



## TURF Analysis

A few of our clients will think immediately about the work of a golf course superintendent, but most of you should recognize this as a research technique.

TURF is an acronym for Total Unduplicated Reach and Frequency. The procedure had its origins in the needs of media buyers to reach the broadest possible audiences with finite resources. Since people may subscribe to many magazines and watch many different television shows, there is likely to be some duplication in reach. If the goal is to reach as many different consumers as possible, then a procedure to reduce this duplication is needed.

TURF analysis may be applied to other marketing problems where the goal is to provide something for everyone. If you can only offer (say) six flavors from a longer list of candidates, which six would reach the most people? Or what if you are trying to choose three frequent flyer perks from a list of ten candidates?

You cannot rely on monadic ratings of the candidates. What if 60% of your market loves chocolate above all else? Chocolate flavors would be the winners in a test, but you would risk overlooking the other 40%. You may think of this as a segmentation problem where you want to offer an attractive product to every segment, not just the biggest one.

To perform TURF analysis, you need data from representative individuals—magazines they read, top preferences from a long list of flavors, designs, product features, etc. There is nothing fancy about the analysis. It involves computationally intensive comparisons of each possible combination (of magazine titles, of flavors, etc.).

We know of no commercial software for TURF analysis, so we have written our own. The procedure is very flexible and needs to be tailored to each unique problem.



## Advertising and the Brain

Current work in the field of neuroscience sheds light on how advertising does—and does not—work. (We draw on an article by Robert Heath in the March issue of Admap.)

- The brain operates at a wide range of attentiveness. When it is processing in a low-involvement mode, it stores input without really thinking about it. These are weak impressions that can fade rapidly.
- Most people do not regard advertising or learning about brands as being important, so they process advertising in a low-involvement mode.
- Nevertheless, repetition of similar stimuli (ads) will strengthen pathways between memories. Advertising can thus have effects even when people do not consciously recall it.
- When choosing between brands, we do not necessarily perform a rigorous calculus. Instead, we are influenced by all those stored memories which may or may not be accessible through interviews.

We have a lot to learn about how the brain/mind actually works!

## 76 Trombones ( $\pm 10\%$ )

If you happen have a playable but unplayed band instrument sitting around the house that you would be willing to donate to a Worthy Cause, please contact Paul Riedesel.



## Is That Significant?

One of the more regrettable practices of some other research suppliers is the wholesale application of tests of significance (TOS). It is easy to set up crosstab software to run a bazillion tests, but is not a smart thing to do.

In the first place, if you run all possible tests and report out all the "significant" differences, you greatly increase the odds of highlighting what are only spurious differences (if you run 1,000 t-tests, by golly at least 50 of them will result in differences that are significant at the .05 level).

In the second place, there are often many dimensions across which tests could be run—between segments, between different questions, between different time periods. A 50-page report could turn into a 500-page report just to squeeze in all the comparisons.

In the third place, a TOS evaluates only random sampling error. Even with best practices, survey research as we know it is rife with non-sampling error of unknown magnitudes and bias. You can caveat the results of a few carefully chosen tests, but wholesale testing will be grossly misleading.

Most importantly, such wholesale testing flies in the face of fundamental statistical theory. A proper TOS requires a consciously identified null hypothesis and consideration of both the alpha and beta errors. Did we lose you there? If so, you should probably leave TOS to those who enjoy such arcane concepts.

$$\sum_i \sum_j (X_{ij} - X_{..})^2$$

## Measures of Central Tendency

An engineer, a physicist, and a statistician were moose hunting in northern Canada. After a short walk through the marshes they spotted a HUGE moose 150 meters away. The engineer raised his gun and fired at the moose. A puff of dust showed that the bullet landed 3 meters to the right of the moose. The physicist, realizing that there was a substantial breeze that the engineer did not account for, aimed to the left of the moose and fired. The bullet landed 3 meters to the left of the moose.

The statistician jumped up and down and screamed "We got him! We got him!"

## Crosstabs

We are not a field-and-tab house, so they are not a primary deliverable for us, but humble crosstabulations are something that most clients like to have most of the time. We have used an industry workhorse program called UNCLE since our founding in 1993, and our principals used it years prior to that.

While we have a standard format, output is highly flexible if you have special needs. But here are several of our standards and points-of-view.

- Both percentages and frequencies should be reported so users know how many (or few) cases they are actually working with.
- There is no need to cram 15-20 columns into a banner with cryptic titles. CPU run time was a cost factor 20 years ago—it isn't now.
- The table should reproduce the original question and response categories exactly as they were presented to respondents.
- If data are weighted, tables must clearly indicate that fact.
- Statistics such as standard deviations are printed only when appropriate; the mean occupation of a sample is meaningless!