

HIDDEN PERSUASION OR JUNK SCIENCE?

Mya Frazier, *Advertising Age*, September 10, 2007, Vol. 78, Issue 36, pp. 1,38

Abstract (Summary)

When A.K. Pradeep landed in Madrid last week, his carry-on contained thousands of dollars of equipment he claims can do what no focus group or consumer survey has ever done: Tell a marketer what a consumer is thinking. Amid the many vagaries of marketing research, one thing is clear: Consumers lie. Pradeep and his peers in the field of neuromarketing say they have the solution. But some neuroscientists are quick to raise questions about EEG. Neuroscientist Joshua Freedman, chief scientist at FKF Applied Research, considers the results from EEG "worse data than you would get by just talking to people in focus groups." Then again he does believe in the promise of functional magnetic resonance imaging (fMRI). Measuring the brain's reaction to a television spot simply does not provide enough data to extrapolate future behavior. Studying how a person interacts within the larger culture is far more important.

Headnote: Fifty years after the publication of Vaneek Packard's classic, Mya Frazier asks whether 'neuromarketing' plays a real role in today's ad business

WHEN A.K. PRADEEP landed in Madrid last week, his carry-on contained thousands of dollars of equipment he claims can do what no focus group or consumer survey has ever done: Tell a marketer what a consumer is thinking.

The globe-trotting researcher never flies without his EEG, or electroencephalography, machine to measure brainwaves. He also takes along his eye-tracking system-to log by the millisecond which imagery distracts and interests a consumer viewing a TV spot-and a galvanic skin-response meter to measure arousal and emotional response.

Amid the many vagaries of marketing research, one thing is clear: Consumers lie. About what they want. About what they need.

Sometimes they do it purposely. Most often they simply don't seem to realize what they're doing at all. Mr. Pradeep and his peers in the field of neuromarketing say they have the solution.

With this trio of portable tools, Mr. Pradeep claims he needs only your print ads and TV spots, an empty hotel conference room, and a few dozen consumers. For the cost of a copy test, he'll give you back a number he calls the consumer's "propensity to purchase." He'll get it by placing between 64 and 128 sensors on a consumer's skull to measure the electrical signals the brain produces every second, up to 2,000 measurements. For a 30-second TV spot, "that's close to a billion data pieces," Mr. Pradeep said.

Neurofocus, the company he founded in 2005, will complete its 100th research project for some of corporate America's biggest marketers next month, Mr. Pradeep said. He can't name names or share results or data, claiming his clients zealously protect the results of such tests as "trade secrets."

But he said he just wrapped up a research project for a "large automobile manufacturer" debating which of three ads to run. Given the ads on a Saturday, Mr. Pradeep said by Sunday he had consumers hooked up to EEG machines in hotel conference rooms in San Francisco, Los Angeles and Chicago. By the following Sunday, the marketer had a number. "I am so portable, I can go to 10 places in a little over a week," Mr. Pradeep said.

Despite the critics and the fact that he doesn't have a degree in neuroscience (his is in electrical engineering), the loquacious Mr. Pradeep said Neurofocus, based in Berkeley, Calif., employs 20 people, including five neuroscientists with Ph.D.s from MIT and Harvard University.

Via cellphone from Madrid, Spain, Mr. Pradeep explained his big plans abroad: "The company is expanding like crazy in Asia and Europe. We've got work in London, work in Spain, Latin America," he said, adding, "We've got six machines in continuous operation."

But some neuroscientists are quick to raise questions about EEC. Brian Knutson, a professor of neuroscience and psychology at Stanford University, likened the use of EEG to "standing outside a baseball stadium and listening to the crowd to figure out what happened."

"The question most people are asking is: If we show people stimulus X, then does this brain area activate?" Mr. Knutson said. He questioned the leap of extrapolating from brain activity what someone might buy in the future. "Only recently have we started to ask that second question," he said.

Even so, Mr. Knutson said he remains "bullish" on the potential of the field of neuromarketing and neuroeconomics. "The science will lead to the ability to predict people's choice, and that is our goal," he said.

THE FMRI CROWD

Neuroscientist Joshua Freedman, chief scientist at FKF Applied Research, agrees. He considers the results from EEG "worse data than you'd get by just talking to people in focus groups."

Then again, Mr. Freedman said he does believe in the promise of fMRI, or functional magnetic resonance imaging. "In terms of science, it's not even close," he said, comparing EEG to fMRI.

"When we started out a few years ago, it was like we were talking to someone about a country they'd never heard of," Mr. Freedman said, recalling the Washington -based firm's early business-development efforts in 2004.

At the fMRI laboratory at UCLA's Semel institute for Neuroscience and Human Behavior, where Mr. Freedman is an assistant clinical professor, he has studied and crunched data on which areas of the brain were activated for more than 300 test subjects representing 12 major research projects. Mr. Freedman declined to name clients but said his firm has achieved "penetration" among "Fortune 100" clients.

He uses a machine that is a modern-day feat of physics. An fMRI machine isn't something you're going to find inside the wall of an advertising agency anytime soon. At a cost of upward of \$5 million and double that for setup, it's confined to research labs and hospitals.

Inside a rounded tube, subjects lie flat and perfectly still. A complicated description of how an fMRI actually works can run thousands of words, but put simply, it measures the flow of oxygen to different parts of the brain, indicating activity or thought in those regions.

It's the apparent mind-reading capability of the machine that makes it so alluring to increasing numbers of people in the market-research community.

But leaders in traditional marketing research, such as Nigel Hollis, chief global analyst at Millward Brown, remain skeptical. Although Mr. Hollis said his firm has dabbled in studies using brain scans and remains in contact with U.K.-based academicians in the fields, he remains particularly skeptical about the results culled from fMRI and the small sample sizes of most studies.

"I don't have much faith in it because it's so intrusive," he said. "You are shoving someone inside a big white doughnut, and that's a huge drawback."

Yet marketers, said Mr. Freedman, are coughing up big money for fMRI studies. Consider that to test a single ad with a sample size of 20 people, costs can run as high as \$10,000. To add in varying demographic samples, costs can run as high as \$50,000, Mr. Freedman said.

Through his work with FKF, Mr. Freedman said he's confirmed a consistent reality about human behavior: People tend to lie. "The ads that evoked the strongest emotions and are really firing up their brain, they tend to be relatively dismissive of," he said. "Ads that are pleasant pabulum, they'll say they are great, but their brain isn't lighting up at all. That's the problem with focus groups: People don't really bare their soul. They are trying to protect their souls."

Putting aside the ethical question of whether marketers should be digging that deep into consumers' minds, one has to ask if fMRI can really "bare the soul."

Paul J. Zak, the founding Director of the Center for Neuroeconomics Studies and a professor of economics at [Claremont Graduate University](#), is highly skeptical of FKF's methods.

"I don't want to trash people doing it, I'm just saying the incentives are such that there's no quality control because none of this data is published in peer-reviewed journals," he said. "I think the payoff is pretty low for marketers."

He cites the limitations of the technology for simulating realworld experience.

"It's a very unnatural environment," he said. "You're laying down in a big donut and you can't move. Until we have a wearable helmet where you can be in the field in your daily life, I think it's just such a sterile, unnatural environment."

Another critique often ignored is that "the brain regions that typically activate when you see something you like also activate for anything that's new," Mr. Zak said.

PR BACKLASH

Despite his Ph.D. in neuroscience and two-decade-long career researching the neurological underpinnings of human behavior, Clint Kilts admits he was naïve.

In late 2002, as a researcher at Emory University Hospital in Atlanta, he teamed up with the BrightHouse Institute, an Atlanta-based marketing and consulting firm known for its work with Fortune 5(X) companies including [Coca-Cola](#) and [Home Depot](#).

Along with a small team of fellow academicians, consultants and researches, Mr. Kilts created the BrightHouse Neurological Group. Within six months, The [New York Times](#) had dubbed the university/private sector partnership the "epicenter of the neuromarketing world." And then the calls from Corporate America started pouring in.

Mr. Kilts aimed to conduct general neurological research on consumer behavior with the same rigor required in academia, he said, but the most frequent request was laughably simplistic "Can you put my target consumer in a brain scanner while they watch our advertisements?"

Despite the disconnect between what Mr. Kilts wanted and what the business world wanted, the group did general research on preference for six more months. Brain scans using fMRI were involved. But not once did the group scan consumer brains watching or viewing a single branded advertisement. It was less about Bud Light vs. Miller Lite than about measuring how brains lit up while viewing images of broccoli as opposed to apples—a far cry from helping Corporate America figure out how to use advertising to create consumer drones.

Even so, the reaction was severe. The watchdog group Commercial Alert decried the research, and a campaign from phone calls to letters to the administration at Emory-led to the shutting down of the group. Mr. Kilts retreated behind the walls of academia.

"All of a sudden, I was vilified," he said. "I was the pawn of business, trying to aid business with the power of neuroscience. People were saying that you'd be sitting in front of television and secret images would control you and send you out the door to buy something."

BrightHouse CEO Joe Reiman said that despite a flurry of newspaper and magazine articles about the BrightHouse Neurostrategies Group, his 21-person consulting firm has dropped the division and today markets itself as BrightHouse, laying claim instead to being the "original ideation corporation."

In fact, Mr. Reiman clearly has soured on the entire subject of neuromarketing. "There is no 'buy' button in the brain. If any consultant or neuroscientist said this, your suspicion meter should go to 15."

Mr. Reiman is not alone in his skepticism. Despite the seemingly limitless potential of neuromarketing, it has detractors. Respected and well-published neuroscientists argue that the promises of consultants like Mr. Pradeep arc just that: promises. The science simply isn't there yet.

That brings up another question: Is neuromarketing any better than what's out there now? Or will the unfulfilled promise of uncovering the neurological basis of consumption thrust a research industry already flirting with dysfunction into crisis?

It was 50 years ago that journalist Vance Packard published "The Hidden Persuaders," a sometimes paranoid and conspiracy-prone portrait of admen using psychology to exploit consumers during the post-World War II economic boom. He explored the "large-scale efforts ... to channel our unthinking habits, our purchasing decisions and our thought processes by the use of insights gleaned from psychiatry and the social sciences." Despite the critics, it's worth noting the consumer response: Millions read his book.

Although many dismissed his Orwellian critique of America's consumption culture, one has to wonder what Mr. Packard (who died in 1999) would think about advertisers using much-touted advances in neuroscience to reveal the unconscious thoughts of consumers.

CULTURE TRUMPS THE BRAIN

There are those who argue that even if the science of fMRI improved dramatically, merging neuroscience techniques with traditional marketing research is a distraction.

Indeed, in the view of some neuroscientists and marketing researchers, the notion that the human brain should be studied in isolation is deeply flawed to begin with. Measuring the brain's reaction to a TV spot simply does not provide enough data to extrapolate future behavior. Studying how a person interacts within the larger culture is far more important.

"There are many other constraints outside the brain that make us act the way we do," said John Winsor, VP-director of the cognitive and cultural radar department in Crispin Porter & Bogusky's Boulder, Colo., office.

For example, Mr. Winsor said, does it make a difference if a test subject's brain lights up while viewing a Hummer ad in Boulder, where "you feel guilty if you don't drive a Prius, or where my parents live, in Cody, Wyo., where the norm is to drive a pickup truck?"

"There are other factors that control how we are going to interact, and culture is a big one," he added.

Mark Earls, a longtime account planner and the U.K.-based author of "Herd: How to Change Mass Behavior by Harnessing Our True Nature," argues that the allure of neuroscience to the marketing-research industry can be explained, in part, by the increasingly low participation levels in research studies, with some estimates at less than 20%.

Additionally, the growing popularity of neuroscience- based marketing research exposes a unique vulnerability of the marketing-research community.

"It looks really clever," Mr. Earls said. "Would you rather trust someone with a clipboard or someone in a white coat with several million dollars in brain-scanning equipment?" But he also admitted that, "deep down, there isn't a lot of rigor about it."