

# Evaluating the Impact of Customer-Based Brand Equity on Neurological Engagement of Advertisements – An Extended Abstract

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## Introduction

In the face of fragmented media markets and increases in consumer cord-cutting practices and time-shifted television viewing, marketers are under increasing strain to optimize their investments into commercial advertising. In spite of these well-documented shifts in media consumption, advertising associated with the Super Bowl each year stands in abject contrast to such trends.

Given the high stakes associated with producing and airing Super Bowl advertisements, there has been considerable interest from practitioners and scholars. For instance, outlets such as USA Today and Kellogg's School of Management post annual rankings based upon panel audience evaluations. A number of academic studies have examined the impact of Super Bowl commercials on advertising outcomes such as brand recall and awareness, as well as financial outcomes like shareholder wealth and sales effects.

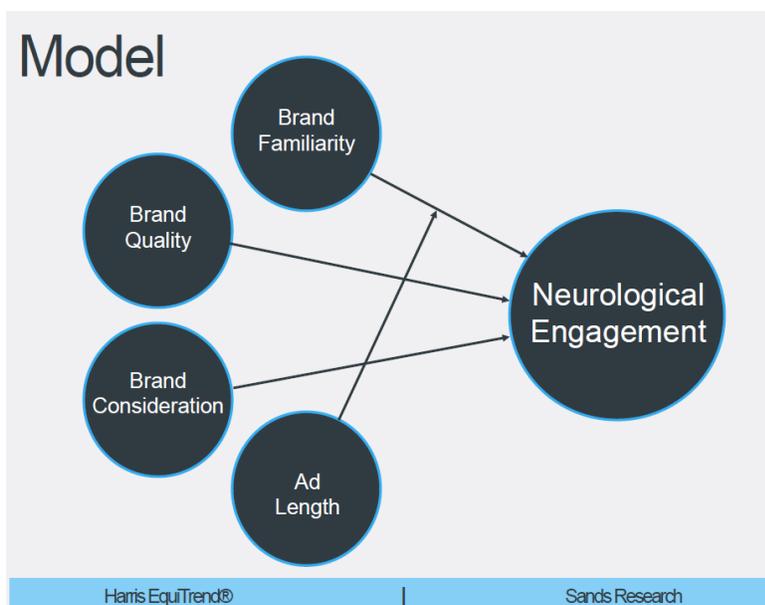
Despite these contributions and ongoing managerial and scholarly interest in the phenomenon, very little is understood with respect to how consumers' prior brand experiences, knowledge, and attitudes impact their response to Super Bowl advertisements. This is somewhat surprising, given that the line-up of Super Bowl advertisers usually includes some of the most widely known brands in the world. In particular, the present study seeks to identify how the level of a sponsor firm's consumer-based brand equity (CBBE) impacts viewers' engagement with corresponding advertising.

## Model

Engagement represents the essence of what marketers ultimately want from advertising messages. Perhaps the most comprehensive scholarly definition describes engagement as "a consumer's positively valenced brand-related cognitive, emotional, and behavioral activity during or related to focal consumer/brand interactions (Hollebeek et al. 2014, p. 154)." Simply stated, customer engagement involves the intensity of an individual's participation in and connection with a brand's offerings or activities.

Building a high equity brand provides firms with a competitive advantage through benefits such as greater customer loyalty (Chaudhuri and Holbrook 2001), more

brand extension opportunities (Aaker and Keller 1990), and less vulnerability to a brand failure and competitive marketing actions (Liao and Cheng 2014). The strength of a brand exists in the perceptions of consumers and with the experiences customers have with the products and services the brand is associated with. These perceptions and experiences influence CBBE, which has been defined as “the differential effect of brand knowledge on consumer response to the marketing of the brand (Keller 1993, p.2).” This effect can be described as the difference in a consumer’s response to a product from a particular brand versus an identical un-branded product. Thus, CBBE occurs as a result of the consumer’s brand knowledge, defined in terms of brand awareness and brand image, and as a result of the consumer’s brand response, defined in terms of brand consideration.



**Figure 1. The Impact of CBBE on Neurological Engagement**

### **Method**

This research uses a unique data set comprised of EEG-based engagement scores for Super Bowl ads from 2008-2013 matched with prior-year measures of consumer-based brand equity (CBBE) dimensions from the Harris Equitrends dataset. Harris Interactive’s EquiTrend database is one of few sources of longitudinal data for brand familiarity, quality, and purchase intentions that is widely used in academic research. Every year, Harris Interactive conducts an online survey of more than 20,000 consumers for approximately 1000 brands across 35 categories, with each brand being rated by at least 1200 consumers from a consumer sample that is designed to be representative of the U.S. population.

Neurological engagement was measured via a patented electroencephalogram (EEG) based engagement score created by Sands Research. EEG measures the flow of

electrical current in the outer-most part of an individual's brain. When groups of neurons are activated in the brain, a small electrical charge is generated, resulting in an electrical field. Sands Research has performed its patented neuro-engagement score (hereafter, NES) analysis on over a thousand commercials in its database. During the years examined in the study, Sands Research brought 30-35 subjects to their research facility, with each participant viewing two to three commercials (www.sandsresearch.com 2015).

Advertisement length was measured as a continuous variable in the number of seconds the ad aired from start to finish. To account for minor differences in study design and execution from year to year we controlled for ad year. To account for brands who had more than one advertisement in our study we controlled for multiple ads. The model also accounts for the impact of product category differences on our dependent variables, we included dummy variables indicating whether or not the advertisement featured an alcoholic beverage (vs. automobile).

## **Results**

Regression analysis was conducted using MPlus 7.1. Overall, our model explains 38% of the variance in neurological engagement. With respect to study control variables, ad year or having multiple ads were not significant predictors of neurological engagement, however the product categories of beer and auto were significant predictors. The first hypothesis (H1), states that brand familiarity will be positively associated with neurological engagement with an advertisement. Support was found for H1 ( $\beta = 0.26$ ,  $p < .01$ ). Hypothesis 2 states that brand quality is a strong predictor of neurological engagement. Based upon these results ( $\beta = 0.30$ ,  $p < .01$ ), we conclude that H2 was supported and brand quality does predict neurological engagement. Hypothesis 3 states that consideration of a brand in the form of purchase intentions will predict neurological engagement. Support for H3 was not found, purchase intentions did not have a significant effect on engagement ( $\beta = -.011$ ,  $p = .43$ ). Hypothesis 4 states that the length of the advertisement is a significant predictor of neurological engagement ( $\beta = 0.38$ ,  $p < .01$ ). Based upon these results, H4 is supported.

## **Discussion**

Identification of differential responses to promotions for high CBBE brands during the most watched event of the year validates brand-building investments throughout the calendar year. But perhaps more significantly, study findings suggest CBBE is a catalyst for driving deeper processing, acting as a cue that triggers greater cognition with respect to paid advertising content. We provide physiological evidence that ads for brands with stronger CBBE garner greater attention. Our findings show that familiarity with the brand and the presence of intensely held, positive associations toward a brand's image drive neurological engagement.

Taken together, our results suggests that overall, the dimensions of customer-based brand equity are predictive of neurological engagement for viewing advertisements. Successful advertising is at least partially defined by long term effects, and the findings within this study suggest that neurological engagement measures reflect the consumer's deeply held perceptions and experiences with the brand. Thus, advertisers seeking to capitalize on the power of neurological engagement with their marketing communications should build CBBE first and target their advertisements to consumers who have CBBE with their brand.

## **Conclusion**

Our findings provide credible support for stronger consumer neurological engagement for ads from sponsors with stronger familiarity and quality scores. By understanding how CBBE is a catalyst for engagement, the groundwork has been laid for the evolution of how brands think of engagement. The idea of a brand-initiated and controlled marketing is fading away as old marketing communication methods no longer describe today's reality. Customers are not a listening audience anymore, but are instead empowered observers, initiators, participants and co-creators that in addition to the brand interact with each other. The consumer has evolved as a result of digitalization and has triggered brands to look for creative ways to create engagement with their own customers and their customers' followers (Moran, Muzellec, and Nolan 2014).

The most obvious factor that reinforces the importance of CBBE is advertisement clutter and competing technology. In reality, consumers often focus their involvement on a primary task (e.g., using their mobile phone), which reduces cognitive resources available to engage secondary information (e.g., television advertisements). Thus cognitive resources available for attending to secondary information are limited, and engagement with the secondary information suffers (MacInnis and Jaworski 1989). By building CBBE, brands will increase their odds of engaging their customers by appealing to the desire to increase brand-relevant knowledge.

## **References**

- Aaker, D. A. and Keller, K.L. (1990). Consumer Evaluations of Brand Extensions. *Journal of Marketing*, 27-41.
- Chaudhuri, A. and Holbrook, M.B. (2001). The Chain of Effects from Brand Trust and Brand Affect to Brand Performance: The Role of Brand Loyalty. *Journal of Marketing*, 65 (2), 81-93.
- Hollebeek, L.D., Glynn, M.S. and Brodie, R.J. (2014). Consumer brand engagement in social media: Conceptualization, scale development and validation. *Journal of Interactive Marketing*, 28(2), pp.149-165.
- Keller, K. L. (1993). Conceptualizing, Measuring, and Managing Customer-Based Brand Equity. *Journal of Marketing*, 57 (January), 1-22.
- Liao, S. and Cheng, C.C. (2014). Brand equity and the exacerbating factors of product

innovation failure evaluations: A communication effect perspective. *Journal of Business Research* 67 (1), 2919-2925.

MacInnis, D. J. and Jaworski, B.J. (1989). Information processing from advertisements: Toward an integrative framework. *The Journal of Marketing*, 1-23.

Moran, G., Muzellec, L., and Nolan, E. (2014). Consumer moments of truth in the digital context. *Journal of Advertising Research* 54 (2), 200-204.

**Keywords:** *Customer-Based Brand Equity, Engagement, Neuro-Marketing, Neuroscience*

**Relevance to Marketing Educators, Researchers, and Practitioners:** Successful advertising is at least partially defined by long term effects, and the findings within this study suggest that neurological engagement measures reflect the consumer's deeply held perceptions and experiences with the brand. Thus, advertisers seeking to capitalize on the power of neurological engagement with their marketing communications should build CBBE first and target their advertisements to consumers who have CBBE with their brand.

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**Track:** Advertising