



Lies, Damned Lies, & Statistics

Avoiding paths that lead to the ‘Dark Side’ of analytics

The famous quote, “There are three kinds of lies: lies, damned lies, and statistics” attributed to British Prime Minister Benjamin Disraeli and popularized by Mark Twain, always brings a knowing smile to people’s faces. Why? The reason is that almost everybody loves to find information that furthers their cause, but many times people bend the truth or hide other facts that might put things in a different perspective.

BY LOUIS WINOKUR

In this article, we’ll review common analytic errors to avoid as we work through our busy days on ad hoc requests, regularly scheduled reports and custom experiments for patient relationship marketing programs or DTC drug campaigns. To be concise, we will focus on four areas where a small investment of time and effort will pay big dividends on the back end in better data collection and interpretation, which leads to more insightful presentations.

Four common errors:

1. Force-fitting answers onto existing data
2. Forgetting to frame significance against sample size
3. Jumping to conclusions based on initial findings
4. Creating poorly thought-out presentations with pretty charts

Force-fitting answers

“Can you show that our flagship pain reliever brand is a good fit for our NASCAR sponsorship?”

In the early days of my career, I served as an onsite consultant for a company that had a unique way of segmenting syndicated data from major suppliers such as AC Nielsen and Information Resources (IRI). During one of my longer term

assignments, I worked at the headquarters of a major pharmaceutical company that marketed many over-the-counter brands.

After making strides at establishing relationships with various brand and category management teams, I was approached by a key contact and asked the above question. The question isn’t a bad one per se, but my intuition told me even before pulling the data that the flagship brand’s key demographic base of people ages 55-plus would not align with the NASCAR profile. Sure enough, after a quick review, I saw that the NASCAR audience was much younger and had a somewhat rural skew. So I went back to my contact and said, “It would appear that the sponsorship is not the best use of company funds.”

Here’s where it gets interesting.

About two months later, the same person came back to me and said, “Perhaps we’ve taken the wrong approach. Maybe all of NASCAR’s sponsors are a bad fit to its fan base’s demographic!”

So, in the spirit of being open minded, I tracked down a list of all of NASCAR’s sponsors and conducted an extensive examination of how they matched up with those who watch on TV or attend races in person. And guess what? There are

tons of sponsors who are great fits for NASCAR, the No. 1 being Slim Jim Beef Jerky!

I later found out that somebody in the organization was the champion behind that six-figure sponsorship and my contact was trying to find a way to end that association when the agreement expired.

If I were to step back into that role today, I would add a follow-up to my findings, and recommend that they evaluate alternative sponsorship opportunities such as horse racing or PGA events against their key consumer demographic. Alternatively, I would suggest that we analyze the dollar opportunity and spending power of various demographic segments. We could then evaluate the benefit of targeting certain segments of people in their 40s and match them up with the right sponsorship.

Framing significance / sample size

“Why bother to run additional tests? We already have the results from the focus group. Isn’t that enough?”

It’s important to remember that focus groups are a great source of qualitative data. They can provide information on what people think and feel about a particular subject. However, a sample of 10 to 20 people is almost never representative of the entire population. In fact, if you surf the net for a sample size calculator and plug in a sample N of 20, you will find that your survey will provide an accuracy of plus or minus 22% (a 44-point spread!) at a 95% confidence level.

Back in 2008, we received excellent feedback on how to make improvements to the enrollment form for an ongoing PRM campaign. A focus group study, incorporating eye-tracking technology provided specific data on strengths and weaknesses of the existing form. Because this information was based on focus group results, it was decided to take things to the next level and to conduct a live field-test to validate the results.

In preparation for the test, two designs were developed as an alternative to “Form A” (the original form). “Form B” was a modified version of the original based on focus group feedback featuring new introductory copy, rollover functionality, a different color call to action box and revised images. Rather than stop there, it was decided to push the envelope and come up with a brand new approach for “Form C.” This version incorporated the spirit of the findings, but with a com-

pletely different layout, using icons to explain the value proposition and eliminating all images.

A comprehensive test methodology was established with a distinct goal and target sample size that would provide a conclusion in a specified time period.

To our surprise, “Form B” had the worst performance of any of the designs. “Form C” proved to be the winner, significantly outperforming “Form B” over the course of the test and edging out “Form A” for the highest enrollment rate over the test period. (See related “Enrollment Rate” chart.) So, if we had run with the initial results, we would have done our client a disservice. They would have a form that was less efficient than the original, despite the fact that it incorporated all of the suggestions of the focus group.

Jumping to conclusions

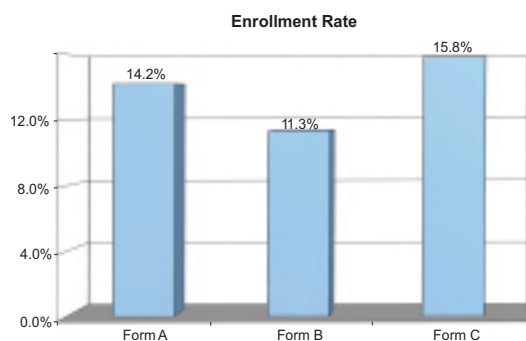
“E-mail metrics have been declining; we’d better rethink our subject lines and redesign our content.”

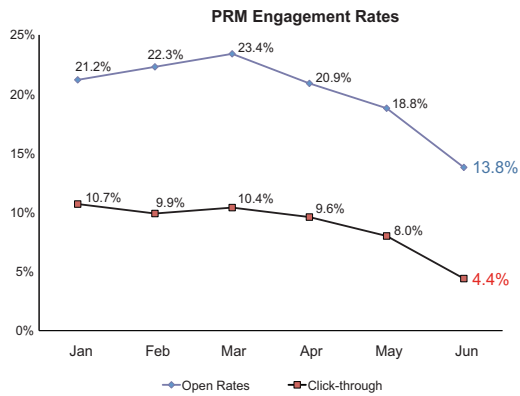
PRM programs are often based on multiple communications with patients. The bread and butter metrics for the e-mail portion of a program are opens, clicks and opt-out clicks. So, if the open rate and click-through rates for a program decline consistently over a six-month period, it must be an indicator that something is drastically wrong with subject line or concept design, right?

Not necessarily. Numerous factors have an effect on metrics on a month-to-month basis. Before starting emergency meetings with the creative team, be sure to step back and evaluate a few other factors that could be contributing to the decline.

One recent development that has touched numerous pharmaceutical marketers has been the renewed focus on regulatory compliance led by DDMAC. In recent months, many e-mail programs have been asked to shut down in order to make adjustments that bring communications into compliance with regulations. The only problem is patients have no idea why the messages they have been receiving on a regular basis have suddenly stopped. Once the dust settles and the program goes back “on the air,” many recipients have forgotten that they ever signed up in the first place – open rates decline and opt-outs increase.

Fluctuations in responsiveness are also closely linked to media strategy. It’s no secret that leads generated by natural search provide the most engaged and responsive patients. People who are anxious to learn more about recent symptoms or who have just returned home from a visit to the doctor are very likely to actively surf the net to find answers. When they fill out an enrollment form for a PRM program, you can bet they will be checking their inbox to see what information is on the way. As a result, time after time, open and click rates for natural search leads outpace other sources. The downside of paid media is the relatively high cost and smaller pool of





acquire leads at a fraction of the cost of paid search and cater to a huge database of people who have opted to receive invitations to various programs. The catch is that patients in this situation are likely to receive invitations for multiple programs and ultimately will have lower responsiveness compared to paid search.

Evaluating which media strategy is better is not the focus of this discussion, which is a question better suited for a media expert to evaluate. Ultimately, that boils down to an evaluation of CPA compared to the conversion rate and how that affects the backend through an ROI model. The point is, if rates are declining, make sure that the changes are “real.” If they are due to any of the above factors, wait a couple of months to establish a new baseline before taking drastic action.

Poor presentations with pretty charts

“Don’t worry, we have all of the data. I’ll just throw some charts into PowerPoint and we’ll figure out what it all means.”

I’ve never actually heard anybody say this, but we’ve all seen presentations that have been put together this way. They have 100 slides to present in about 30 minutes and every chart had lots of “pretty colors” that aren’t necessary. Oftentimes the format and the charts have the *opposite* effect of what was intended: everybody ends up overwhelmed with data and confused about the meaning of the various items on the charts.

Planning is the key to putting together insightful presentations. Allow enough time to review the information and see where the story is before preparing any slides. Once the story becomes clear, take time to map out the three key insights that the audience needs to know. One approach is to take blank sheets of paper and sketch out a rough template of the presentation. I have also found that thinking of a “funnel” approach helps. Start with the big picture, then drill down to the finer points using more granular data.

Data must be presented in a clear, easy to understand fashion. Don’t get blinded by the “pretty colors” available in Excel. The two charts below show the same information via bar charts. I’ll admit, the multi-color version is more eye-catching,

respondents. (See related chart, “PRM Engagement Rates.”)

Co-reg and CPA vendors, on the other hand, usually can

but it is also needlessly complex and harder to understand. In fact, don’t be afraid to experiment and see if the same data can be presented in different ways. Sometimes a table is vastly superior to a chart, especially if there are multiple variables to review.

Lastly, never take people to the edge of the “promised land” and leave them

without a roadmap to get there. In other words, a bunch of slides with lots of facts is very nice. But a presentation with insights, findings and recommendations is best. Many years ago, at another company, we had some excellent training on this very subject. The buzzwords to remember were

“What,” “So What,” and “Now What.” Whenever I craft a presentation, I think about answering those three questions:

- What happened?
- What does it mean to my audience?
- What should they do about it?

A few concluding thoughts

This brings us to the end of the discussion. And taking my own advice, I’ll leave you with some follow-up thoughts. Remember that the purpose of analytics is to answer questions. The best analysis results from understanding what the key question is and what reasonable conclusions can be made from the data at hand. If all of the desired answers are not available, then data should not be bent, twisted, altered, folded, spindled or mutilated – follow-up studies or experiments should be conducted.

This way you can quote Disraeli, get a good laugh from the audience and know they aren’t laughing at you, but at how other people sometimes fall prey to temptation. **DTC**

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