WHAT'S NEXT

THE NEXT STEP FORWARD IN ADVERTISING EFFECTIVENESS

BY RANDALL BEARD AND JOE STAGAMAN

For many companies, ad spend is such a large portion of their total expenditure that all top executives – CEOs, CFOs, and other corporate leaders, not just CMOs – need to grasp the new challenges presented by a world of endlessly proliferating channels. Fortunately, the technology fueling those challenges is also enabling ways to make advertising much more powerful.

Ad spend remains one of the biggest and most strategic resource allocation decisions that the management of any leading consumer marketing company has to make. So the speed of change in the world of media and advertising is creating new uncertainties in the executive suite. The good news is that the rules have not changed, and the questions to be answered remain the same: *What do I need to spend in each medium to make sure I get the reach I want? How do I allocate that spend within each medium? And how do I know if it's working well enough, so I can make changes that will improve it?* Similarly, the basic equation for advertising effectiveness has not changed: the more of your ideal audience you can **reach**, and the more intensely your advertising **resonates** with them, the stronger your brand lift or sales lift – or **reaction**. Essentially, reach x resonance = reaction.

Some changes, of course, matter very much. Three of the most important are the fragmentation of media, the rise of Big Data, and innovation in measurement and analytic tools. The first change represents advertisers' biggest headache. Today, achieving the desired reach for your advertising might mean optimizing an advertising budget across six or seven media instead of what was once three (TV, radio, print). And some of the new media have literally thousands of channels, each of which could be a good or bad place to advertise. The good news is that the second and third changes represent the maximum-strength aspirin that doesn't merely make the fragmentation headache go away, it makes you feel twice as good as before, because these changes greatly increase the power of your advertising dollars. Technology, which has enabled the dramatic fragmentation, is also fueling new tools that can increase the effectiveness of your advertising radically.
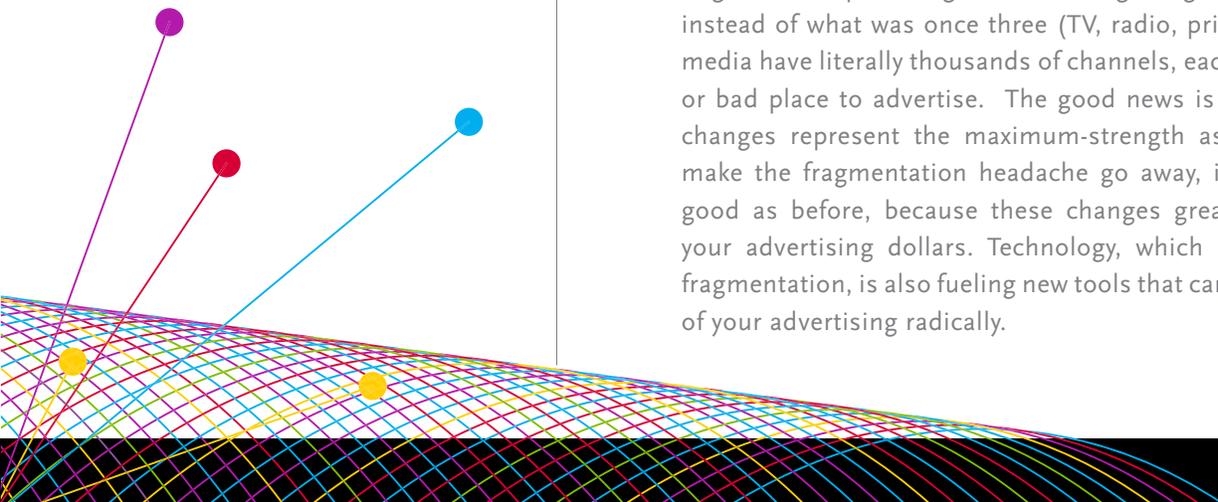
THE SHIFTING LANDSCAPE

The first big shift we noted is *incredible media fragmentation* and the audience fragmentation that goes with it. In the good old days, when there were just three networks in America, advertising your products or services on those networks meant reaching pretty well the entire TV-watching audience. "TV" now means different things to different consumers, including broadcast, satellite, cable, computers, tablets, smartphones, and so on. This technology-driven explosion of marketing channels has made the CMO's job far more elaborate, massively complicating both media planning for optimal reach and the measuring of ad effectiveness across multiple platforms. How do you create unduplicated reach? Or, if you want to reach people from all sides, what's the best way to create *duplicated* reach?

> THE AVERAGE VIEWER WATCHES ABOUT 18 TV CHANNELS OF ALMOST 200 NOW READILY AVAILABLE, AND SURFS AN ENORMOUS NUMBER OF WEBSITES: A FEARSOME OPTIMIZATION CHALLENGE.

The second big shift is *the effect of Big Data*, which has itself resulted from interrelated revolutions in digitization, computer processing power, and the Internet. Big Data is often discussed in terms of volume, velocity, and variety: we can analyze a much greater volume of advertising, we can do so much faster, and we can measure a whole lot of things we couldn't measure before. Higher volume, and the computing power to process it, also means the ability to measure with much greater granularity.

The third shift is in the area of *new tools and technology*. Along with Big Data, digitization is enabling a great deal of innovation to address the very challenges it is creating. Three of these innovations in particular stand out.

PREDICTIVE MODELING

Predictive modeling is mix modeling on steroids. Traditional mix modeling optimizes allocation of marketing spend across media to generate maximum lift. But it has always been primarily historical: you analyze the previous campaign's results and adjust accordingly. Now, the richness and depth of available data allow you to run simulations to predict the output of any marketing mix scenario.

THE AVAILABILITY OF
SINGLE-SOURCE DATA AT SCALE

Single-source data at scale on what people watch and buy is driving the emergence of buyer-based reach planning ("buyergraphics"). Buyergraphics allows an advertiser to identify more precisely the segments that buy most heavily on being exposed to its advertising. This is perhaps the single most powerful element in the enhanced advertising effectiveness made possible by Big Data.

OPTIMIZING
AD CAMPAIGNS IN FLIGHT

This is not entirely new: in TV, it has long been possible to make creative edits, rotate copy, and so on during an ad campaign. What is different today, apart from the fact that it is easier than previously, is that now there is real-time data on consumer response on which to base optimization decisions. Effectively, you can conduct real-time experiments to make the best possible decisions using your newest and most informed thinking every step of the way. In the past, one might change creative based on a "wear out" rule of thumb. In addition to the improved situation on TV, it's possible to change practically anything about an *online* campaign in flight. The infrastructure behind the delivery of online ads allows your algorithm to measure performance by creative unit, site, exposure frequency, and even audience type, and make adjustments to change where your ad plays instantly.

These new technology-driven possibilities are directly aligned with the most important decisions advertisers need to make. In a survey we conducted of senior executives at agencies, advertisers, and media companies, the executives identified three particular pain points they wrestle with constantly in this shifting landscape. First, "How do I know how much to allocate to each medium in this new digital environment, and what total spend does that add up to?" Second, "How do I allocate my budget *within* each medium?" And finally, "How do I apply all this new technology to optimize my ROI in real time?" In the remainder of this paper, we explore how advertisers can address each of these challenges using the technology-driven advances listed here.

REACH ✕ RESONANCE ＝ REACTION

PAIN POINT #1

HOW DO I KNOW HOW MUCH TO ALLOCATE TO EACH MEDIUM, AND WHAT SHOULD MY TOTAL SPEND BE?

This is every marketer's first question. He or she has a budget and a revenue goal, and wants to know whether his or her budget will buy enough *reach* and *resonance* to generate the desired *reaction*. Technology now makes it possible to increase that reaction enormously by moving from traditional mix modeling to predictive mix modeling.

Exhibit 1 shows how ROI is derived from traditional mix modeling. On the first bar chart on the right, the largest block represents estimated sales based on no advertising. The remaining blocks show the incremental dollars brought in by a certain level of advertising and marketing spend.

These results are translated into the anticipated sales lift for every dollar spent on TV, print, trade, and online, as shown on the lower bar chart (the bottom line shows the overall sales value of a dollar split evenly across all four marketing elements).[1]

You might conclude from this exhibit that TV advertising is the most valuable: every incremental dollar invested gets you $1.34 in sales. But these figures are accurate only for one particular media mix. TV dollars aren't *always* worth $1.34 in sales. Online dollars aren't *always* worth $1.23 in sales. So optimizing your mix on this traditional, discrete model requires an enormous amount of analysis among different combinations of discrete variables.

Today, marketing mix models can be created that capitalize on the wealth of information available about media consumption by consumer segment, which makes it possible to create a continuous model for how effective *every* incremental dollar is in every medium for *every* level of spend. This

[1] *Marketing mix modeling is used to generate multivariate regression models that determine what mix of spend gets you what result. Many of us have been away from high school a long time, and the typical reaction to multivariate regression models is for the eyes to glaze over. But it's a fancy term that can be easily demonstrated. For simplicity's sake, if you are allocating advertising among TV and online only, then you are spending (we will say) v dollars on TV and w dollars online. Let A be the sales value of a dollar spent on TV advertising, and B the sales value of a dollar spent online. C will represent your total sales. We can then say that Av + Bw = C. The regression model is validated against historical data showing what sales levels resulted from different mixes of advertising spend across media.*

EXHIBIT 1

## TRADITIONAL MIX MODELING MEASURES EFFICIENCY OF SPEND BY ELEMENT

MEASURE INCREMENTAL SALES DUE TO EACH TACTIC

TV	10%
PRINT	5%
TRADE	20%
ONLINE	10%
BASE	55%
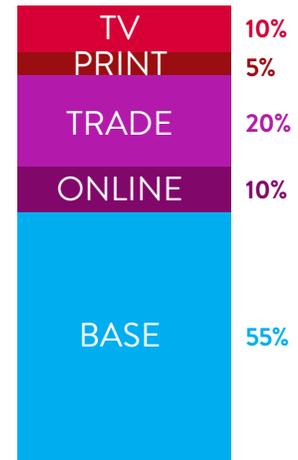
MEASURE EFFECTIVENESS AND EFFICIENCY OF SPEND PER $

TV	$1.34
PRINT	$1.00
TRADE	$1.05
ONLINE	$1.23
TOTAL	$1.17
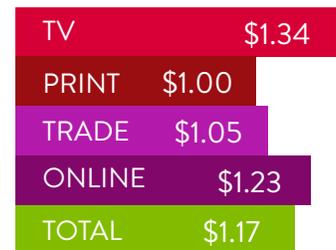
is expressed in *sales response curves* for each medium. Exhibit 2 shows an example of sales response curves for TV and online. For both media, it is immediately clear not merely that the first dollars you spend in each medium get you a big sales response where later dollars do not, but also roughly how much each dollar is worth at different points on the curve. Here, it is obvious that a campaign with lots of TV and not much online advertising can be improved by moving some TV dollars online. Analysis of the optimal distribution of spend between the two media predicted a shift from an ROI of $1.12 to an ROI of $1.43.

The improvement in this exhibit has been achieved without any increase in the marketing budget. But you can put *any* level of spend into the appropriate simulation tool, for any number of media. The tool then generates response curves to determine the ideal allocation across media and what the associated volume and profit response will be.

TECHNOLOGY ALLOWS US TO CREATE RESPONSE CURVES THAT IDENTIFY OPTIMAL ALLOCATION

EXHIBIT 2

ORIGINAL ALLOCATION
$1.12 ROI

OPTIMAL ALLOCATION
$1.43 ROI

SALES RESPONSE

TV

ONLINE

$ SPENT

SALES RESPONSE

TV

ONLINE

$ SPENT
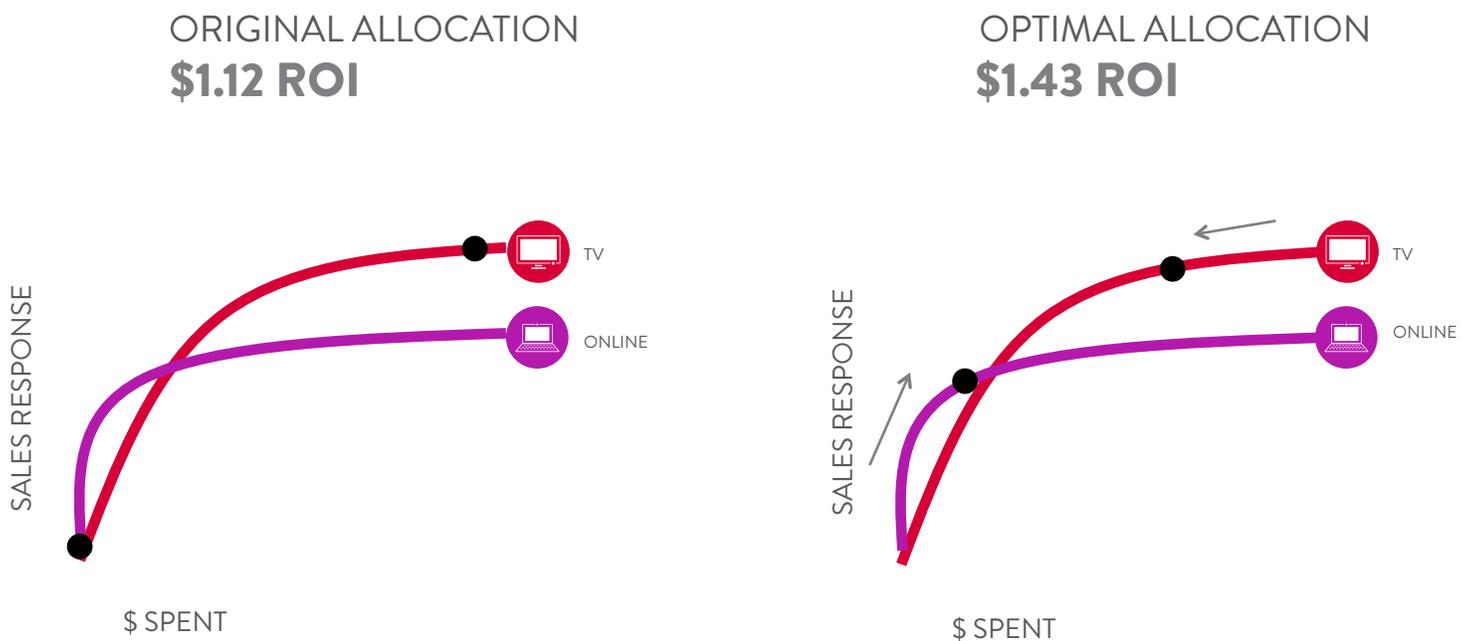
PAIN POINT #2
I KNOW NOW HOW TO ALLOCATE ACROSS MEDIA. WHAT ABOUT ALLOCATION WITHIN EACH MEDIUM? MEDIA FRAGMENTATION IS MASSIVELY COMPLICATING THAT, TOO.

In the previous section, we discussed new technology that determines how much you need to spend and how to allocate it *among different media* for any given revenue and profit result. Now we look at a way to improve your results further through improved allocation *within a given medium*.

An advertiser five years ago might have instructed its agency that it wanted to reach twenty million women between the ages of 18 and 34. In Section 1 of Exhibit 3 we see the results of an advertising campaign built on that "reach," showing a 17% lift between those exposed to the advertising and those who did not see it. Pretty good. Imagine, however, that you could identify your ideal audience more precisely than by age and gender. Enter "buyergraphics." Today, it is possible to create an enormously powerful, privacy-protected, single-source database that shows both what people watch and what they buy. This is done by matching huge loyalty datasets and high quality TV panel data, allowing you to compare the purchase activity of actual individuals who have seen an ad with the purchase activity of individuals with a virtually identical profile who have not seen the ad.

What does this get you? Remarkable results. In Section 2 of Exhibit 3, we see the purchase activity of two consumer segments exposed to the advertising. The consumer segment on the left is the original demographic: women aged 18–34. The consumer segment on the right, constructed through analysis of the single source database, consists of a group of people much less exposed to the advertising – but whose purchase response is much higher. Obviously, you want to move ad spend to this second group. Single-source data allows you to find out what they watch, and direct your advertising towards them. Typically, you will discover what is illustrated at top right – that they are overrepresented on some networks and programs, and underrepresented on others. That means you can buy advertising efficiently, because some programming "over-indexes" for your ideal audience.

> SINGLE-SOURCE DATA ALLOWS YOU TO FIND OUT WHAT CONSUMERS WATCH, AND DIRECT YOUR ADVERTISING TOWARDS THEM.

Section 4 shows the results – the original advertising-generated sales lift has doubled to 33%. Once again, it has not been necessary to spend a penny more on marketing.

DOUBLING YOUR SALES LIFT WITH "BUYERGRAPHIC" DATA

EXHIBIT 3

1 IDENTIFY DEMO CAMPAIGN (BASELINE) SALES LIFT

$0.21

$0.18

+17%

CONTROL   EXPOSED

3 IDENTIFY WHERE THEY CAN BE REACHED AND EXECUTE

4.3 — DEMO RATING
5.2 — BUYER RATING
3.3 — DEMO RATING
5.1 — BUYER RATING
4.5 — DEMO RATING
2.5 — BUYER RATING

NETWORK A   NETWORK B   NETWORK C

2 IDENTIFY MOST RESPONSIVE CONSUMER SEGMENT

34% — % POP
53% — % EXPOSURES
13% — % CAMPAIGN SALES RESPONSE
34% — % POP
29% — % EXPOSURES
64% — % CAMPAIGN SALES RESPONSE

CONSUMER SEGMENT 1   CONSUMER SEGMENT 2
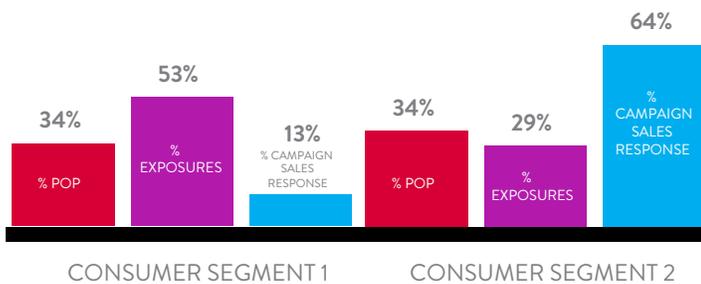
4 MEASURE BUYERGRAPHIC CAMPAIGN SALES LIFT

$0.24

$0.18

+33%

CONTROL   EXPOSED

PAIN POINT #3

I KNOW NEW TECHNOLOGIES CAN HELP ME REACT MORE QUICKLY TO WHAT IS AND ISN'T WORKING. HOW EXACTLY DO I OPTIMIZE MY ROI IN REAL TIME?

You've finished your reach planning. Your campaign is ready to go – creative has done its work, you have determined how many ads to run, the mix of short and long ads, how long the campaign will run, and so on. You launch. Traditionally, you tracked a number of metrics before, during and after the campaign – and fed the results into the next one. You could change things in real time, but it wasn't easy, and you didn't have reliable data on which to do so. Now, advances in technology and the speed with which detailed data is available allow you to improve the reach and resonance of your advertising even while the campaign is in flight. Daily information is available on people's general recall, brand recall, message recall, likeability, and purchase intent, allowing you to make changes in seven areas that drive ad effectiveness: creative quality, length, how long and how broadly you run the ad, viewers' engagement with the program the ad runs in, program genre, the degree of "fit" between the ad and the program, and which ads you place your ad between. These seven measures account for over 70% of the ad's performance. Exhibit 4 shows an example of in-flight optimization over a twenty-four-week campaign.

Here the advertiser used data on the performance of one of three ads to cut it from the rotation after two weeks. At four weeks, the advertiser knew general recall was high, but brand recall was not. Accordingly, the agency edited the ad, improving brand recall by 15 points (and general recall by 12). At six weeks, the agency moved campaign money from some sites to others. At eight weeks, they shifted the balance between 15-second and 30-second spots. At 12 weeks, they decided to increase investment online on the basis of stronger performance online than on TV. At 16 weeks, likeability and purchase intent for one of the ads were falling, so the advertiser cut it and reallocated its investment to the remaining ad. This is an example for a campaign anchored by TV. For a pure online campaign, practically anything can be changed instantaneously. The infrastructure behind the delivery of online ads means that an algorithm measuring performance by creative unit, site, exposure frequency, and even audience type can request adjustments according to the parameters you have set, and those adjustments take effect instantly.

EXHIBIT 4
EXAMPLES OF REAL-TIME OPTIMIZATION

WEEK		
2	OPTIMIZATION #1	Creative Rotation
4	OPTIMIZATION #2	Branding Edits
6	OPTIMIZATION #3	Site Reallocation
8	OPTIMIZATION #4	:15 / :30 Rotation
10		
12	OPTIMIZATION #5	Online Video Buy
14		
16	OPTIMIZATION #6	Creative Wear-out Rotation

*   *   *   *
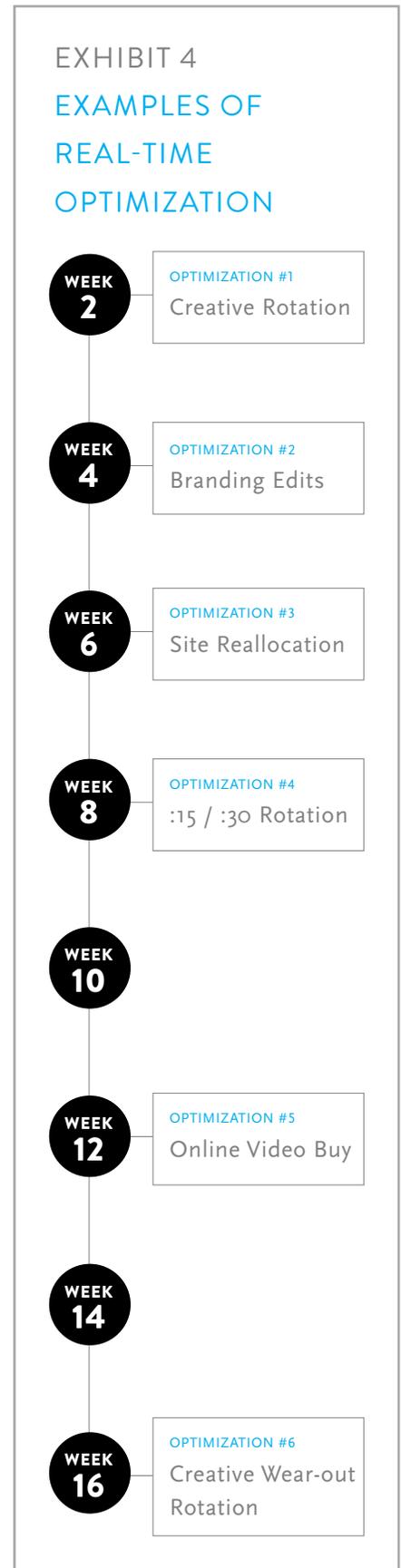
This is what's next: marketers can achieve significant improvements in consumer reaction despite the fragmented complexity of today's world – particularly through a high degree of certainty that their advertising is reaching the most promising audience that technology can identify, an enhanced ability to influence their most profitable customers, and the opportunity to refine their advertising campaigns even as they are running. It is natural to feel frustration at the rapid proliferation of challenges in today's marketing environment. But the advantages technology confers are now actually outpacing the challenges technology presents – you need only take advantage of them.

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