Designing Online Banner Advertisements: Should We Animate?

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A common medium for advertising on the Internet is the use of banner ads. This form of advertisement often combines animation, sophisticated graphics, and even audio to endorse product information. Currently the most extensively used measurement tool for ad effectiveness is click-through rate (Fox, 2000). This rate is derived by dividing the number of times an ad is clicked by the total number of times the ad appears. However, research by AdKnowledge (2000) reports that online ads drive customers to purchase or register at advertisers' sites even without clicking on an ad. The potential of banner ads has yet to be fully realized; the current study is an attempt to better understand ad effectiveness by investigating user awareness rather than click-through rate.

Current trends toward increasing banner ad awareness and effectiveness are the use of animated Graphic Interchange Format (GIF) image files, electronic forms, and Shockwave-enhanced games designed to promote user engagement (Cleland & Carmichael, 1997). There has been research that supports the use of animation for online banner advertising. ZDNet (1996) reported animated banner ads had higher click-through rates than static ads. In some instances a 40% increase was found, suggesting animation increased user awareness.

In a previous study we analyzed the effects of animation on recall and recognition of Amazon and Ebay banner advertisements (Bayles & Chaparro, 2000). We found that animation had some effect on memory of online banner advertisements, however, these findings may have been affected by familiarity with the two well-known companies. The current study continues to investigate animation by using two novel banners that resemble ads used in the prior study. It was hypothesized that animation would increase recall and recognition of novel banner ads by increasing user awareness and making the ads more noticeable.

METHOD

This study used a Pentium II class computer with Microsoft's Internet Explorer 5.0. Information gathered from each participant included a background questionnaire, two recall worksheets, a recognition task and questionnaire. Each participant viewed a single web page modified from the Library of Congress website, containing two banner advertisements. Novel ads used in this study consisted of 'Zip' (a modified version of Ebay) and 'Outland' (a modified version of Amazon) (see Figure 1.). Ads were positioned approximately 1/3 and 2/3 down the page, based on a banner ad placement study (Doyle, Minor, & Weyrich, 1997). Sizes of advertisements were standardized (468 x 60 pixels) in accordance with the Internet Advertising Bureau (IAB) size guidelines for advertisements on the Web. Each advertisement was manipulated to be both animated and static with company logos constantly displayed. Animation on the Zip advertisement consisted of flashing and vertical movement of the words "Buy Sell Collect." The Zip logo was also animated so that each letter alternately became larger. Animation of the Outland advertisement consisted of a moving arrow that pointed to "Click here." The

words "Sports Clothing" were also animated to appear as if they were laying flat and slowly standing upright. Finally, location and animation state of the ads were randomized to control for order effects.

Figure 1: Advertising banners used in this study

Participants

Sixty-six men and women from Wichita State University participated in the study. The participant pool consisted of 32 males and 34 females, ranging in age from 17 to 48.

Procedure

Participants were shown a single web page and asked to complete four search tasks one at time. Participants were informed that all information needed to complete the tasks was present within the web page. Search tasks were structured in such a way that a banner advertisement was within view upon successful completion of each task. After each task was completed, participants were asked to scroll to the top of the page, once again passing one or both ads displayed. Participants were not informed of the recall task that would follow.

The second phase of the study was a recall task consisting of two worksheets. The first worksheet asked participants to reconstruct the layout and graphics of the web page just viewed. The second worksheet asked three questions concerning color, text, and motion for several areas on the first worksheet.

The last portion of the experiment involved a recognition task and questionnaire. Participants were shown a web page containing twelve advertising banners, which consisted of six company ads in two states, animated and static (see Figure 2). Two of the banners presented were targets (banners viewed in the study); varying by participant depending on the condition they were in. Distracter ads included ads such as Amazon and Ebay, which closely resembled the target ads. Participants were encouraged to decide which ads they had been exposed to and whether they were presented as animated or static.

Figure 2: Advertisements shown for the recognition task

Results and Discussion

General Recall

When examining recall findings, 40% of the participants were able to recall the presence of at least one ad regardless of its animation state. This indicates that less than half the participants remembered

seeing the banner ads presented in the study. Our previous study (Bayles & Chaparro, 2001) also reported similar recall findings (43%) for Amazon and Ebay ads. These low percentages suggest that a many participants possibly overlooked the banner ads presented.

More people were able to recall the presence of an ad than a company name. For example, 'Zip' had a 38% recall rate, 12% (8 participants) of which recalled a company name, however one participant identified the wrong company. The 'Outland' banner had a slightly higher recall rate of 43%, 8% (5 participants) of which were able to recall a company name, however three incorrect companies were named.

It was interesting that 13 participants recalled a company name, however, 4 of them named incorrect companies. This may be a result of participants being aware of the ads but not attending to them long enough to commit the company name to memory.

Animation Recall

When looking at awareness of animation, the number of times animation was present and its location were often incorrectly recalled (see Table 1 & Figure 3). This indicates awareness of animation on the Web page but uncertainty as to where it appeared. Overall recall of animated banner ads was higher (30%) than the 20% found in our previous study. This may be due methodological differences between the studies. For example, the previous study did not specifically ask participants to report the presence or absence of movement.

Table 1: Recall of animation

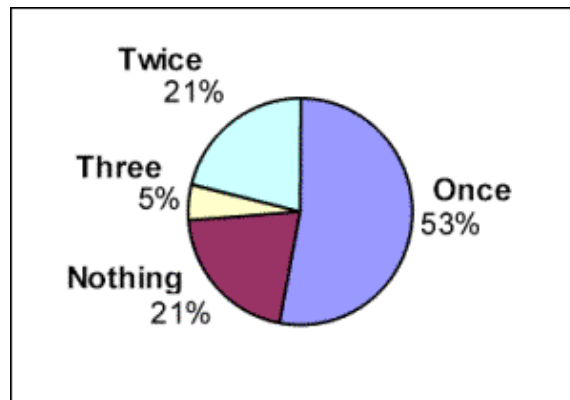| Animation Recall	
Correctly recalled animated state of ads (regardless of company name)	37%
Of the participants who recalled animation	
Recalled animation in the wrong ad locations	27%
Recalled animation in locations other than ad locations	30%
Percentage of participants who incorrectly recalled both ads as moving	17%

Figure 3: Number of times animation was recalled

As mentioned above, a large portion of participants recalled animation being present, but in locations other than the ad locations. Further analysis identified 26% of participants incorrectly reported animation in the same location. A rectangular box of similar shape and size as the advertisement appeared directly below the ad location. This ambiguous location may have confused participants into selecting the wrong location for the presence of animation.

A 2 x 2 Chi-Square was conducted to determine the overall effects of animation on recall. The Chi-Square revealed no significant relationships between animation and recall of the advertisements [X^2 (1, N = 66) = 1.33, p > .05].

General Recognition

It was found that 82% of participants were able to correctly recognize at least one advertisement (see Figure 4), regardless of its animation state. These findings differed from our prior study that reported 100% recognition of at least one advertisement.
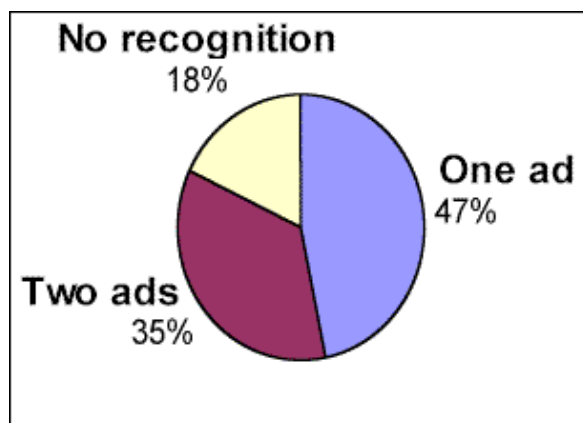

Figure 4: General Recognition of Ads

Animation Recognition

A 2 x 2 Chi-Square was conducted to determine the effects of animation on recognition. The Chi-Square revealed no significant relationship between animation and recognition of advertisements [X^2 (1, N = 66) = 1.44, p >.05]. The order of ad recognition was analyzed to see if the first recognized ad had been portrayed in the animated state during search tasks. This was done to see if animation affected recognition even if participants did not indicate recognition of animation. It was found that only 29% of participants identified their first recognized advertisement as the one that was animated; indicating animation had minimal effects on order of recognition. Overall recognition of animation found that 38% of participants correctly recognized the animated banner as animated and 30% correctly recognized the static banner as static. These low percentages may be a result of confusion between the similar distracter and target ads.

CONCLUSION

Many banner ad designers recommend the use of animation. In 1998, Webreview published tips for designing effective banner ads; animation was considered the best way to increase the impact of an advertisement (Hamlin, 1998). Despite the recommended usage of animation, this study did not find animation to enhance awareness of online banner advertisements. It appeared that participants recalled and recognized movement on the Web page but did not necessarily associate it to the advertisements. Future research manipulating amount and type of animation should be conducted to further explore the effects of animation on banner ad awareness.

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Note:
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