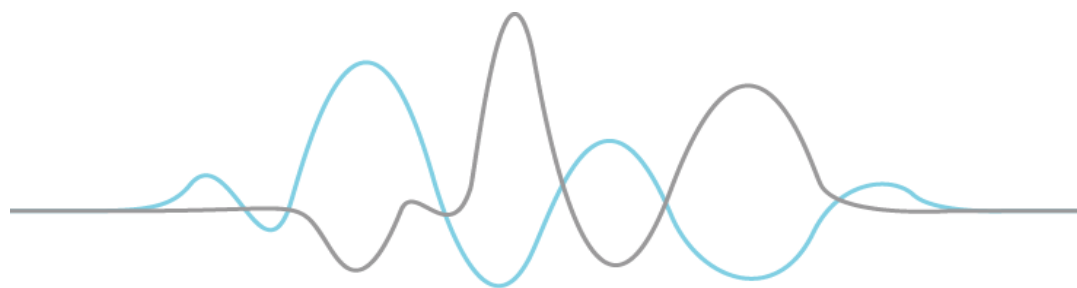


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Innerscope

research

WHITE PAPER

REVOLUTIONIZING AUDIENCE RESEARCH

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“Without the right measurement, we really don’t know how well our efforts work. We don’t know if we are in touch with our consumers. We cannot continue to apply traditional thinking to the new world of technology and marketing channels available to us today.”

Jim Stengel, Global Marketing Officer Procter & Gamble

What is InnerScope Research?

Innerscope Research uses state-of-the-art smart clothing to translate noninvasive measures of brain activity into an easy to interpret, time-locked index of emotional engagement. This unbiased measure of biologically based engagement opens a unique window into customers' true emotional response, enabling advertisers and advertising agencies to make better creative and marketing decisions.

A typical session involves groups of participants watching the test stimulus in a living-room-like atmosphere. Participants put on the Innerscope Smart Shirt™ containing multiple, unobtrusive sensors that detect and integrate key biometrics that form the basis of all human emotions: skin conductance, heart rate, respiration, and motion. The test stimulus (e.g., TV, print or internet commercials) is then presented embedded into a demographically relevant context. Furthermore, state-of-the-art eye-tracking is used to capture eye-movements and length of fixation.

Three streams of data — test stimulus, biometrics, and eye-tracking — are then time-locked and integrated into a computer data center, where patent-pending algorithms generate an aggregated emotional engagement index. The final analysis includes the Innerscope Engagement Map™ that shows the time-locked structure of engagement for the test audience. The Innerscope Engagement Map™ is then interpreted and benchmarked against a growing library of maps that show the structure of engagement for other test stimuli.

The unprecedented technology behind the Innerscope Engagement Map™ offers several advantages to advertisers and agencies. First, all of the Innerscope Research biometrics are used unobtrusively to measure unconscious processes that are well grounded in the scientific literature on human emotion. Second, the patent-pending algorithms used to create the Innerscope Engagement Map™ uniquely aggregate vast amounts of data creating a biologically based “wisdom of the crowds.” Because we integrate large amounts of data over groups of people, we are able to dramatically increase the signal-to-noise ratio using relatively few participants per test. Third, Innerscope Research combines eye-tracking technology to identify key elements of high or low engagement. Finally, by testing large numbers of commercials, our unique library allows us to benchmark the test commercial against other commercials with known impact on their respective industries.

Traditional Market Research Limitations

Traditional market research has relied heavily on surveys and focus groups. The main problem with traditional approaches is the reliance on highly subjective self-report. It is now well documented that by the time information gets into conscious awareness, the brain has processed that information to the point at which it is far removed from the original “primitive brain” responses — which form the true basis of our emotional responses (see “A Little Brain Science” attached). By passively measuring peripheral biometrics and eliminating the need for active responses, Innerscope Research technology moves beyond the limits of self-report and can achieve 100% compliance with 0% bias.

The Internet Changed Everything

Innerscope Research is bridging the gap between the agency desire to make the very best creative content and the advertiser desire to quantitatively understand and engage their customers. Agencies want to serve clients better, be more creative, and understand the market. Advertisers are frustrated with the changing world of media and are demanding quantitative measures to improve ROI.

People are now obtaining media from many sources. This naturally presents a challenge for understanding audience response and maximizing advertiser ROI. The old approach was to saturate the airwaves to achieve campaign effectiveness. However, that model assumes a rational consumer who thinks, “I watch TV, I understand the commercial, I consider whether I want to buy, and then I go buy the product.” We now know that this is not how people behave. Rather than blindly calculating the number of times a commercial is seen, Innerscope Research allows clients to measure the actual moment-to-moment engagement of the audience with the advertisement. This state-of-the-art measure of engagement in the target market can be used to estimate its impact across platforms. It is the emotional impact that changes the attitudes of consumers and influences their eventual behavior.

Real-world Examples

The following examples demonstrate the power of the Innerscope Engagement Map™ to create a new dialogue in advertising research and improve ROI. The following two commercials were chosen as part of a study commissioned by the Advertising Research Foundation. The commercials were both part of successful campaigns. We tested thirty healthy beer drinking males ages 25-35. Each commercial was viewed twice embedded in a 30 minute network comedy targeting the same audience.

For each commercial, the aggregated emotional engagement index for the audience was generated using the unique Innerscope Research technology resulting in a signature Innerscope Engagement Map™ for that commercial. The horizontal axis represents time. The vertical axis represents the engagement index, with a score of 50-60 considered relatively neutral and a score of 80 or above considered high engagement. Both commercials have a joke that is integral to the story.

The Heineken “Weasel” thirty-second commercial is shown in Figure 1. The commercial starts with neutral levels of engagement typical of most commercials. There is an initial increase when a young woman smiles, with a steep rise at the peak of the joke, when the “Weasel” swaps the generic beer for the Heineken. However, following the peak of the joke, engagement levels fall off significantly so that by the end, the important branding moment is at a lower level than where it started. Finally, while some creative directors note that the Heineken bottle is front and center during the peak of engagement, the eye-tracking data and post-viewing interviews clearly showed that most people were actually looking at the generic beer to see if they could identify it.

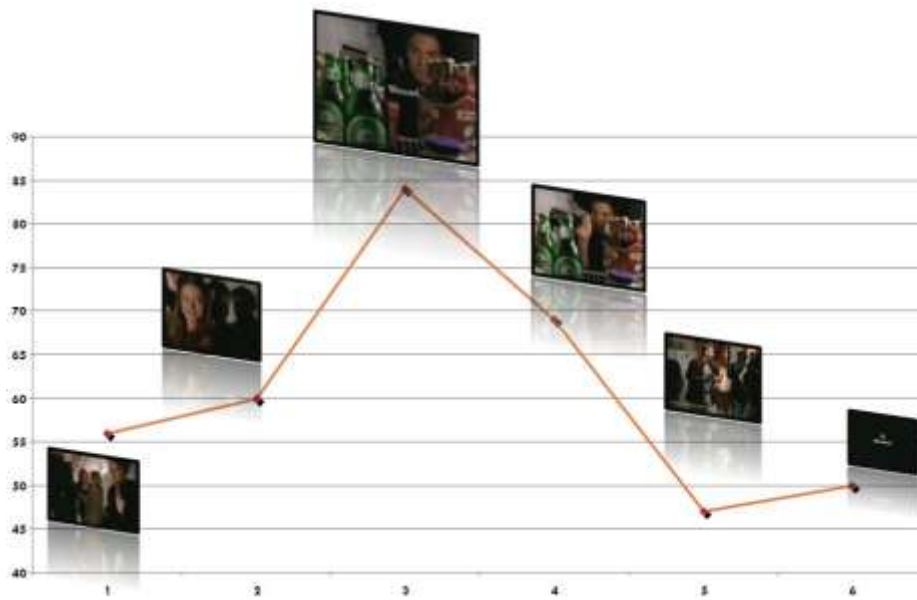


FIGURE 1 - THE HEINEKEN “WEASEL” COMMERCIAL INnerscope ENGAGEMENT MAP™ SHOWS THE MOMENT-TO-MOMENT CHANGES IN THE BIOLOGICALLY BASED MEASURE OF EMOTIONAL ENGAGEMENT IN THE TEST AUDIENCE.

In the second example in Figure 2, the Budweiser “Whassup” sixty-second commercial also starts with a neutral engagement level. However, as the commercial progresses, engagement levels rise steadily until they peak at the very end, in perfect synchrony with the branding moment. The Innerscope Engagement Map™ confirms that the joke is integrated with the story line and the experience of the brand. Importantly, the engagement level is significantly higher at the end of the commercial than at its beginning. The “Whassup” campaign transcended advertising to become part of popular culture.

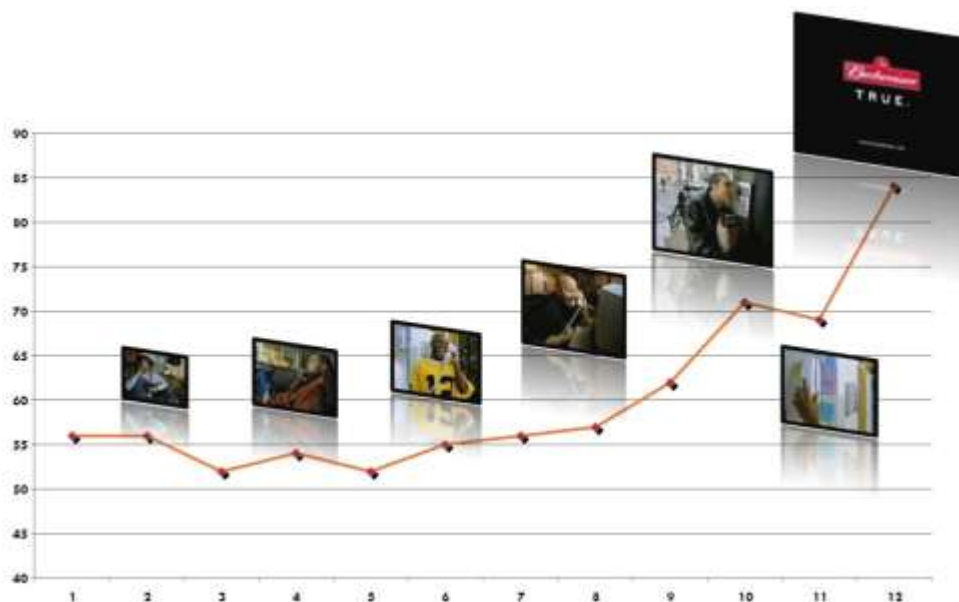


Figure 2 - The Budweiser “Whassup” commercial InnerScope Engagement Map™ shows a steady rise in engagement throughout the commercial until it peaks at the branding moment.

The Innerscope Engagement Map™ inspires multiple questions. What does the engagement pattern reveal about the audience? Is this the pattern of engagement the creative directors intended? Is this what the advertisers wanted? How could the commercial be changed to improve the pattern of engagement? Regardless of the answers to these questions, without the Innerscope Engagement Map™, this conversation is not even possible.

Improving the Bottom Line

Innerscope Research technology can be used to reduce advertising costs and save money in multiple ways. First, by creating an objective standard, agencies, advertisers, and all parties involved in the marketing process can have an unbiased conversation about the structure of the commercial and the creative elements within it as it pertains to the story and the brand. This unbiased communication saves time and money. Second, there are multiple opportunities to reduce long commercials to short commercials that achieve the same levels of engagement (e.g., reduce a 60-second to a 45-second ad or a 30-second ad to a 15-second ad). If emotional engagement peaks by 30 seconds and then declines over the final 30 seconds, it can be argued that there is no advantage — and perhaps a disadvantage — in using the longer version. And finally, Innerscope Research is integrating other forms of data to show that the right level of engagement can predict whether audiences will continue to watch the entire commercial or change channels, making certain that each commercial has the best opportunity to have maximal impact.

In summary, Innerscope Research uses state-of-the-art smart clothing to translate peripheral measures of brain activity into an easy to interpret, time-locked index of emotional engagement resulting in the InnerScope Engagement Map™. This unbiased measure of biologically based engagement can help reduce risk and can be applied to multiple media platforms. By opening a unique window into customers' true emotions and identifying key moments of engagement, advertisers and advertising agencies can make better creative and marketing decisions and improve their ROI.

Innerscope Research's Executive Team

Carl D. Marci, MD, Chief Science Officer

Dr. Carl D. Marci is co-founder of *InnerScope Research®* and the Director of Social Neuroscience for the Psychotherapy Research Program at the Massachusetts General Hospital. He is a Staff Psychiatrist at MGH and Instructor in Psychiatry at Harvard Medical School. In addition, he is a former Visiting Lecturer at the Massachusetts Institute of Technology Program in Media Arts & Sciences and a Diplomat of the American Board of Psychiatry and Neurology. Dr. Marci received his M.A. in psychology and philosophy at Oxford University as a Rhodes Scholar and then completed his M.D. with honors at Harvard Medical School. He is a graduate of the MGH/McLean Adult Psychiatry Training Program and has won several awards including the Harvard Medical School sponsored Livingston and Kaplan Fellowships for Research and recently the National Association for Research on Schizophrenia and Depression Young Investigator Award. He has extensive training in psychophysiology and neuroscience through two National Institutes of Health fellowships and has published numerous articles in peer-reviewed science journals, gives lectures regionally and nationally, and is an emerging leader in the new field of social neuroscience. Dr. Marci's current research projects include the physiology of laughter, the physiology and neurobiology of emotion, and the physiologic and behavioral measures of depression in response to treatment. His entrepreneurial experience includes two former technology start-ups, one in health technology and one in remote sensing technology.



Brian Levine, CEO

Before co-founding *InnerScope Research®* with Dr. Marci, Brian Levine led new media development and customer research for several high profile projects of the Internet boom. From 1996 to 2003, Brian directed research and design teams for *Old Navy*, *The Gap*, *Banana Republic*, *Electronic Arts*, *The Mayo Clinic*, *3M Post-it® Products*, *Philips Electronics*, *IBM* and *Fidelity Investments*. Brian's highest profile work came from leading all front-end development and customer research for the creation of Major League Baseball's network of 33 web sites as well as the spin-off company, *MLB Advanced Media*. In this capacity, Brian conducted focus groups, 1-on-1, and survey research to evaluate and inform his creative decisions, and he learned firsthand of the relative strengths and weaknesses of several commonly used media research techniques. Brian received a BA in design from the University of Wisconsin in 1996 and an MBA from MIT's Sloan School of Management in 2005. While at MIT, Brian split his time between Sloan and the Media Lab where he focused his studies on wearable computing and technologies related to emotion sensing in humans. He was an active member of Sloan's MediaTech and Entertainment Club as well as the founder of Game Tycoons, a Sloan club focused on exploring the business opportunities in the emerging and dynamic video game industry. His project involving the use of multiplatform sensing technology in media research presented during a course on digital innovations at the MIT Media Lab, co-directed by Dr. Marci, was a major inspiration for the formation of *InnerScope Research®*.