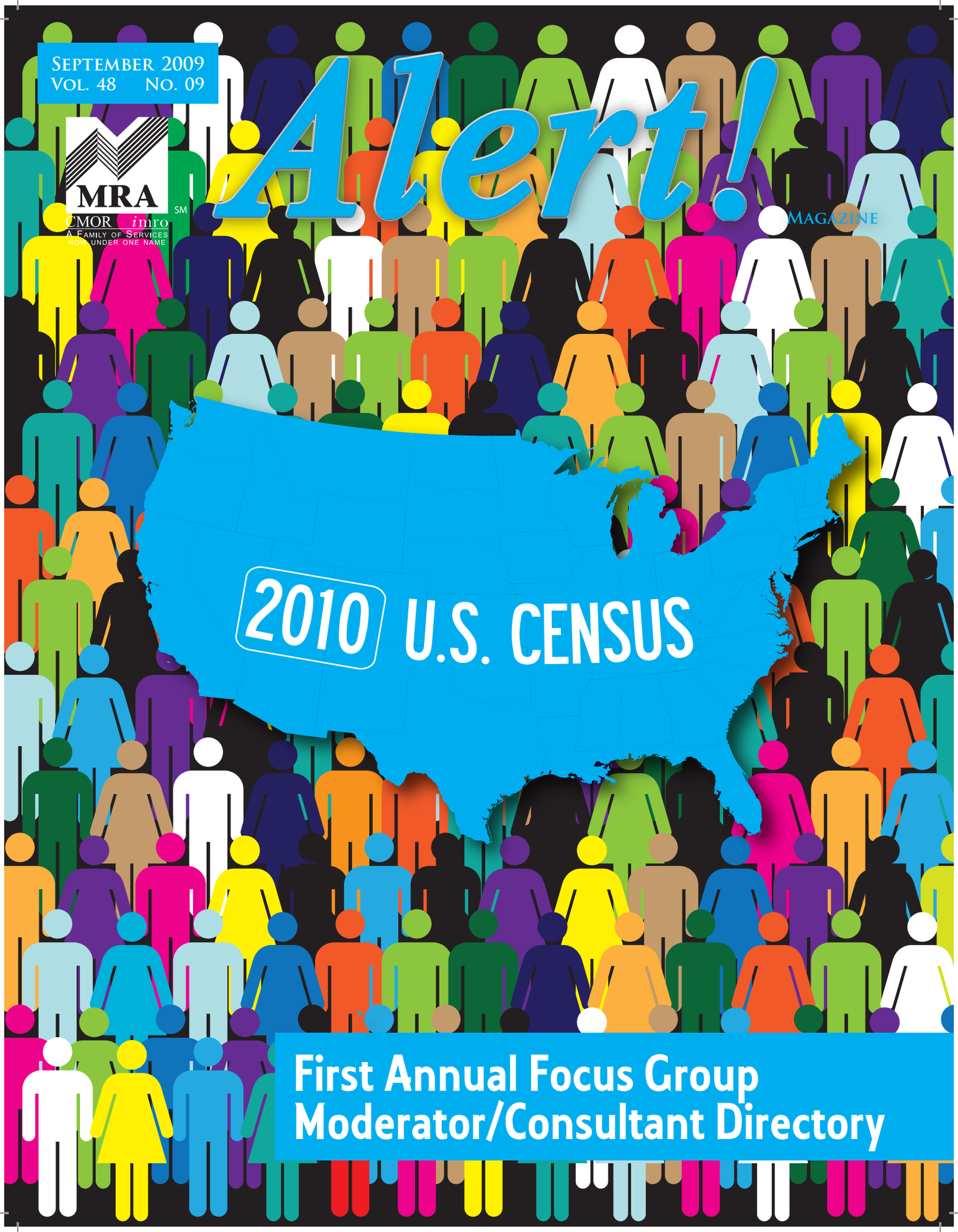

First Annual Focus Group Moderator/Consultant Directory

The Virtues of Consistent Bias: Online Research Must Move On

By Steve Gittelman and Elaine Trimarchi, PRC

Gather around the fire and hear a tale of woe.

By Constitutional mandate, a Census of the United States is performed every 10 years (yes there are interim data collection efforts), but the big tracker is constitutionally mandated every 10 years. The founding fathers wisely concluded that future generations would need to know who was where, and how many of us there were. After all, fundamental to being an American is the right to vote, and despite hanging chads, the Electoral College does not do its thing without a hard count of the population.

The founding fathers were not attuned to the needs of the market research industry when they locked us into the big count. Probability sampling was not at the top of minds. Nonetheless, we should be grateful because being able to ground our research in a probabilistic universe has made things easy for generations of practitioners.

So it was, probability theory was taught in most colleges in the land, and if you wanted to understand good sampling, you had best take the course. We all began with tossing coins and coming to the realization that we didn't need to do it a million times to conclude that heads and tails would land 50/50. It worked.

We grounded our research in probability theory. Random sampling was the rule: and if you were doing research, you did it by tying into known commodities through a combination of weighting and quotas that brought us comfort and an honest living. Things got a little tougher when we were collecting data in a mall or door to door, but there was the good old telephone. At first Americans were more than willing to suffer through our incessant questionnaires, but then they were barraged by telemarketers and the refusal rates began to climb. We struggled mightily to represent the hard to reach groups. We converted refusals, targeted members of households through their birthdays; anything to get at the hard to reach respondent.

It worked. Costs kept going up as the refusal rates climbed. It was relatively easy to set standards when we could speak about recovery rates as meaningful commodities. Onward we plowed. Some companies began to harass respondents with 14 callbacks and double or triple refusal conversions. But those were the good old days.

Of course the snow was 10 feet deep in the winter, and we used to walk to school for miles. Cell phones didn't exist and random digit dialed (RDD) samples did. We even had dialers (bless them) and interviewers; thousands of them.

Why, I remember the day when a decent study was six figures and that was when you could buy a gallon of gas for a buck. What of our precious probabilistic framework? What shall we teach the youngsters in their sophomore year? We struggled to convince the world that online research was the same as phone. We even convinced ourselves. Phone today

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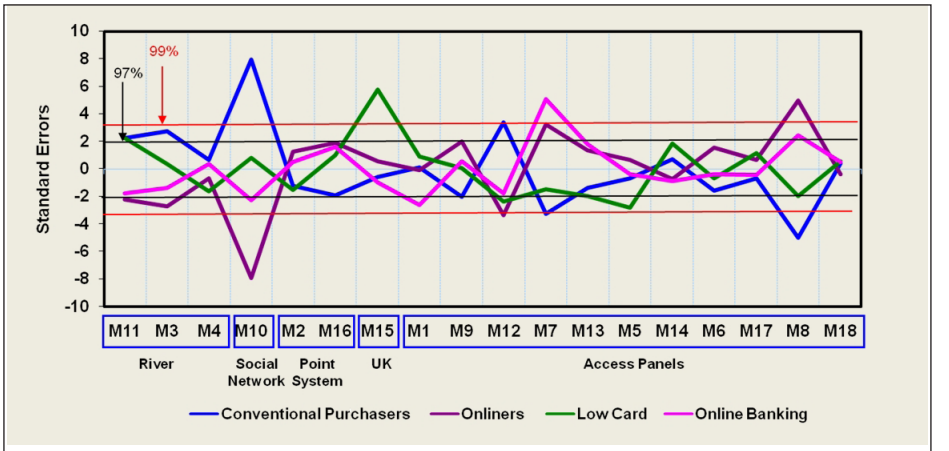

The Buying Behaviors Represented by the Panels are Very Different

We combined 37 variables and present them here in a four segment segmentation analysis.

The line chart highlights differences between panels and at the same time gives insights into the degree of statistical significance and to how meaningful the impact. Each segment for each panel was compared to the "Grand Mean" (the "0" line) sample sources. Two thirds of the sources differed from the "Grand Mean" in at least one segment. The probability of picking three panels that did not differ from the "Grand Mean" is about 4%.

(Continued from page 35)

isn't the same as phone of yesterday. How can online be the same as the phone when the old stalwart has an identity crisis of its own?

Don't feel glum. There is a world out there of science that has long ago learned to collect data and make decisions based upon sampling frames that are non-probabilistic. When Charles Darwin hauled himself onto the volcanic shores of the Galapagos Islands he took samples of as many islands as he could reach. For the most part, these isolated little islands were different from one another. Even birds that could theoretically fly from one to the next differed. He didn't have a Census to draw his conclusions: He was the Census!

Charles took samples of a few islands and wrote a pretty good book. The samples were not grounded in probability theory and he could not generalize from island to island. Vive la difference! It was the differences that gave him clues. Each island was an ecosystem unto itself, and the differences that species on the islands had to endure shaped them into the specialists that they became.

The hard sciences cannot afford the luxury of probability theory because there usually is no Census to hang a hat on. It is the body of knowledge that is the Census. A bit tougher, but it works. Our use of online data has much to learn from island biogeography. Think of each online panel as an island. They have similarities, but are drawn from different sources. We should not expect them to be identical: we should expect them to be different.

The online panels are drawn from different sources, are subject to differing management practices and for a host of reasons yield different results. To us, the most critical measure is buying behavior because that's what our clients are most interested in (See the figure on page 35). The differences between panels in the segmentation below is so large that the probability of picking three panels that are not significantly different ($P<0.05\%$) is less than three percent. The old practice of getting three bids made sense when everyone was working off the same sampling frame, but it surely no longer works today.

"The most critical measure is buying behavior because that's what our clients are most interested in."

Without the safety net of a probabilistic framework, what is a researcher to do? We need new metrics to anchor our research against. One possibility is that we could collect data from all of the panels and call them the online universe. We could then take the average of that and call it the "Grand Mean" (a statistical term for the average of statistics) and compare everything to that.

What about the differences? Do they represent biases? Bias is such an ugly word. We are taught to abhor sampling bias. It would feel so much more comfortable if we could just settle on the word differences. But there is no need because if a bias is consistent we can measure it, rely on it and even embrace it. There is indeed a virtue in consistent bias. What a revolutionary thought. The founding fathers would never have tolerated such an idea. The Census could have no biases. That is unless some folks were too difficult to locate when it came to count them. The harder you are to reach the greater the bias in the count. Try as they will, it will seemingly always have bias.

Certainly online, telephone, door to door, mail, mall, and every other means of collecting data have a bias. We are in a new era of market research. There is no adequate probabilistic sampling frame free from bias. So let's get comfortable with the word and the concept of bias. Perhaps we should embrace it in stat 101. Let it become a comfortable part of the lexicon and let's learn to deal with it.

In online research we have to dive deep into the differences in our island sampling pools: the panels. Let's make it our business to know more. Let's ask all the right questions and drill into the answers, after all we have a need to know. The more we know, the better off the online data collection universe will be, the healthier our profession will be. No more hiding around similarities to telephone.

Hidden in all of this is the concept of consistency. After all if we measure bias and can't anticipate its shifts over time, then we will not understand what is coming from our data or from background noise in the sample. The issue of consistency is the most important area of concern. We must learn to measure not only what the constituent elements of our data sources are but how they change in time. In other words, we have to enter a new world of consistency analysis.

As we do our research, we must know what the changes in our data mean. Are they the product of shifts in opinion or changes in the sampling frame? To get a grip on this we need parallel studies that document the consistency of our samples.

Consistency is a complex concept. We need to know the differences between panels at any given moment so that we can use multiple panels in our research. And if we must change panels, we must know as much as possible about the old and the new. Moreover, even if we stick with the same panel, we must know how it changes through time and events.

Consistency through time does not mean that all remains the same. No one would expect summer purchasing patterns to mimic those in winter. So we must expect change. Consistency has an element of predictability.

"The more we know, the better off the online data collection universe will be, the healthier our profession will be."

Darwin's finches adapted to the nut sizes and types that existed on the islands. If those nuts could not be counted on to be there from season to season then no bird would have successfully bet its evolutionary future. The birds rely on the nuts and segment the environment by eating different foods. The birds do not expect that the nuts will be there continuously in the same amounts: Just that they will be there predictably.

And so it goes with our panels. Our measurement of consistency should be reliable and yield us a sense of predictable change. How comforting it would be if it was all a flat line. We'll just have to continue to measure our baseline.

Oh, for the days of the Census. How easy it would be. Life without a net can get complicated. I'm afraid there is no going back.

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