Chapter XV
Online Advertising Metrics

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ABSTRACT

Accurate and consistent metrics are critical for determining online advertising effectiveness, and for the growth of online advertising spending. There are a variety of ways to measure online advertising effectiveness, and this chapter explains common online advertising metrics to measure effectiveness, such as page impressions, ad impressions, clicks, visits, unique visitors, path analysis, conversion rates, and recency measures. This chapter also presents online metrics challenges, as well as encourages researchers to employ other pricing and metrics models besides the CTR (click-through)/CPC (cost per click) and CPM (cost per thousands) models.

INTRODUCTION

The Internet, which has been fueled by the efforts of disparate disciplines, has become an essential medium for advertisers and businesses since some of the first online ads began to appear on Web sites in 1994 (Adams, 1995; Hyland, 1998; Reed, 1999; Zeff & Aronson, 1996). Accurate and consistent metrics are critical for determining online advertising effectiveness. Additionally, measurement accuracy and consistency are essential factors for the growth of online advertising spending (Internet Advertising Bureau, 2004).

Although there are no industry-wide metrics standards (Chen & Wells, 1999; Hoffman & Novak, 2000; Maddox, 2002; Menn, 2000), the Internet Advertising Bureau (IAB) has provided the industry with recommended guidelines in 1999, 2002, and 2004 for standardizing measurement. Additionally, the Joint Industry Committee for Web Standards (JICWEBS), an international independent body, provides recommended Web metrics standards for most countries. Adoption of measurement guidelines can result in more meaningful Web advertising metrics for advertisers. One of the goals is to get the online advertising industry to use the same terminology when selling, purchasing, or evaluating the performance of online advertising.

COMMON WEB METRICS

The choice of a Web metric depends on the measurement objective and the advertiser's budget, technology, and time limits (Bhat, Bevans, & Sengupta, 2002). Some common Web metrics include: (1) page impressions, (2) ad impressions, (3) clicks, (4) visits, (5) unique visitors, (6) path analysis, (7) conversion rate, (8) frequency, and (9) recency.

Page impressions. Flat-fee exposure pricing was the earliest online advertising pricing model (Hoffman & Novak, 2000c). Flat-fee pricing can be implemented with or without online traffic (users who visit a Web site). For example, host sites charge advertisers a flat fee per month for posting ads on their sites. Advertisers are provided with basic overall site traffic and not the details of traffic (e.g., traffic during a certain time of day). Providing accurate traffic measurement is critical because advertisers use this information to evaluate the effectiveness of their ad's exposure on the site. Flat fees can be converted into a cost per thousands (CPM) pricing model (Hoffman & Novak, 2000). The CPM pricing model is impressions based. Page impressions are a measurement of the number of responses from a Web server to page requests from users' browsers (Bhat et al., 2002; Internet Advertising Bureau, 2004). They are an estimate of how many pages are served in a time period, and are a good indicator of a Web page's exposure (Bhat et al., 2002). CPMs are impression/exposure-based models that consist of a fixed price for a given period of time (Hoffman & Novak, 2000c). CPM measurements must be filtered to remove robot (i.e., bot or software agent) activity and error codes (Internet Advertising Bureau, 2004). Reliable filtration procedures are essential to accurate page-impression measurements.

Ad impressions. Ad impressions measure the response of a delivery system to an ad request from a user's browser (Bhat et al., 2002; Internet Advertising Bureau, 2004). This metric measures the overall exposure of an online ad. Although this measurement is not an indicator of user involvement, this metric provides advertisers with measurement of an ad's success in terms of brand recognition or brand visibility. The CPM pricing model is applied to ad impressions. The CPM model counts the number of visitors exposed to an online ad (e.g., banner ad) on a particular site, and site traffic is made available to the advertiser (Hoffman & Novak, 2000). The advertiser is charged a flat fee or CPM for exposure. Ad impressions do not track user involvement with an ad. When measuring users' exposures (i.e., ad impressions metric) to an ad, there is no guarantee that ads are actually viewed by users (Bhat et al., 2002). Reliable filtration of bot activity and autorefreshed pages are essential to accurate ad impression measurements (Bhat et al., 2002; Internet Advertising Bureau, 2004).

Clicks. The Internet Advertising Bureau (2004) states there are three kinds of clicks: click-through, in-unit click, and mouse-over (e.g., mouse rollover, or user rolls mouse over ad). These three actions are referred to as clicks. A click-through is when a user initiates action by clicking on an ad and the click-through whisks the user to another online location, such as another browser window or Web site. Click-throughs are tracked and reported by an ad server, and it is imperative that bot activity is excluded to ensure accurate and reliable metrics. The cost-per-click (CPC) model or click-through rate (CTR) remains one of the most important media pricing metrics for the Internet (Chatterjee, Hoffman, & Novak, 2003). Click-throughs are based on the number of clicks divided by the number of ads requested or clicked on by users during a time period (Bhat et al., 2002). Click-throughs are behavioral, and are an accountable measure for online advertising (Chatterjee et al., 2003; Kania, 1999; "Online Advertising," 2000; Young, 2000). The advantages of click-through metrics are that they are easy to observe, and they indicate a behavioral response (Chatterjee et al., 2003; McLuhan, 2000). Additionally, click-

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