

Unearthing TURF

Michael Lieberman, Multivariate Solutions, explains how to use a valuable tool of marketing and media planning

OVER THE PAST FEW years the use of 'totally unduplicated reach and frequency' (TURF) analysis has grown and become en vogue. In fact, this useful, powerful technique has grown in sophistication, developing into more and more advanced applications than were originally envisioned when the technique first emerged in the 1970s.

TURF is often used to answer such questions as:

- ▶ 'Of the 50 magazines on my list, which combination of five has the largest readership?'
 - ▶ 'I have a budget of \$10,000 – what are the optimal media outlets I would buy in?'
 - ▶ 'What kind of market share will we gain if we add a new line to our current brand?'
 - ▶ 'Which 10 of 20 flavours should my ice cream shop display?'

In the following piece we are going to present the most popular uses of TURF, such as maximising reach and minimising costs for media markets; calculating the incremental value to the full line of adding additional possible products; attracting the largest number of consumers with the fewest number of varieties; and projecting budgetary choices. An elegant upshot of TURF is that it not only allows the researcher to assess all

possible combinations of brands or products on the list, but also points to the 'winners'. There is another term for the 'winners' often referred to in TURF literature – optimisation.

Finally, we will have a look at TURF deliverables my company routinely provides, including ranked results (optimisation), budgetary forecasts and the TURF simulator that our clients love to use. It allows them to combine any 'What if?' scenarios they like or to pass it along to their client for the same purpose.

Components of TURF

TURF has two named build-in components: reach and frequency. In effective research, use of these two pieces is generally separated, though they are often linked and both are universally presented with the final results. Understanding their simple meanings is a necessary prerequisite for understanding TURF.

▶ Frequency is the total number of individual people who will choose or purchase each product shown. For example, of 100 people, 50 will purchase *Sports Illustrated*. The frequency for *Sports Illustrated* is 50. Sixty will purchase *People Magazine* (though these could be mostly the same people). *People's* frequency is 60.

▶ Reach is the number of people who will purchase at least one of the products shown. Put another way, reach displays the unduplicated (no person is counted twice) percentage of people who will choose a combination. For example, *Sports Illustrated* has a frequency of 50, *People* has a frequency of 60, and *Time* has a frequency of 40. Out of the 100 people, 80 have read at least one of these magazines. That 80% is the reach.

Figure 1 illustrates the simple example of an ice cream shop that has room only for three flavours but currently has six in stock. Respondents were asked, on a five-point scale, purchase intent for any of the six flavours shown. Top-2-box purchase intentions are then calculated and shown as percentages. The frequencies presented illustrate the simple favourites of this store's customers.

Which combinations of three, though, would tickle the tongue of most of the customers? Shown in Figure 2, we see that 'reach' drops off by a few percentage points if you substitute French Vanilla for Mocha Chocolate Chip. Fudge Chunk, well, it just doesn't add much to the mix, even if combined with French Vanilla and Mocha Fudge. The ice-cream store owner has his answer.

FIGURE 1

Purchase intent frequency

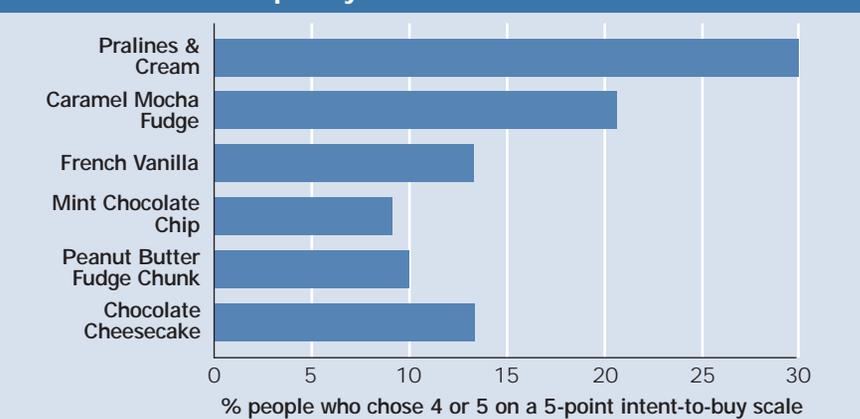
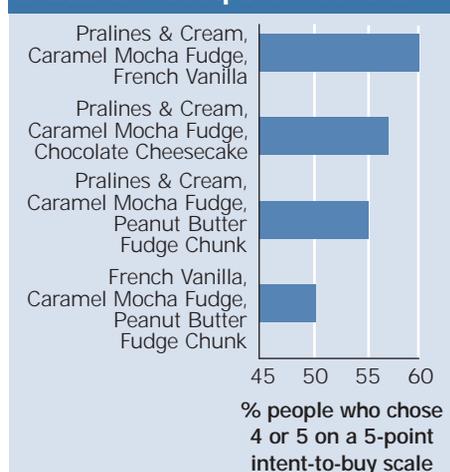


FIGURE 2

Maximum unduplicated reach



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Variation on a theme

In this disguised example, Happy Detergent wished to accomplish two goals in one TURF. Two measurements were involved: to determine not only which combinations of products would sell better, but which of two package designs consumers would find more appealing. The latter is derived by assessing reach percentages.

In addition, there was a caveat. Four of the brands were ‘fixed’, meaning that Happy Detergent already offered these products, and that wasn’t going to change despite the upcoming research results. The aim of the project was to measure the four fixed (perhaps for future phasing out), determine which new package works the best and see which additional brand would improve market share the most.

Which will be part of the line (fixed in italic)?

- ▶ *Regular – Stain Dissolving Power*
- ▶ *Dazzling Whites and Colors*
- ▶ *Morning breeze*
- ▶ *High Efficiency*
- ▶ Sport
- ▶ Fragrance Free

A follow-up measure was asked, yielding a far richer take of information. The

two questions are shown below.

1. Looking at all of these Happy brands, please tell me which statement on this card best describes how likely you would be to buy each of the specific types of Happy Detergent you see here if they were available where you regularly shop? [for each package]

2. Assuming that (Happy Brand) was available in the store where you shop, how many of your next ten purchases of laundry detergent would be for this particular variety of Happy?

We see from Figure 3 that there are large differences (as shown by the frequencies) between perceptions of the Green Clover and Blue Diamond Packages. Which, though, is more effective? Figure 4 gives the answer.

So, we have a winner. Happy Detergent should go with the Blue Diamond. Looking at projected market share, Happy Sport would get around seven of the next ten purchases among this consumer subgroup

If for some reason, however, Happy decided to go with the Green Clover package (perhaps it is less expensive to produce), our TURF analysis indicates that they would be better off with Happy Fragrance Free than Happy Sport.

Budget reach – TURF pricing model

The next problem has to do with two questions. First, ‘What is the best bang for the buck?’. And second, ‘What is the best buck for the bang?’. Rephrased, the first would be, ‘What is the best reach for a budget of, say, \$5,000?’. The second, ‘What is the minimum cost to get a reach of 80%?’.

To illustrate, I will use a simple mix of publications in which a client might potentially advertise. As part of the data-gathering process an online survey asks readers to which publications they currently subscribe. They are listed in Table 1, along with the costs to place an ad in each in measured units.

Let’s say the goal is for a certain reach. For example, if you had to reach 85% of the audience, what is the least expensive configuration of ads (see Table 2)?

In our TURF software we would enter only one parameter, projected reach, then calculate the cost of scenarios that match. In our example above, where we are looking for 85% reach, two buy scenarios have been returned. One has a slightly higher reach, but the second buy, with four less-prestigious publications rather than three higher-priced magazines, is less expensive. Perhaps it is a better buy. ▶

FIGURE 3

Happy packaging design frequency

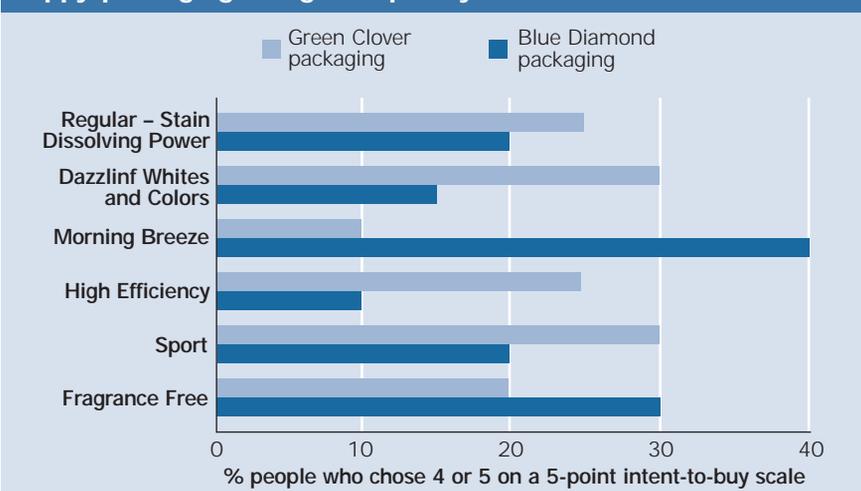


FIGURE 4

Happy brand packaging reach

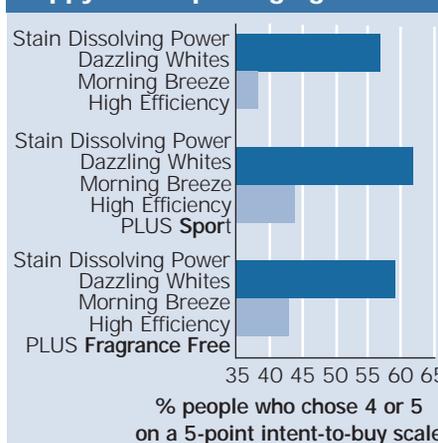


TABLE 1

Frequency and cost/weight of various magazines

	Frequency (%)	Cost/Weight
Vogue	67	5.0
Good Housekeeping	50	4.0
Working Mother	47	2.0
Marie Claire	46	3.0
Essence	39	2.0
Bridal Guide	35	1.0
Woman Today	16	2.0

TABLE 2

Reach and cost weight comparison

	Reach (%)	Cost/Weight
Vogue, Marie Claire, Essence	86	10.0
Good Housekeeping, Working Mother, Bridal Guide, Essence	85	9.0

TABLE 3

Reach and cost weight comparison, by price

	Reach (%)	Cost/Weight
Vogue, Marie Claire, Essence	86	10.0
Vogue, Good Housekeeping, Bridal Guide	80	10.0

The second method of optimising budget would be to enter in a cost. Using our example, say we would like to spend \$5,000, and each \$500 is worth one point. So, we are looking to spend ten points.

Here we again have two scenarios that emerge (see Table 3). However, the second, with two major magazines, has less reach than the first. So, we go with *Vogue*, *Marie Claire* and *Essence*. Again, the only parameter entered in the model is the amount of money the client would like to spend. TURF calculates the reach for all emerging choices.

Assessing the myriad software and simulators

It is not hard to select three out of six ice

cream flavours or five of six Happy brands, but what if the task was to select between the top 10 to 20 combinations of three or four options packages among 25? In our hypothetical example, an emerging internet broadband company (who we will call Netsurf) would like to test 35 options among broadband internet users. Below is the survey question.

'Suppose [OFFER] was offered for new Netsurf for Broadband. Please tell me how likely you think you would be to subscribe to Netsurf for Broadband service in the next six months if this special offer were available?'

If we are looking for three out of 35, there would be 6,545 combinations to assess. If we are looking for four, there would be 52,360 possible combinations. If

Netsurf wanted 10 out of 35, we would need to assess 183,579,396 different reach percentages. Listing out each and every one would drive the client crazy.

These days, though, it is simple (given large amounts of computing power) to run our proprietary program and calculate all 52,360 combinations of four (for example). Each is given a label, sorted high-to-low, then presented with the frequency and reach. Our software has the ability to present 10, 25 or however many combinations the client would like to assess.

Would a combination of the top frequencies receive the highest reach if three, or four, offers were publicised in one campaign? Figure 5 examines the top combinations and shows that TURF reveals that reach can often emerge differently from raw frequencies – that is, that the top three and four combinations are not necessarily the top ranked individual offers.

Finally, another feature that clients (and their clients) enjoy is a TURF simulator, provided in Microsoft Excel, that allows the client to plug in any combination of offers to see what the reach might be. These do not necessarily need to be among the top scorers. It is possible that Netsurf would like to see the difference between certain middle-scoring offers, to test the drop-off if a higher-scoring combination makes a change, or to take the highest-scoring four-offer combination and see how adding other offers affects reach.

Conclusion

TURF Analysis is one of a number of statistical techniques that we offer our clients in order to add value to existing projects. These days brand managers are looking for the edge. They are turning more and more to the marriage of good research and advertising know how to get there.

The above mix of TURF methods – whether they include brands, products, net profit, or total dollar sales – is a process by which value is added to the client/agency relationship; the one that melds solid research with advertising savvy. The strategic focus of any advertiser's effort on behalf of a client is to intensify the relationship of its loyal customers to their premium products. TURF analysis, while not a universal remedy, is a flexible technique that undoubtedly contributes to this. ■

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FIGURE 5

Reach scores for NetSurf offers to non-members

Best combinations of three offers	Best combinations of four offers
AA-Q-A 45%	AA-FF-A-K 50%
AA-FF-A 44%	AA-Q-A-K 50%
AA-Q-K 44%	AA-FF-Q-K 48%
AA-A-BB 44%	AA-Q-K-BB 48%

Key:
A – One free month of your Cable/DSL high-speed connection (RANKED 4)
K – Monthly fee includes subscription to VideoSurf – on-demand access to 100,000 films – as long as you are an Netsurf member (RANKED 6)
Q – Coupon for one free X-Box or PS/2 game (RANKED 5)
AA – Get a \$399 Desktop PC with monitor, printer and wireless router optimised for broadband when you commit to Netsurf for one year (RANKED 27)
BB – Three months of Netsurf Free (RANKED 1)
FF – \$120 Gift Card when you commit to Netsurf for 12 months (RANKED 30)