EYE TRACKING RESEARCH

Online advertising & eye tracking

Customer
Brain Intelligence Neuro-Consultancy

Objectives
The study was conducted on behalf of Tinghsin International Group, one of the largest food and beverage manufacturing companies in China. It aimed at examining visual attention and brain response to different types of online ads on Chinese video sites relative to their pricing. It will also provides a foundation for media buying decisions.

The findings, which were published at the ESOMAR Neuromarketing Seminar in Amsterdam, aim to further build knowledge for the development of new, innovative methods to measure online advertising effectiveness.

Tools & methods
Eye tracking and EEG data was collected simultaneously, using a Tobii TX300 Eye Tracker and a Brain Products EEG. Tobii Studio was used for analyzing the eye tracking data.

Results & conclusions
Different online advertising options yield different duration and quality of visual attention, as well as different brain responses - depending on its position, format, size and presentation duration. Over- and under-valued options were identified, allowing Tinghsin International Group to make better informed media buying decisions.

Eye tracking provides method to valuate online ad space

Currently, there are limited means to objectively valuate the real cost and measure the effectiveness of advertising online. This study, which addresses online advertising on video sites in China, demonstrates the feasibility of using eye tracking and EEG in order to valuate online ad spending in relation to the effectiveness of that advertising. The results were published at the ESOMAR Neuromarketing Seminar in Amsterdam.

Background

Video portals in China, such as Youku.com and Tudou.com, are more than just YouTube clones. They are legitimate mass-market distribution channels for the entertainment industry. They license the rights to show the latest movies and TV dramas, which means that an increasing proportion of Chinese citizens spend their free time online rather than watching traditional television. So, how do you market to this type of audience online?

There are many forms of web advertising and hence innumerable variables that need to be taken into consideration to advertise effectively. Yet, how do we know whether web users look at any of these ads at all, and how do they actually influence consumer attitudes?

This is particularly critical since most advertising on online video sites in China is charged on a cost per thousand impressions (CPM) or pay per day basis.

Brain Intelligence Neuro-Consultancy used eye tracking in combination with EEG technology to shed light on how factors such as ad locations, format, size and presentation duration influence online marketing effectiveness.

A Tobii TX300 Eye Tracker was used to collect gaze data.

EEG data was collected simultaneously with gaze data.

The study was conducted on behalf of Tinghsin International Group, one of the largest food and beverage manufacturing companies in China and owner of the "Master Kong" (康师傅) brand.

Objectives

Which online advertising option provides the best value, i.e. which ad type gets how much and what kind of attention, as well as what kind of brain reaction, all in relation to the media investment?

To find an answer to this the study set out to examine:

- Which online ad types are fixated on and which ones are fixated on the longest?
- How does average fixation duration (and thus fixation quality) differ between different ad types?
- Are there differences in brain response toward different ad types?

Tools & methods

30 respondents, gender ratio 1:1, were recruited for participation in the study.

Participants were asked to view a series of stimulus websites and complete a number of search tasks related to video sites.

During the experiment, eye tracking and EEG data was collected simultaneously using a Tobii TX300 Eye Tracker and a Brain Products EEG. Each session lasted about 40 minutes.

"The combination of eye tracking with EEG technology provides an invaluable tool to objectively measure if, and how, Internet users attend and react to online advertising. We can now advise clients on which online advertising provides better value for their online media investments on Chinese video sites. Media buyers need to know what is the advertising value they're buying, and eye tracking solutions from Tobii combined with EEG research can help answer that question."

Ruihong Tang, MD, Brain Intelligence Neuro-Consultancy

About the customer

Name: Brain Intelligence Neuro-Consultancy
Web: www.brain-intelligence.com
Location: Beijing, China
Industry: Neuromarketing Research

Brain Intelligence Neuro-Consultancy Ltd.is a neuromarketing company, based in Beijing, China. The company provides marketers quantitatively based means of evaluating emotional feedback and cognitive engagement in response to all forms of marketing stimuli. Examples of these are: the evaluation of communications (TV advertising, print, web), innovation (product, concepts, packaging) and the shopper experience (both in-store and virtual). The dedicated team of highly skilled professionals takes the newest scientific findings and operasionalizes them in their research design and conduct.

Ruihong Tang is founder and MD of Brain Intelligence Neuro-Consultancy.

She has also organised an advisory board that includes Professor Luo of Beijing Normal University - the Director of the National Key Laboratory of Cognitive Neuroscience and Learning - and Sail Ma - formerly VP of Nielsen Online China.

Youku.com

Tudou.com

Here researchers compared a pre-movie compulsory video advert (red area on **Youku.com** priced at CNY 150 per CPM) with a static background advert (blue areas on either side of the movie on **Tudou.com** priced at CNY 60 per CPM). Surprisingly, it turns out that the blue static advert, which consumers view only voluntarily, drew the same level of attention as the pre-movie advert, which was compulsory to watch in order to be able to watch the movie. However, there is a large price disparity between these two advertising options. In sum, the blue static background advert is just as effective as the red pre-movie video advert, yet it is less expensive and hence represents better ROI value.

Data analysis

Tobii Studio was used to analyze the eye tracking data and calculate fixation metrics for different online ad types, providing indicators of their effectiveness.

Fixation ratios for different ad types were then compared to their respective price ratios (taken from the video portal price lists) to evaluate the relative ROI for different ad types. Over- and under-valued options were identified, allowing researchers to determine which ads delivered the best value for the invested budget.

By plotting EEG data against eye tracking data, brain responses could then be linked to online ad types. Eye tracking thus helped explain the EEG data, and also contributed new insights into how visual attention duration and quality might influence emotional responses.

Results and conclusions

Different online advertising options yield different duration and quality of visual attention, as well as different brain responses—depending on their position, format, size and presentation duration.

Discrepancies between the effectiveness of different advertising options and their respective pricing indicated that some options are overvalued and some undervalued. The results allow researchers to recommend those online advertising options with the highest ROI for clients.

Surprisingly, the EEG research also showed that more attention toward an ad is not always beneficial. Less, but voluntary, attention may actually result in a more positive brain response toward the ad and may thus have a better impact on consumer (conscious or subconscious) attitude toward the advertised product or brand.

To elaborate, this last point goes back to the question of whether or not the advertiser should really force the viewer to watch their advertisement (e.g. a pre video) or give them a choice. The results suggested that they should not, particularly since some ad spaces that were only displayed in the background (i.e. viewers choose to look at them or not) did just as well or even better when attracting the attention of participants. And this was voluntary attention, which makes the case even more compelling.

Why eye tracking?

"Just because an ad is displayed doesn't mean it's seen by the consumer. Eye tracking enables us to measure actual attention and to quantify fixations. Contrasting this information with pricing allows us to valuate different advertising options, and recommend those with the highest ROI to our clients.

"This information is particularly relevant since online advertising in China tends to be priced on a cost per thousand impressions (CPM) or pay per day basis. This makes the proper choice of advertising variables all the more important. Click conversions are not as relevant because that is simply not what the advertiser is being charged for. Traditional web analytics is thus not as revealing a tool as eye tracking for this kind of study. Combining EEG and eye tracking, we can discover which advertising options are most effective in attracting positive (EEG) attention (eye tracking) from users," says Ruihong Tang, MD, Brain Intelligence Neuro-Consultancy.

Why Tobii?

"With our expertise in the neuromarketing field, we were in need of a very accurate and precise, yet unobtrusive, eye tracking system that could be used together with EEG systems such as Brain Products. Tobii's 300 Hz system enables us to link brain responses and emotional feedback to attention to particular marketing elements with high precision, producing reliable research results.

Since the system allows for a great deal of head movement, no additional restrictions have to be put on the users. Quick and easy calibration features allows testing to be as efficient as possible.

"Tobii Studio visualization and statistics tools make processing and analysis of the eye tracking data fast and easy and allows us to efficiently calculate relevant eye tracking metrics," says Ruihong Tang.

To find out how eye tracking can improve your business, please visit www.tobii.com or contact one of our offices.

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