



Usability News is a free web newsletter that is produced by the Software Usability Research Laboratory (SURL) at Wichita State University. The SURL team specializes in software/website user interface design, usability testing, and research in human-computer interaction.

[Barbara S. Chaparro](#), Editor

Just How 'Blind' Are We to Advertising Banners on the Web?

By [Michelle Bayles](#)

The most common medium for advertising on the Web is through the use of banners. This form of advertisement often combines animation, sophisticated graphics, and even audio to endorse product information. Currently, advertising companies test the effectiveness of banners by calculating their 'click-through' ratio rate (Briggs & Hollis, 1997). This ratio is the number of times an ad appears on a page compared to the number of times an individual clicks on the banner. It has been argued by Nielson (1997) that click-through ratio rates are typically about 1%, which suggests that 99% of the time Internet users don't bother to click on advertisements.

Simply looking at click-through rates does not, however, consider key concerns, such as brand awareness, recognition, and recall of the product being advertised. For instance, Ipsos-ASI (1999) found that online advertisements are equivalent to television advertisements in raising consumer awareness of brands. In fact, immediate recall of an online static banner ad was 40% compared to 41% for a 30-second television commercial.

Moreover, Benway (1998) showed that extremely colorful and obvious banners tend to be ignored by users. When participants in this study were asked to find specific information on a web page, the information was not found if it was imbedded in a banner. Benway consequently named this phenomenon "banner blindness." Benway also found that banners located at the top of the page (away from other links), tended to be ignored more often than banners located lower down the page (closer to other important links). This finding is supported by another study which showed a 77% increased click-through rate for advertisements placed 1/3 of the way down the page (Athenia Assoc., 1997).

Recent studies have investigated where users look on web pages while searching for information. An eyetracking study on Internet news reading reports that users spend about 92% of the time looking at textual information (Poynter Institute, 2000). It also found that participants looked at 45% of the banner ads.

Benway (1998) found that animation did not affect user recognition of advertisements when looking at "ad" and "non-ad" banners. However, a study by ZDNet, (1996) came to an opposite conclusion, and reported that animated ads had a 15% higher click-through rate than static ads. In fact, in some cases a 40% higher rate was found. It has thus been suggested that people tend to notice ads if they are animated in an effective way (Business Marketing, 1996).

In our study, we were curious to simply explore how much users remember about a web page after viewing it -- in particular, we were interested in investigating user memory of banner advertisements:

1. How well can users' recall a banner advertisement on a web page?
2. How well can users' recognize a banner advertisement on a web page?
3. Does animation affect user recall or recognition of an advertising banner?

METHOD

Thirty-five students from Wichita State University participated in the study. The participants were 12 males and 23 females, ranging in age from 18 to 44. The independent variable used in this study was type of advertisement banner presented, static or animated. The advertisements were placed in approximately the middle of a web page. Each participant viewed two websites from the Library of Congress, with one banner advertisement on each page. Presentations of the websites were randomized to control for order effects. Two advertisements, EbayTM and AmazonTM, were manipulated to be animated or static. The conditions were randomized so that each participant viewed one EbayTM and one AmazonTM banner advertisement.

The participants were shown two web pages (one at a time) and asked to complete four information search tasks for each page. Before beginning, they were given about five minutes to familiarize themselves with the content of the page presented. Four search tasks were presented one at a time. Participants were informed that all information needed to complete the tasks was present within the web page. Search tasks were structured so the banner advertisement was visible for each task. After each task was completed they were asked to scroll to the top of the page. Participants were not told that they would have to recall any portion of the web page following the search tasks.

Recall

When the search tasks were completed, each participant was provided 2 paper templates and asked to reconstruct the layout and graphics of the pages just viewed to the best of their ability. They were informed to include any text, pictures, drawings, animations or charts they may have seen. They were given 10 minutes to complete the recall portion of the study.

Recognition

The last portion of the experiment involved a recognition task. Participants were shown a web page containing twelve advertising banners, which consisted of six company ads in two states, animated and static. Two of the banners presented were targets, meaning they represented banners viewed in the study. The target banners varied by participant depending on which condition they were in. Participants were instructed to indicate the exact ads viewed on the web pages presented during the search tasks. After this, the participants were asked to indicate how familiar they were with AmazonTM and EbayTM (see Figure 1).



Figure 1. Participants were shown a web page containing twelve advertising banners - 6 company banners in both their static and animated states.

RESULTS

Recall

It was found across both conditions that almost half of the participants recalled something in the location of the banner advertisement (see Figure 2).

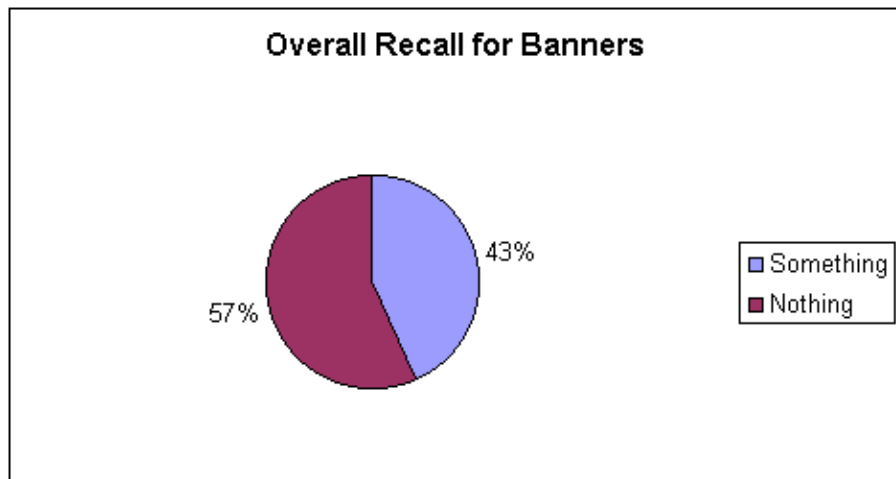


Figure 2. Overall Recall for Banners

Recall data for the advertisement area was categorized as follows for each participant:

1. participant recalled nothing in the banner area of the page (no recall)
2. participant recalled that there was an advertisement in the banner area of the page (ad only)
3. participant recalled both that there was an advertisement present and the company name of the advertisement (ad & company)

For the EbayTM advertisement, 14% recalled an ad being present and 32% recalled an ad as well as the company name (see Figure 3).

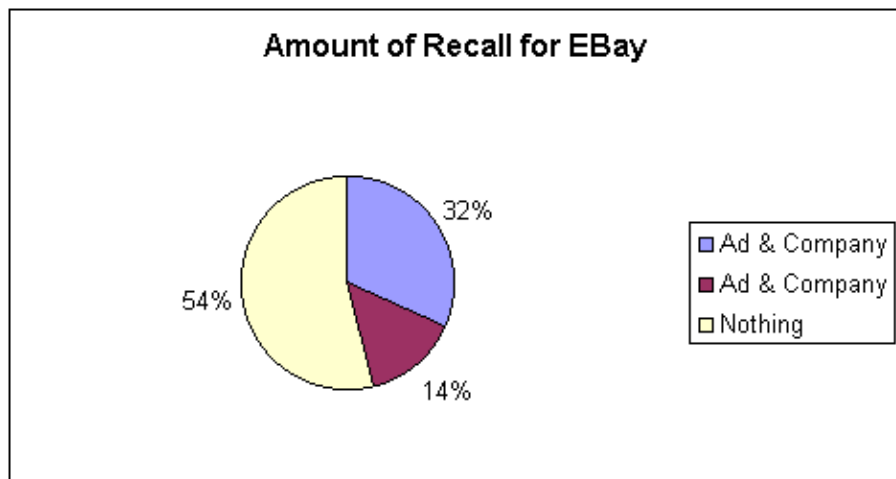
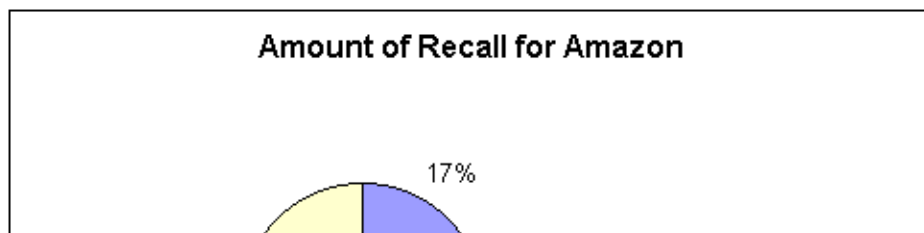


Figure 3. Amount of Recall for EBay advertisement banner

For the AmazonTM advertisement, 23% recalled an advertisement and 17% recalled an advertisement as well as the company name (see Figure 4).



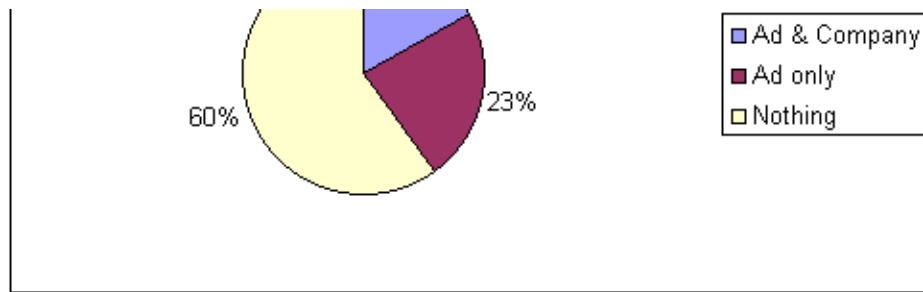


Figure 4. Amount of Recall for Amazon advertisement banner

Animation Recall

Only 7 participants were able to recall the animation state of the ad correctly. Six out of the 7 participants who indicated the state of the ad correctly recalled the ad as animated (See Table 1). In other words, if an ad was animated, it was more likely to be correctly recalled as animated compared to static presentation.

Table 1. Number of Participants Correctly Reported Ad as Animated and Static

Actual state of banner ad	Indicated the correct state of the banner ad
Animated	6
Not Animated	1

Recognition

All participants correctly recognized at least one advertisement: 26% recalled one advertisement and 74% recalled two correctly. This number did not take into consideration whether the ad was correctly recognized as animated or static, but rather was done to see if participants remembered the company regardless of the state it was presented in (see Figure 5).

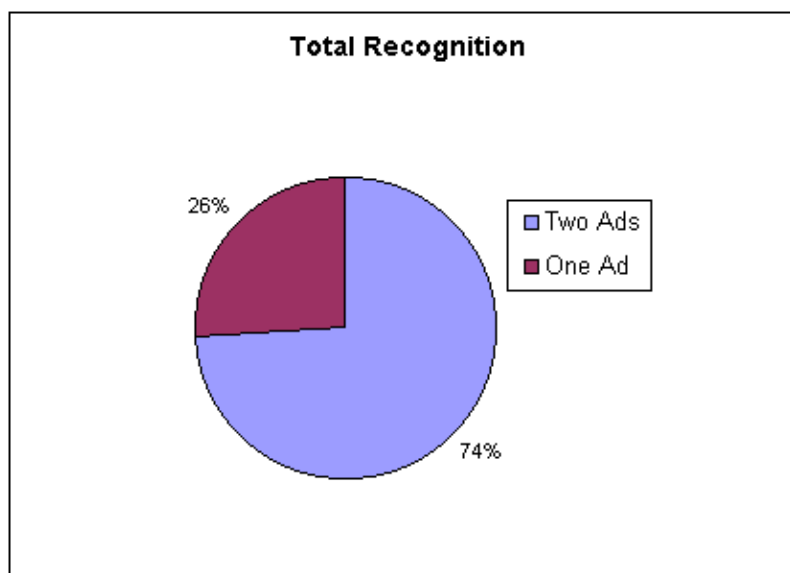


Figure 5. Number of Ads Correctly Recognized

Animation Recognition

The number of correctly recognized animated and static ads were also recorded to see if participants remembered the animation or not. Fifty-seven percent of participants correctly recognized the banner advertisement as animated (see Figure 6).

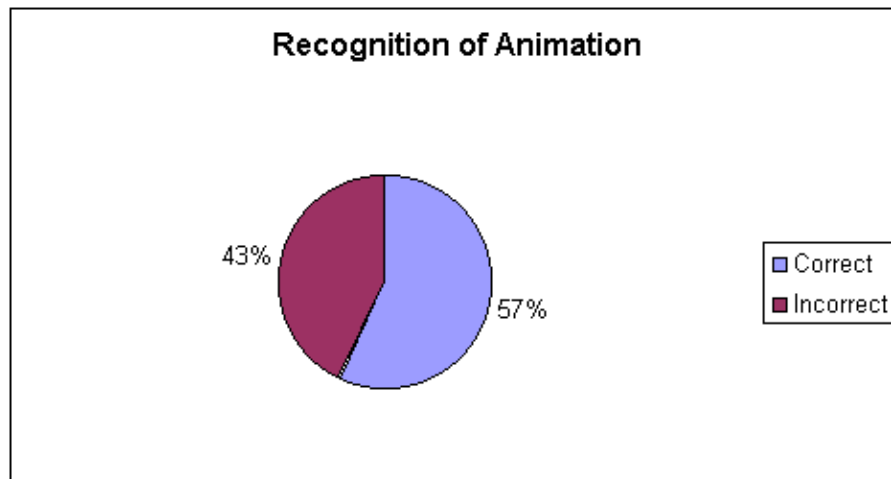


Figure 6. Percent of participants recognizing the animated state of the banners

The same percentage of participants correctly recognized the banner advertisement as static (57%; see Figure 7).

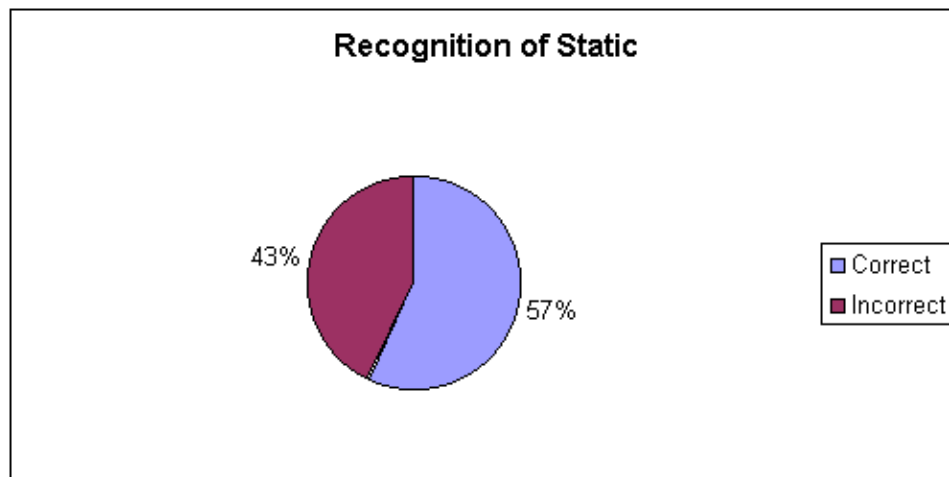


Figure 7. Percent of participants recognizing the static state of the banners

Very few participants were able to complete both the recognition and recall tasks correctly. Only 3 (9%) of participants were able to correctly recall both advertisements, recognize both companies, and correctly recall and recognize the state in which they were presented. On the other hand, participants who were unable to recall anything for either company banner or correctly indicate the animation state of the banner (40%) had a surprisingly high recognition rate of 79% for two correctly recognized ads. Results also show that of the 26% who recognized only one ad, the banner recognized was typically presented in the animated state. In other words, 7 out of 9 times the single banner correctly recognized was in the animated state. This indicates that animation may have some effect on recognition.

DISCUSSION

Results from this study indicate that recognition of the banner advertisements were fairly high (74% for

both banners). In addition, about half of the participants were able to recall at least seeing an advertisement on the page — and many of these actually recalled the name of the company. These results show that most users did notice and remember the banners even though they were not part of the search tasks they were performing.

The results from the manipulation of animation were not as telling as predicted. A little better than half the participants correctly recognized the banner advertisement as animated. A post-hoc analysis was also done to see if animation affected the order of recognition. That is, when the users did in-fact recognize the banners, did they recognize the animated banners faster than the static banners? Here we found that 59% of the participants indicated that they first recognized the animated banners after their information search. Thus animation may tend to enhance recognition of banners. Further manipulations of style and type of animation may show stronger support for recognition of advertising banners.

It is necessary to consider several confounds in this study, such as familiarity of the advertisement banners used and the graphical design of the banners. Of those who reported they were familiar with EbayTM, 70% recalled either the ad or the ad and company while only 37% of those who were unfamiliar with EbayTM recalled anything about the ad. With the AmazonTM ad, however, 28% of those familiar with Amazon recalled something about the ad and 29% of those unfamiliar with Amazon recalled something about the ad.

The higher rate of recall for EbayTM may have been affected by the graphical design of the advertisement (Figure 8). The EbayTM banner used a large amount of white space and used color only on the company logo.

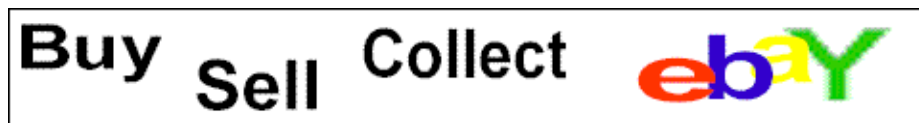


Figure 8. The EbayTM banner.

The AmazonTM advertisement (Figure 9) was more colorful and did not contain the extreme color contrast as EbayTM.



Figure 9. The Amazon banner.

As the number of internet advertisements continues to flourish throughout the world, it is imperative that we understand how online users view and interact with banners. This study demonstrated that most users are not totally "blind" to banner advertisements. Further research needs to be done to explore the effectiveness of animation, color, and graphical design, on banner recognition and recall so we can better understand what constitutes the optimal online advertisement.

Note: A paper based on this work will be presented at the Human Factors and Ergonomics Society's 45th (2001) Annual Meeting in Minneapolis/St. Paul, MN.

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