Editor's Desk

What Do We Know About Neuromarketing?

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For decades, advertising researchers relied on perceptual surveys for insights into the effects of advertisement exposure on consumer perceptions. The problem with such measures: Intention and action are not linked. Consumers may suggest that the advertisement made an emotional impact on them, but self-reporting doesn't always reflect reality—especially when researchers identify such confounding issues as social-desirability bias, which compounds the potential for misunderstandings and misinterpretations.

It is comforting, therefore, that ongoing advances in marketing research now involve the pure objectivity of neuroscience techniques which present researchers with more reliable evidence driven by physiological reactions.

With such tools as eye tracking, skin conductance, heart rate, and actual brain imaging, researchers now can see the precise focus—and reactions—of consumer attention when exposed to advertising. As such, they finally are able to match up self-reported effects with objective evidence, delivering greater ability to create better segmentation strategies that will increase effectiveness of advertising.

Researchers and advertising practitioners alike need to learn to use these new resources, thereby blending medical knowledge with marketing savvy. Skilled technicians need to screen out noise and purify measurements to pinpoint the data in question—a challenge that demands additional training as well as partnerships between medical/physiologically knowledgeable technicians and marketing/advertising researchers.

No one tool delivers all the information needed to make fully accurate readings of consumer intention. Some combination is encouraged, and a special "What We Know about Neuromarketing" collection of papers in this issue provides some new understanding of the requisite skills and their powerful potential.

In **"The Strata Model Predicting Advertising Effectiveness: A Neural-Network Approach Enhances Predictability of Consumer Decision Making"** (please see page 268), Thomas J. Reynolds (University of Texas at Dallas) and Joan M. Phillips (Barry University) add a new technique to neural-network analysis with a Strata model that uses a laddering approach of direct questioning in place of more traditional psychophysical information.

Neural-network research, built upon the neural structure of the brain, follows a "means–end chain that underlies the consumer's preference and thus purchase intention." As the authors state, "To test the neural-network basis of the means–end grounded Strata model, [the research] empirically assessed the strength of the linkages between the concepts (or elements) of a means–end chain and advertising effectiveness, operationalized as purchase intention."

In other words, an iterative series of questions mirroring the brain-synapse firings and cognitions of the viewer can model previously unexplored decision-making mental processes. In a test of 240 television advertisements with 5,520 participants from eight different countries across a variety of product categories, the authors concluded that means–end theory—as operationalized by the Strata research methodology—allows the integration of "three areas of interest to advertising researchers: means–end decision theory, neuromarketing, and assessment of advertising effectiveness."

Researchers then can witness how decision processes unfold after exposure to an advertisement, significantly adding to the understanding of the cognition process. Moreover, the authors found, "The results of this direct comparison suggest that the neural model is substantially more predictive of advertising effectiveness than

is a traditional, entertainment-based copy-testing assessment approach."

Why does this matter? The study concludes "early research on advertisement ideas can lead to significant increases in advertising effectiveness and production-cost savings."

Further exploration of neuroscience in marketing continues with Thomas Zoëga Ramsøy's (Neurons, Inc.) examination of the problems inherent in a field plagued by "methodological differences, conceptual inconsistencies, a lack of systematic validation of neuroscience-based metrics, and questionable business practices." And, **"Building a Foundation for Neuromarketing and Consumer Neuroscience Research: How Researchers Can Apply Academic Rigor to the Neuroscientific Study of Advertising Effects"** (please see page 281), explores "symptoms of a discipline that is in need of rigor and maturation" as it attempts to build an effective foundation from which "neuromarketing and consumer neuroscience can become a valid, coherent field of conduct."

The author proposes neuroscience in marketing needs to:

- make better distinctions "among basic, translational, and applied research … [that will] … allow researchers to better navigate the different types of insight and how they can be used for inspiration and for application";
- "clear the conceptual confusion that this field is littered with";
- "have a rigorous means of ensuring the validity of neurometric approaches and measures."

One reason that measuring attention to an advertisement is so difficult is because no two tests are the same, and each piece of research demands its own specific set of metrics. **"Best Measures of Attention to Creative Tactics in TV Advertising: When Do Attention-Getting Devices Capture or Reduce Attention?"** (please see page 295), examines a series of scalable biometric measures across responses to 10 creative devices in more than 100 television advertisements.

The research team—Steven Bellman, Magda Nenycz-Thiel, Rachel Kennedy, and Nicole Hartnett (the Ehrenberg-Bass Institute at the University of South Australia), partnered with Duane Varan (MediaScience)—used a rich mixture of tools to examine attention-getting ability. The authors advise that "different measures are needed to detect when any attention is being paid; for this reason, no one measure of attention is enough" and further warn "it is necessary to link advertising measures—including biometrics—to content in order to determine the specific characteristics people are responding to."

Biometric devices that record eye tracking, skin conductance, and heart rate, in particular, are associated with measuring arousal, which is a necessary step in aiding marketing academics and professionals to assess advertising effectiveness.

The Ehrenberg-Bass/MediaScience study utilized laboratory data from 1,040 respondents with responses across 118 advertisements. Each participant viewed eight advertisements shown in a random order in the context of television programming.

The authors report that they were able to demonstrate that "across the three levels of attention that generally apply to television viewing—preattention (inattention), focal attention, and comprehension—biometric measures detect the lowest level of attention, which is focal attention (orienting responses) to advertising stimuli."

Furthermore, "by using a combination of measures, this study shows—for the first time—that it is possible to mark the transition between these two lowest attention levels" (between preattention and focal attention).

And, as the march toward utilization of neuromarketing to improve advertising research continues, this group of authors believe "if one biometric measure has to be prioritized before others, these results suggest heart rate as the best option because it was most strongly associated with in-market performance."

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As the *Journal of Advertising Research* continues to grow and evolve, as always, I welcome your feedback.