

# The Rise of Intrusive Online Advertising and the Response of User Experience Research at Yahoo!

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## ABSTRACT

Over the past five years, online advertising has shifted dramatically toward much greater levels of intrusiveness in an effort to increase advertising effectiveness. Advances in user experience through good design or improvements in usability in many products have been tarnished by forms of online advertising that have become increasingly annoying to users. Since advertising is often the primary source of revenue for many products, user experience design and research teams have had to accept online advertising as a “design constraint,” with little influence on the advertising format selected. Here, we describe the emergence of a new user experience research role and our ongoing effort at Yahoo! to understand the nature and negative impacts of online advertising on user experience, with the goal of feeding this knowledge into the decision making process for ad formats, ad characteristics, and where ads are best placed within the Yahoo! network.

## Categories & Subject Descriptors

H.1.2 [Information Systems]: User/Machine Systems – *Human factors*; H.5.2 [Information Interfaces and Presentation]: User Interfaces – *Evaluation/methodology, Graphical user interfaces, User-centered design*

## General Terms

Design, Human Factors

## Keywords

Online advertising, user experience research, advertising research, brand research, Yahoo!

## THE RISE OF INTRUSIVE ONLINE ADVERTISING

During the Internet boom in the late 1990s, companies such as Yahoo! generated revenue relatively easily by providing fairly non-intrusive online advertising (e.g., banner ads), typically to dot-com startups seeking to rapidly generate new traffic to their sites. Ad formats, such as the “north banner” (at the top of the page) were well-known and accepted. From 2000 through 2002, a significant number of

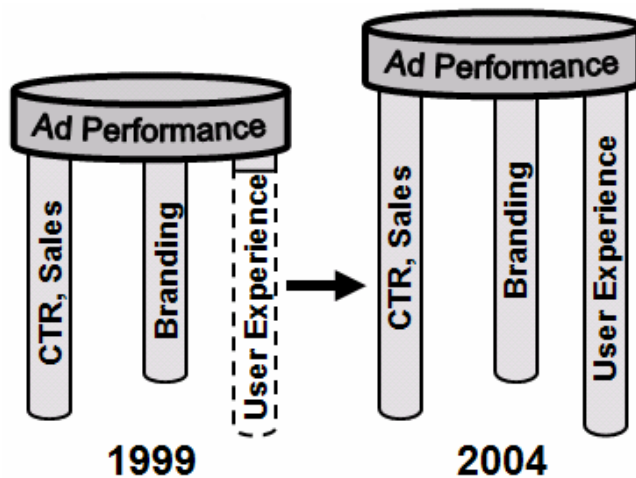
the companies advertising online went out of business, leaving Yahoo! with a severe lack of returning customers. During the same period, the advertising industry (both offline and online) went into deep decline, as advertising budgets were slashed as the economy declined. Yahoo! was forced to work more and more with advertising agencies who represented traditional, often brick-and-mortar companies. These agencies began to set higher standards, as the companies they represented had relatively little experience with online advertising and were not used to spending their precious advertising dollars on formats they didn’t understand or value. Ultimately, it became very difficult to sell banner ads.

There was increased pressure to create new, more effective online advertising formats from many sources: advertising agencies seeking to maximize their clients’ investments; traditional companies who understood TV advertising and could better relate to rich-media/streaming ads; and investors who were calling for a turnaround of revenue generation. Here, “effectiveness” was being defined primarily by performance of a given ad, as measured by Click-Through Rate (CTR) or possibly conversions (sales). Other measures of effectiveness, such as “branding,” primarily focused on recall and recognition of the company and/or product and didn’t typically assess harmful effects on online advertising on brand equity. In virtually all cases, research was quantitative and provided very little, if any deeper understanding of the user experience.

The result was an explosion of creative ways to engage users in online advertising. Well-known pop-up ads became more prevalent and its cousin, the “pop-under” (which appears beneath the parent window rather than on top of it) was born. New ad formats appeared, such as the “large rectangle” (usually in the middle of a content page such as a news article), the “skyscraper” (tall ads usually on the right side of the page next to the scroll bar), floating ads (which temporarily hover over web page content), interstitial ads (which appear between two pages that are normally directly connected), and an increase in the use of animation, sound, and video in existing ad spaces. This creative development continues to this day, often resulting in a decline of the user experience, at least with respect to the intrusiveness of online ads.

## RESEARCH PROCESSES AND GOALS

Recognizing the need for insight into the user experience of online advertising, in 2002 the Vice-President of User Experience and Design at Yahoo! directed the head of the User Experience Research group to dedicate resources to research this issue. A primary goal of this effort was to expand the methods by which Yahoo! evaluates online advertising from only performance and branding to include a completely new dimension, namely user experience. This new approach can be described as a triad or three-legged stool:



**Figure 1. Ad Performance as a Three-legged Stool**

Figure 1 illustrates that between 1999 and 2004 a third leg, user experience, was added to Yahoo!'s evaluation of ad performance and that ad performance was raised as all legs of the stool grew and matured.

## METHODS

The change in business climate surrounding online advertisement also contributed to Yahoo!'s openness to new approaches and research. While teams within Yahoo! maintain a primary focus on one leg, teams work to share insights with others, especially when insights allow other teams to do their jobs more effectively. For example, sales teams have used information about how intrusive ads affect users' opinions of advertisers to encourage advertisers to select less intrusive ad formats that are associated with more positive affects on users' attitudes toward the advertiser.

When research efforts began in 2002, the prevalent attitude was that any ad that worked for advertising clients, worked for Yahoo!. This attitude was reflected in the collection of data regarding the two legs of the stool that were then most important to advertisers: performance statistics collected by data mining teams (ad views, CTR, and sales) and brand "lift" statistics collected by marketing teams. Data regarding user experience were provided only through traditional usability studies designed to test other aspects of design and through personal experience.

Progress in assessing user experience of online ads is perhaps best illustrated by the ad feedback data collection and analysis system that continues to be deployed across the Yahoo! network (patent pending). In the footer of many Yahoo! pages, there is an "Ad Feedback" text link. When users click on this link, they are taken to a survey that asks questions about their experience with a specific ad that appears on Yahoo!.

Collected along with survey data entered by users are the unique ad id's of ads that appeared on the page on which the feedback link appeared. The inclusion of the ad id's allows survey data to be matched with Yahoo! data mining data, such as ad type, ad characteristics, ad views, and CTR's. By combining data related to user experience with data such as branding and CTR in a single data system, we can statistically determine how the factors are related to each other, and, in future derivations, predict how users will respond to specific types of ads in specific places on the Yahoo! network.

## SELECTED FINDINGS

Our multi-pronged, collaborative approach has already begun to yield valuable insights into user experience of online advertising and into the relationships among the three legs of the stool. Selected findings include:

- Deceptive ads negatively affect user experience
- Not everyone hates online ads; even the most intrusive ads are enjoyed by a minority users
- More intrusive ads tend to be judged as both more annoying and more enjoyable than less intrusive ads
- Ad relevance appears to enhance user experience and ad performance
- Ads that usurp user control negatively affect user experience

## BALANCING THE THREE-LEGGED STOOL

Now that the three legs of the stool are firmly in place, future work will ensure that the proper balance is achieved among user experience, objective performance, and brand measures. Some of these balancing efforts will involve the collection of additional data, but just as important will be the enhanced integration, analysis, and interpretation of data already collected. By providing objective data and analysis regarding a complex and at times contentious issue, research on the user experience of online ads may ultimately reveal that the most effective advertisement for Yahoo! and its advertising clients is a positive user experience.

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