

DEEP DIVES

with Olson Zaltman Associates



Above: How well does eye tracking measure up against other neuromarketing methods?

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DEEP DIVES FEATURE AN ASSESSMENT OF NEUROMARKETING

The pros and cons of methodologies like fMRI, EEG, and eye tracking.

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Q&A: ROB ROSENBERG

The Brand Strategy Director of Springboard Branding explains the evolution of a ZMET-inspired campaign for the funeral industry.

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Proceed With Caution: An Assessment of Neuromarketing

by Dr. Andrew Baron, Biometric Science Advisor

Over the past year Olson Zaltman Associates has had several opportunities to utilize different methodologies as we peer deeper and closer into the thoughts that drive consumers. It remains a wonderful intellectual exercise to think about the unique and combinatorial power of each method in revealing meaningful insights into the mind. I am excited to be sharing some of what we've learned at the upcoming Neuromarketing World Forum conference in March of 2014.



In my own academic research, I have used (extensively, in some cases) many of the methodologies that are employed in neuromarketing (e.g., response latency/ reaction time, eye tracking, some physiological measures). Other methodologies I've studied quite a lot while at Harvard and are used by experts in the field who happen to be close colleagues of mine.

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Note from the Editors

Neuromarketing is hot. Just this year we have seen it featured prominently in popular media outlets like NPR, PBS, Slate, *Forbes*, and *The Guardian* to name just a few; and then there are the books, some of which tout neuromarketing as the glowing future of the industry, others of which deride it as sleazy schlock.

In this issue, Dr. Andrew Baron, our Biometric Science Advisor and Assistant Professor of Psychology at the University of British Columbia, wades into the murky neuromarketing morass. He untangles the science from the pseudoscience, and helps us understand

which methodologies are rooted in truth and which are built on mere hype.

Finally, we would like to wish everyone a bright and fortuitous new year as 2014 kicks off.

James Forr and Nick Kimminau

Deep Dives Editors

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Rob Rosenberg is the President and Brand Strategy Director at [Springboard Brand & Creative Strategy](#). He has spearheaded the creation of a campaign called “Have the Talk of a Lifetime,” for the funeral service industry. The campaign leverages insights from ZMET research to encourage people to think differently about what they want from their own end-of-life service or ceremony.

Rob discusses his company and the development of the campaign.

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Q & A

Deep Dives (DD): Can you tell us a bit about Springboard?



Rob Rosenberg (RR):

Springboard is a branding and communications firm that works primarily in the health, and life, care industries. Clients include hospitals, health systems, medical associations, senior living facilities, and other lifecycle industries across the U.S. We

also work with the funeral and memorialization industry through their advocacy group, FAMIC.

Springboard is located in the Chicago area and has been in business since 2002 developing internal and external branding campaigns using all media in both offline and on-line channels.

DD: What were your key takeaways from the ZMET research commissioned by the Funeral Service Foundation?

RR: The most important takeaway from the research was the insight people shared about making a difference in their lives and knowing they mattered. This is then exemplified in their end of life memorialization when family and friends can then speak about their accomplishments, passions, and the impact they made during their lifetime.

DD: What is the goal of the “Have the Talk of a Lifetime” campaign that you have created?

RR: The goal of the campaign is to encourage people to talk about why they mattered... while they are alive... so when the time comes, family and friends will know how to best “celebrate” their lives.

DD: Campaigns like “Got Milk?” and “Beef. It’s What’s for Dinner” were \$75-\$100 million campaigns. The funeral industry probably isn’t going to have that kind of money to work with. So

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how do you expect this campaign to break through?

RR: There are approximately 16,000 entities in the death-care industry, from funeral homes to monument manufacturers. This creates a large universe of “organic marketers” who can take the message out to their communities and constituents. Today, with social networks, digital and other highly targeted media, you don’t need the same kind of dollars used for mass media in the campaigns you’ve mentioned. This campaign will not be measured in terms of awareness or preference – we’re not competing with soft drinks or chicken as a substitute for milk and beef. The effort will be measured in behavior and the ability to track those individuals who visit the website and download education materials about “having the talk.”

DD: You’re still in the very early stages of the campaign, but how is it going so far?

RR: The campaign is going very well. There is still a fair amount of marketing “in the industry” that’s required in terms of reaching those 16,000 “distribution channels.” In only a few months, the website is being viewed by thousands of people, and social media channels are being shared among friends and fans.

Internal feedback has been very positive and the industry is excited about the initiative!

DD: Most people reading this are not in the death-care field. Did you learn anything from the ZMET work about human nature that marketers in other industries might find useful?

RR: The need to be recognized, feel important, and that we mattered would resonate with any marketing organization. Too often, communications strategies focus on top-line benefits of a product or service. Your study uncovered the idea that people need to be recognized and feel as though they made a difference. It wasn’t about items they owned, homes they lived, places they’ve been; it was about the footprint they’ll leave behind with loved ones. That’s rich!

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While the rigors of experimental/behavioral psychology and the standard of "proof" is arguably higher than that of marketing, where 1,000 controls simply aren't feasible or affordable, the underlying capabilities of each methodology is nevertheless the same. Based on my own knowledge and experience over the past decade, I have some strong concerns about the application of tools like fMRI, EEG, and, to a lesser extent, eye tracking, to marketing questions. Specifically, I worry that certain tools are promising to answer more than they really can given the state of the art in the field of cognitive neuroscience. It's a matter of selecting the right tools and knowing the limitations of every tool.

First, fMRI and EEG are severely limited in revealing anything about the specific content of a person's thoughts. From fMRI we can get insight into changes in blood flow to neural networks and regions of the brain in real time during active tasks. The spatial resolution is astounding - we can really localize activity quite well. The temporal resolution is less impressive. This means we can't pinpoint precisely when during some sequence of events a particular brain activity occurs. Even though we know a fair amount about what regions of the brain respond to certain kinds of stimuli, simply knowing that a particular region shows a change in blood flow during a task doesn't tell us clearly what the content of the thoughts were in that brain region when that activity occurred.

For example, we know that the rTPJ (right temporal parietal junction) is an area of the brain implicated in reasoning about the mental states of another person. However, if we put someone in the scanner, showed them an ad depicting a woman interacting with her dog, and saw activation in this brain region, we could not say with any certainty what specific thoughts she was experiencing. We would not know if the participant was thinking about the actor's feelings about the dog, beliefs about dogs, feelings about her wardrobe, or thoughts about what she'll make for dinner. The participant could even be trying to suppress thinking about the person - increased blood flow can represent active thoughts as well as the attempt to suppress certain thoughts.

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Glossary of Terms

EEG. Electroencephalography. A technique in which multiple electrodes are placed on the scalp to record electrical activity within the neurons of the brain.

Eye tracking. A methodology that records a respondent's gaze as they observe a stimulus. This is often used to understand what parts of a stimulus respondents are attending to most.

fMRI. Functional magnetic resonance imaging. Measures brain activity by detecting changes in blood flow.

IAE. Implicit Association Evaluator. A methodology used by Olson Zaltman Associates to measure the strength of associations between concepts based on 20+ years of implicit association measurement in the behavioral sciences.

Only academic researchers who can devote enough resources to running all the appropriate controls could possibly begin to narrow down the possibilities and it would likely require additional (and different) measures to converge on a reasonable hypothesis. As a standalone tool fMRI leaves open more questions than it could possibly answer when it comes to the specific content of a person's thoughts because it's limited to identifying general classes of thoughts - like thinking about emotions, thinking about intention, thinking about nouns and verbs, thinking about numbers, experiencing pleasure. It seems critically important for marketers to know more than this.

Moreover, we need to know which specific part of a stimulus someone is responding to. If we want to make specific changes to an ad while keeping other parts intact, we have to know exactly which element is eliciting the desired (and undesired) responses. And we need to know a lot of detail about the actual content of the elicited thoughts. We can't know this with fMRI, especially with its poor temporal resolution. Even when combined with eye tracking, we can't answer this.

EEG provides much better temporal resolution but generally poor spatial resolution. Most of the readings are

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just below the brain's surface and thus cannot really penetrate to the many areas of the cortex that are located further from this point. It's like taking a bird's eye view with Google Earth but not being able to zoom close up.

When adjacent brain regions can perform such vastly different functions, knowing whether you're tapping into the hippocampus or the amygdala (two regions located near one another) is critically important, but not something EEG does well. This means you could interpret the same signal as indicating an activation of a memory region, an emotional region or both. Surely, the actual answer is critical for marketing decisions yet we're left only to guess which it is. By itself, EEG can't add much value. All the same critiques about fMRI when it comes to identifying the content of thoughts also apply to EEG.

Eye tracking is bit more nuanced. Eye tracking methods have been around for decades - in fact, many people record such data using old fashioned techniques of manually depressing a computer keyboard button in response to each visual gaze a trained coder observes while watching a participant through a secretly positioned camera. Indeed, this is how I was first trained to use such methods more than ten years ago. And my lab continues to use visual attention as a marker of cognitive processing. Eye tracking can certainly reveal a lot about attention and engagement, but what we can infer again about the content of one's thoughts is constrained by the carefulness of the methodological design of the research or through the use of converging measures.

Increased visual engagement can reflect interest, fear, surprise, or novelty, among other more general cognitive processes. Again, just knowing the pattern of visual attention can't tell us what we really need to know to make strategic recommendations about changing a piece of communication.

I do think there are a number of ways eye tracking can be applied to marketing problems and be useful today. When combined with other measures (like ZMET or IAE, for example, which are more adept at discovering or measuring the specific content of implicit thoughts) eye tracking can answer such questions as:

- a) Where is attention grabbed during a campaign?
- b) How much attention is grabbed?
- c) How often does change in attention across areas of an ad change?

When combined with the proper complementary research tools, eye tracking can help us zero in on the thoughts that specific components of an ad elicit (through ZMET, for example) and we can compare patterns of visual attention to observed changes in association strengths between a brand and particular ideas (IAE).

There are other applications for eye tracking. For example, eye tracking could tell us on average what information is not attended to under different viewing conditions (e.g., :30 spots vs. :15s). Such insight would be valuable especially if the aim was to maximize amount of informational intake within a certain window of time - if certain areas of an ad receive a ton of attention in the beginning then maybe that's an important time during which your brand should be quite visible.

Most cognitive neuroscientists are quite skeptical about the application of certain tools to marketing. [This recent article](#) captures some of those concerns. Suffice to say that if fMRI and EEG could do for cognitive science what they purport to do for marketing, I think there would be many more MacArthur Genius awards and Nobel Prizes given to cognitive scientists -- but most scholars in the field feel those discoveries are quite far away.

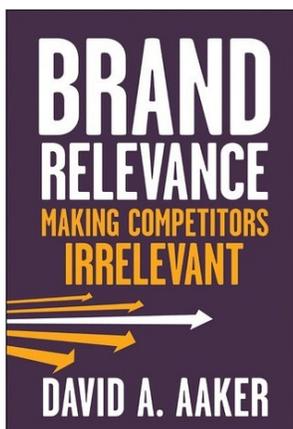
Just as there continues to be vigorous debate in cognitive neuroscience and behavioral psychology concerning the application of such tools, there should be no less of a debate in the domain of marketing. When it comes to measuring the content of thought, some tools are just better than others.

Andrew Baron is Biometric Science Advisor at Olson Zaltman Associates and Assistant Professor of Psychology and affiliate at the National Core for Neuroethics at the University of British Columbia. He earned his AM and PhD in Psychology from Harvard University. In April 2013 he was named a Rising Star in psychological science by the Association for Psychological Science.

Book Review

Brand Relevance: Making Competitors Irrelevant

by James Forr, Director



For decades, Arm & Hammer dominated a staid and decidedly unsexy category. Baking soda is a commodity -- an elementary chemical compound like salt or water. And to most people, baking

soda was, indeed, for baking and nothing else.

But in 1972, Arm & Hammer's manufacturer, Church & Dwight, discovered that a small number of consumers were placing open boxes of the product in their refrigerators to absorb odors. Light bulbs went off in the heads of the company's marketing execs. Arm & Hammer soon began advertising this novel use of its product, and within a year the percentage of households using Arm & Hammer in their refrigerators jumped from 1 percent to 57 percent.

Arm & Hammer not only created a new product category (fridge deodorizers), they also took ownership of that category -- and they still own it 40 years later. In his recent book, [Brand Relevance: Making Competitors Irrelevant](#), David Aaker, Professor Emeritus of Marketing

Strategy at the University of California-Berkeley, argues that the key to market dominance is not brand differentiation, but brand relevance.

His innovation model illustrates four steps for making a brand relevant and dominating a category: concept generation, concept evaluation, creating barriers to competition, and actively defining and managing the new category or subcategory.

The Arm & Hammer example illustrates one way of **generating concepts** -- seeking out unexpected ways in which consumers are using your product. Nalgene, the maker of water bottles, originally specialized in polyethylene lab equipment like bottles, test tubes, and Petri dishes until an executive observed his son's Boy Scout troop using some of the company's lab containers to carry water during an excursion into the woods. That spark of insight, combined with increasing concern about the environmental impact of disposable water bottles, led to a new and highly successful line of products. Aaker also recommends seeking out underserved markets, which is how Nintendo developed its hit video game console, the

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Upcoming Presentations

Jerry Olson, Managing Partner at Olson Zaltman Associates and Holger Metzger, CEO of ZMET Global Partner TMRC will conduct a workshop on "The Power of Metaphor in Research and Marketing Action," at the [Annual Conference of the Emerging Markets Conference Board](#), hosted by the Indian Institute of Management, Lucknow, India on January 8, 2014.

Olson Zaltman Associates' Senior Manager Abigail Rendin will join biometric advisor Andrew Baron from the University of British Columbia as they present at the [Neuromarketing World Forum](#) on March 7, 2014 in New York City. Their talk is entitled, "Bridging the Gap: The Value of Converging Methods."

Managing Director Lindsay Zaltman and Senior Manager Jessica Ames will present at the [FUSE Conference on Design and Culture](#), which takes place in Chicago April 7-9, 2014. Their topic is, "The Old is New (and Sells): Universal Truths Behind the Handmade Design Revolution."

For more upcoming speaking engagements, check out [our events](#).



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Wii, which appeals to families and others who don't fit the traditional gamer profile.

After coming up with a new concept, the next step is to **evaluate** whether those new products or services can gain traction among consumers. Aaker describes the consequences of flawed evaluation with a case study about the Segway. Its manufacturer assumed that police departments and postal workers would embrace the product; however, they made this assumption without an in-depth understanding of the needs of those target groups. So although it functions well and has received massive publicity, the Segway has remained a niche product with limited appeal. Conversely, organizations also can be too pessimistic about a new product's potential. If not for the covert efforts of one scientist, Tide would have died aborning because P&G executives initially were oblivious to how such a new form of detergent could revolutionize the laundry experience.

The question marketers constant ask is, "How can we own this space?" Aaker explains a number of different strategies for **creating barriers** to competition, including proprietary technology, superior execution, scale economies, brand equity, and creating a loyal customer base. Zappos has built an extremely dedicated family of customers via of its unique customer-oriented culture. Westin exemplifies how a branded differentiator can be a

boon to business. Its hotels don't just have comfortable beds -- they have "The Heavenly Bed," which has been associated with increased loyalty and higher occupancy rates. The beds were such a hit that Westin began selling them through Nordstrom, and Westin extended the concept to Heavenly Bath products.

Finally, Aaker illustrates two broad ways for a brand to **define a category or subcategory**. One method is, obviously, through functional benefits like premium offerings (Greyhound's Bolt Bus), aesthetic design (W Hotels), or offerings tailored to specific segments (Pria, an energy bar for women). However, brands also can define a category by creating a meaningful customer-brand relationship. For example, Zipcar, Zara, and Whole Foods offer products and services that could be copied by competitors; however, those brands have such unique "personalities" and provide such important psychosocial benefits that they probably can withstand challenges from rivals who compete solely at the functional level.

Brand Relevance is filled with dozens of examples and case studies, from brands like H&M, Subway, Chrysler, IKEA, Dreyer's ice cream, Walmart, and Healthy Choice. It is a book that can inspire marketing managers' creative thinking as they navigate an increasingly complex competitive landscape.

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Olson Zaltman Associates is committed to helping its clients think more deeply and successfully about challenging issues. We provide our clients with deep insights about people by capturing deep insights from people and the marketing implications of those insights.

We deliver on this promise by having: (1) unique research and analytical tools grounded in the behavioral sciences and, (2) creative, intellectually-driven staff with expertise in diverse disciplines. With these resources, we dig deeply into the unconscious mind to learn what really makes people think and act, and then actively collaborate with our clients to put these insights into action.