

Banner Blindness:
An Effect of Information Overload on the World Wide Web

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Banner blindness and information overload are studied in the field of human-computer interaction because they bring up a contradiction with the long-believed theory that in order to make something visually salient it should be different, sometimes significantly, from its surroundings. Banner Blindness research is beginning to prove that users overlook, or worse, ignore the most obvious links. This affects designers because they are taught to design for the most important item to be noticed first. On the web, as we will see, designing by these guidelines will cause a company to lose potential customers, and revenue.

Information overload, also known as sensory overload, is a relatively new topic that psychologists are studying and discussing. Psychologists believe that we are now victims of an overload of information from television, radio, telephone, fax, e-mail, etc. Humans are not capable of taking in and comprehending all this information. Sara Kiesler, PhD, professor of social and decision sciences at Carnegie Mellon University, says, "People seek information from the web, e-mail, radio and TV because they believe it gives them a competitive edge." Many people believe that having instant access to so much information through the Internet, puts the world at our fingertips. Having access to all this information is significant. On one hand, we can find out about anything from the Chinese alphabet, to the eating habits of our favorite celebrity. On the other hand, it is difficult to tell quality content from the irrelevant content. How do people react to so much information?

According to some psychologists and researchers the "data smog" that bombards us every day may be making us ill by interfering with our sleep, sabotaging our concentration, and undermining our immune system. David Lewis, PhD, a British

psychologist, calls the malady “information fatigue syndrome.” (Murray, 1998) People are not built to multi-task like computers are. When inundated with data, people make more mistakes, misunderstand others and snap at co-workers and customers.

How does this apply to the World Wide Web directly? The Internet has fueled a worldwide obsession with information. The media is pitching the Internet around every corner, on every radio and television station. People are learning quickly however, that more information doesn’t necessarily mean better information. Users on the Web are usually there for a purpose. They have certain information they are looking for, or a task they want to complete. Many Web searches still come back fruitless, to frustrated users. Web users usually scan for familiar items, such as menus, navigation bars, or link lists and skip over content that doesn’t seem relevant to the task at hand. Users do not read every word on the web pages they view. Jakob Nielsen (1997) has tested the idea that users skip over any items they see as “fluff”. Because information technology is so new, people are just beginning to learn when and how to tune it out, which is key to averting information overload. (Murray, 1998)

For Web designers, this is a significant piece of information. This contradicts a long-held belief that in order to make something salient, it should “stand-out”, and be different than the surrounding items. One of the first things art students and designers are taught in school is to create a focal point, or a point of interest in designs. Designers are used to using special features or ideas to draw emphasis to particular items, to make these items noticeable. This long-believed design idea has been brought over to the design of Web pages, and it might not have been a good idea

If you have a particular feature on your site that attracts most of your users attention, for example, a retail chain with a “Find a Location Near You” link that has been proven to be very popular among site users. Most designers would agree that this “Find a Location” link should be most obvious, if that’s what the users want. It does make sense, that this link should be the most “obvious” on the Web page. Research may indicate the reverse to be true on the Internet.

The term “banner blindness” although influenced by the banner phenomenon, actually does not apply strictly to advertising banners. The term “banner” is broadly defined to mean anything that is intended to stand out from other items on the page and attract attention. (Benway, 1998) Jan Benway and David Lane coined the phrase “banner blindness” and have studied the theory extensively. This theory states that the most obvious, salient items on a Web page are ignored.

Several experiments were conducted in Benway and Lane’s research. In one such experiment users were asked to complete a task, and on some pages they were shown red banners with black text that was relevant to the task they were performing. These banners were only noticed 58% of the time, compared to 94% when only control items were shown. (Benway, 1998)

These figures may indicate the test banners looked too much like advertisements, and users have learned to ignore advertising banners. However, this is great research to support the belief that advertising does not work on the Web. Advertising banner click-through rates have declined significantly, and are consistently below 1% (Nielsen, 1997) Indicating 99% of users are ignoring advertising banners completely. Whether banner ads help brand a company on the Web is hard to determine. Research is being conducted

on this topic as well. “Banner blindness” research supports the idea that people do ignore ads, and they obviously don’t click on them.

Benway and Lane wanted to test non-ad banners as well. They have done experiments to test the concept of web pages that do not include any type of advertising. Thirty-nine female and 33 male undergraduates participated in the experiment for partial course credit. In some of the “non-ad” banner trials, the banner directed the user to the correct category for the current search goal. In these trials, the perceptual grouping was manipulated using the gestalt principle of “common region.”(Palmer, 1992) Common region here means similar items grouped together with a common region, font color and/or font size. Perceptual grouping increases the association between the “banners” and the links. Generally, there are two grouping methods. “Menu grouping” by menu item indicates that items are grouped to promote the “menu” ideology. Items grouped in a consistent format, with similar features constitute “menu grouping”. “Title grouping” indicate items are grouped in a hierarchical format, title, sub-title, etc. (Palmer, 1992)

The mean time for the users to select the correct category when the banners were used, with the high-association by “grouping” was 5.51 seconds. The control group’s mean time was 6.02 seconds. This difference is not significant. (Benway, 1998)

It would be believed from these results that the “helpful” banners did not speed up the process of finding the correct category in the user’s search. There really seemed to be no advantage to having these banners. However, some participants reported in a questionnaire given after the experiment concluded that they did see the banners. The mean time between those who said they did see the banners (6.4 seconds) and those who said they did not see the banners (6.7 seconds) was not significant either. (Benway and

Lane, 1998) This supports further the idea that “banner blindness” exists, and can be a very important discovery in the web design world.

Questionnaire results indicated only 12 participants reported seeing the non-ad banners. Questions regarding the banners were included on the questionnaire. Banners were categorized into three categories: 1) Small text 2) Large text 3) Graphical banners. These banners were also grouped by menu item or title item. The number of participants who reported seeing any of the non-ad banners:

	Menu Grouped	Title Grouped
Small Text	2 out of 12	4 out of 12
Large Text	4 out of 12	4 out of 12
Graphical	3 out of 12	0 out of 12

The main purpose of these experiments was originally to investigate whether changes in how banners were presented could mitigate banner blindness. (Benway, 1998) The different variables did not lead to any significant differences. These experiments were conducted in order to study the extent to which “banner blindness” is relevant to the design and general navigation of web sites.

Don Norman (1999) commented on Benway and Lane’s research, stating once again the importance of observations over logic when it comes to predicting human behavior. “The “Banner Blindness” findings are very important. They reaffirm the rule of consistency, coherence, and following of established conventions. People use cognitive schemas to guide their attentional focus.” Cognitive schemas, also known as mental models, are used when people find themselves in unfamiliar territory. They ask themselves, what would I expect to see or what should I look for? Depending on the

users task, or attentional focus, at hand, they will look for items matching the cognitive schemas they hold. Research indicates that 70% of Web users log on for a purpose, or they have a specific focus for being on the Web at any given time. (Norman, 1999)

We have seen that information overload causes “banner blindness” on the Web. What can users do to ease the pain? Psychologists Weil and Rosen offer some tips to keep information at a level we can deal with (Murray, 1998):

- Sift and trash – Focus on only information that you really need
- Set limits – Ration time spent “taking in” information
- Respond on your own time – Respond when you are able
- Relax when technology makes you wait – Use time to take a mental rest
- Use technologies that work for you – Use items you are comfortable with
- Schedule time away from information – Set aside time

I believe the phenomenon of “banner blindness” is not only an advertising effect. Banner blindness is an effect of information overload on users, mainly due to the World Wide Web. Users are currently learning how to avoid the fluff, and head straight for the items they recognize and are familiar with using. Users are faced with a bombardment of information on a daily basis. The Internet holds more information than anyone could ever need or want in a lifetime. Users are becoming more responsible for their own searches, determining what is relevant and what is not.

How do users determine what is relevant? Several factors can help in this determination. What is the user’s current task? What is the user searching for? How does the user usually search? What items are users used to using? All these topics are relevant. It is hard to determine exactly what type of “fluff” people will ignore,

judgement is subjective based on personal experience. What we have to do as HCI professionals is make our Web sites consistent with current trends and standards. Consistency can actually reduce the “banner blindness” effect when “banners” aren't present on Web pages. Simplicity is the key!

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