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Morphing advertising to improve online campaign success

By ***Gui Liberali***

Even though online advertising revenues have grown dramatically, click-through rates for banner advertising continue to decrease, raising hard questions regarding its effectiveness when targeting consumers. However, with the development of a new technique that matches banners to the cognitive style of viewers, the world of online advertising is about to change.

Over the last 50 years, market researchers have developed many ways to communicate better with consumers. In the most recent 20, that process has accelerated, thanks to the internet. But even now, most of how businesses communicate with potential consumers relies on rules-of-thumb such as behavioural targeting, or on asking users to spend time configuring profiles and answering questionnaires.

A new revolution may be on its way, however: morphing banner ads, a new technology that enables advertisers to reach consumers based on their understanding not just of what they like but of how they think.

Cognitive styles

The idea draws on well-established models of how people think and learn. Psychologists have known for a while now that people have distinct cognitive styles, that is, how we perceive, think, and solve problems. Some people are very visual; others are more verbal. Some are more emotional, others more analytical. Like personality, cognitive style appears to change only gradually during one's life.

Until recently, these insights were of little value to advertisers. Although online advertisers have grown adept at serving content optimised for different browsers and acting on contextual clues based on past histories, they have not found a way to personalise their messages by cognitive style.

If online advertising worked well, this might not be worth the trouble. But it doesn't. Despite all the effort that goes into designing and serving billions of banner ads, literally 99.99 per cent of banners served go unclicked.

To boost that yield, researchers have tried a variety of measures. Some have looked for ways to improve the ad server's ability to read the context of a particular page the user has called up and serve an ad that fits the content. Another has used a genetic algorithm to create a Darwinian process to help select the fittest banners.

These and other measures have served to boost click-through rates a little, but my colleagues and I have been working on a new technique called morphing that promises to be much more effective, particularly when used in conjunction with contextual-serving technology.

Substantial gains

Named after a special effect often used in science fiction films that involves transforming one kind of image into another in a seamless transition, morphing is a way of matching content to users. It involves first observing how the user is navigating around the site, and then taking that knowledge to serve a banner that best fits the user's cognitive style.

Based on a successful simulation experiment we conducted back in 2008-2009 for the BT Group, we believed that morphing could significantly boost click-through rates. This study suggested that 10,000–20,000 website visitors are necessary to realise substantial gains from the technique, which is a small number compared with the millions of daily visitors large websites typically receive.

Recently we found in CNET, the high-traffic consumer technology site visited by eight million consumers a day, a great partner for a live, real-time experiment on morphing.

The first step of morphing is small and happens before we go live: we ran a survey with 1,293 users to understand CNET readers' preferences and their cognitive styles. As with BT, we found that we could identify a user's cognitive segment fairly well after he or she had made five to 10 clicks on a website.

"It involves first observing how the user is navigating around the site, and then taking that knowledge to serve a banner that best fits the user's cognitive style"

Experiments

By following our earlier methods, we segmented all 1,293 CNET audience members into four distinct cognitive categories: deliberative-holistic, deliberative- analytic, impulsive-holistic, and impulsive-analytic. Looking back at our results, we estimate the four groups broke down to 9, 42, 23, and 27 per cent respectively. As expected, some cognitive styles are found more frequently in the population than others.

The banners we used for our experiment were for AT&T smartphones. CNET's agency developed a pool of eight AT&T banner advertisements for HTC smartphones. Five of the ads were square banners that could appear anywhere on the website; three were wide rectangular banners that appear at the top of the page.

Consumers visiting CNET.com were assigned randomly to test and control cells. In each experimental cell, some banners were context-matched and others served at random (the normal practice at CNET). We served our test ads to consumers only after they had made at least five clicks on the site.

Test consumers saw a banner selected by the morphing algorithm, while control customers saw a randomly chosen banner. In all, more than 100,000 consumers viewed over 450,000 banners on CNET.com.

Measures of success

One question we wanted to answer in this experiment was how morphing and context matching would mix. The answer was: extremely well. Where context matching alone typically yields a 3-5 per cent higher click-through rate than a random match, we found that in this experiment morphing almost doubled the click-through rates for context-matched ads (83 and 97 per cent lifts, respectively, for banners and for numbers of consumers, from 0.168 to 0.307 per cent and considered on a per-consumer basis, from 0.127 to 0.250 per cent).

However, higher click-through rates are only one measure of success. In ▸

Morphing advertising to improve online campaign success *(continued)*

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"One question we wanted to answer in this experiment was how morphing and context matching would mix."

fact, some advertisers also now think of banner ads as just another kind of display advertising – the billboards of the information super highway. Could morphing improve brand image too, and intention to purchase?

To find out, we conducted a second experiment, this one with General Motors. We asked 588 consumers to visit a simulated automotive review site. After five clicks, they were served banners that designers judged would appeal to consumer segments with different cognitive styles. Some banners emphasised information; others compared targeted vehicles to competitors, and still others stressed test drives, finding a dealer, and purchase details. The banners also varied in the size and number of the images, the amount of information provided, the size of the headlines, the amount of content in the headlines, whether content emphasised product features or recommendations, and other design characteristics.

Here too, the results were exceptional. Click-throughs compared to the control were up by number of impressions (0.97 per cent response versus 0.26 per cent for the control). Brand consideration and purchase likelihood was also much higher: 42.8 per cent of consumers who had seen the banners said they would consider Chevrolet, compared to 32.9 per cent of those who had only seen the control banners, while purchase likelihood increased from 3.05 to 3.28 per cent.

Much can still be done to make morphing banners perform even better. For one thing, few people have had a chance to experiment with it. Off-the-shelf software with the ability to morph is still not widely available. Just as transportable code helped popularise all kinds of other marketing analytics tools, such as conjoint analysis, hierarchical Bayes and multinomial logit analyses, we think the wider availability of off-the-shelf morphing code will lead to much more experimentation.

"Learn versus earn" is one of online marketing's oldest and still most pressing issues – how long do you spend getting to know your customers before you try to sell them something? In the past, managers used rules-of-thumb to handle this trade-off but today robust methods are available that can be used to obtain much better performance in terms of revenue or click-through.

Ultimately, this new technology may speed the sales cycle up, enabling the marketer and the sales team to develop a rapport earlier than they have now, allowing them to focus more on crafting pitches their prospective customers are likely to appreciate and find valuable. ■

This article draws its inspiration from the paper *Morphing Banner Advertising*, written by Glen L. Urban, Guilherme (Gui) Liberali, Erin MacDonald, Robert Bordley and John R. Hauser and published in the journal *Marketing Science*, Vol. 33, No. 1, Jan-Feb 2014, pp. 27-46. http://dx.doi.org/10.1287/mksc.2013.0803

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