

Chapter 2

Pricing Models in Web Advertising

Abstract The method to determine the price of web advertising is one of the most striking innovations. In the early phases, most of the web advertisements were sold through traditional exposure-based pricing models, such as the flat fee model or the cost per impression model. However, over time, some other models also emerged in practice where the pricing is based on a visitor taking some specifically defined action in response to an advertisement. In fact, such models are now becoming more popular than the traditional models. This chapter presents different pricing models used in web advertising and analyze them.

2.1 Traditional Exposure-Based Pricing Models

In the early days of web advertising (around late 1994 and early 1995), few websites or advertisers understood the real value of the web as an advertising medium, let alone what price to assign to web advertising. The advertising managers certainly understood the value of a 30 s television spot or a classified ad in the back of the book, due to factors including industry norms, program ratings, years of marketing research, and managerial experience. But, except for a handful of pioneering online programs like CDNOW's BuyWeb, which produced measurable results, there was simply no way to understand the value of web advertising [9]. This presented a dilemma for those managers who wished to advertise online.

Given little knowledge about the effectiveness of web advertising, the flat fee pricing model were the earliest web advertising pricing model [10]. Flat fee pricing charges the advertiser for their ads on a website in a certain period (e.g., per month). Flat fee can be without or with traffic guarantees [2]. Naturally, it would be advantageous for the advertiser to request guarantees of traffic level. At a minimum, accurate information on site traffic must be made available to the advertiser, so that the advertiser may evaluate alternative web media vehicles. Hence, the advertisers started requesting for the traffic information. Assuming accurate traffic information,

flat fee prices may be readily converted into a CPM (cost-per-thousand-exposures) model. In the CPM model, an advertiser pays an amount based on the number of impressions (exposures) of an ad [12]. The number of impressions during a visit is the number of times that the ad is displayed to the user during the visit [16]. As with conventional broadcast and print advertising, this approach measures only the amount of advertising delivered, broken down, at best, by demographic or psychographic segments.

In the early phases of web advertising, CPMs were inflated and flat fee deals were even worse. There were no guarantees and there was no rationality to the market. Many of the early online selling efforts were conducted by magazine salespeople with little experience regarding how new media actually worked. Thinking of banner ads in the same way as they thought of a 30 s television spot or a print ad in a magazine, they sought to base their prices on the number of people who would see an ad—what in the trade was called “exposure-based cost-per-thousand pricing” [9]. Hence, they quite literally invented CPM rates in the low \$70s or charged flat fees from \$5000 to \$10,000 per month to advertise on some of the earliest commercial websites. It did not take long for the advertisers to determine that those current CPMs were inflated and an obvious bad buy. At the flat rate of \$10,000, the ad would never even generate enough revenues to cover its costs. Consider the following. Suppose the price of a single banner ad exposure (i.e., one page view) was seven cents, because the web provider demanded a \$70 CPM. If 1 % of the visitors that saw the banner actually clicked, a single click would cost \$7. But, since only a small percentage of those visitors were converted into paying customers, the customer acquisition costs were actually sky high. Assuming a 1 % conversion rate, the cost to acquire that new customer was \$700 [9]. As advertisers started realizing such problems with the high costs of CPM pricing model, the web advertising industry increasingly moved towards performance-based pricing models. However, until 2005, the CPM pricing model was the most prominent model in web advertising. Even in 2013, approximately 33 % of the total web advertising revenues were priced on the basis of CPM [11].

2.2 Performance-Based Pricing Models

The performance-based pricing has been the most prevalent pricing model since 2006. In 2013, approximately 65 % of the web advertising revenues were priced on a performance basis [11]. The earliest performance-based pricing model in web advertising is the *cost-per-click* pricing model.

2.2.1 Cost-Per-Click Pricing Model

Paying by the number of viewers (i.e., the CPM model) remained the norm until Procter & Gamble negotiated a deal with Yahoo! in 1996 that compensated the web portal for ads based on the “cost-per-click,” commonly known as “CPC” [4]. Yahoo! was paid only when a user clicked on the ad; this was the web-version of paying for direct response commonly used by advertisers for things such as mail and telephone solicitations. By 2002, the CPC model had been adopted by both Google and Yahoo!, and it became the most widely used pricing model in paid search advertising [3].

A relatively small proportion of those exposed to a banner ad actually click on the banner. In 2006, DoubleClick reported that 4 % of web site visitors who were exposed to a banner ad clicked on the ad the first time they saw it [10]. The top 25 % performing ads in the DoubleClick Network had an average click-through rate (defined as the number of times that the ad is clicked upon divided by the number of times that it is exposed) of 8 %, with some click rates as high as 12–15 %. Click-through rates decline after the first exposure, falling to 2 % for the second and third exposures, and to 1 % or less at four exposures. Therefore, the payment based upon the number of clicks guarantees that the visitor is not only exposed to the banner ad, but also actively decides to click on the banner (to become exposed to the target communication). Therefore, the payment based on the number of clicks may be viewed as payment for target communication exposures. In other words, the CPC model was an attempt to develop a more accountable way of charging for web advertising [12].

In spite of its benefits, CPC model also had its controversies. Some website providers continued to feel that this pricing strategy was unfair, arguing that the click-through was at least partially a function of the level of creativity of the ad and the level of interest generated in the viewer by it, which were not under the control of website providers [16]. On the other hand, as discussed above, applying only traditional exposure-based models to the web does not take into account its unique, interactive nature. Additionally, the Internet is the first commercial medium in which it is actually possible to measure consumer response, not just to assume it. Although the CPC model might not represent the optimal approach to measuring the value of interactivity, it offered a departure point from which to proceed.

2.2.2 Cost-Per-Action Pricing Model

Although the payment based on CPC model guarantees that there was visitor exposure to target communications, it does not guarantee that the visitor liked the communication or even spent any substantial time viewing it. Hence, it is proposed that an additional measure of the value of an ad should be based upon the degree to which the visitor interacts with the target communication [10]. An interactivity metric might be based upon the duration of time spent viewing the communication,

the depth or number of pages of the target communication accessed, the number of repeat visits to the target communication, or some other elements. Such a practice was announced for the first time in 1996 when a member of the Internet mailing list posted to the list that Modem Media, the interactive advertising agency, had developed a pricing model in which its clients would pay, not for exposures or clicks, but only for activity at the client's website.

This development raised anew the controversy surrounding the best web media pricing models, with website providers arguing that the problem with performance-based measures, such as the number of clicks or some action, is that the website provider cannot be held responsible for the activity related to an ad. An analogy is drawn to print, with the web publisher arguing that the print medium charges for ads, regardless of whether they lead to sales. Not surprisingly, advertisers and their agencies continue to argue that, since the web medium allows for accountability, it is possible and desirable to develop models that measure consumer behavior [16]. Therefore, some leading practitioners are now moving toward measures as the "cost-per-action" (CPA) pricing model proposed by Snap.com, where an action refers to a realized purchase, download, registration, subscription, or lead [5]. A number of merchants are following this trend, including Google, ZiXXo (pay-per-print), Ingenio (pay-per-call), and others [3]. In 2006, Google attracted media attention when it started to test a CPA model [7, 8]. Google regards CPA as the "Holy Grail" of targeted advertising [6], and many online advertising companies have adopted it, including eBay, ValueClick, and Snap.com.

2.2.3 Outcome-Based Pricing Model

The advertisers are eventually interested in outcomes, and the ultimate outcome is purchase. As Stephen Klein, former I/PRO manager, stated: "One hundred thousand people going to a site is worth something, but a site that only five people visit can be worth more if they are the right five people" [14]. The metrics discussed above relates to early stages of the purchase process: Banner ads affect the consumer's awareness, and the action affects the consumer's comprehension and understanding. Beyond these initial stages are the marketing objectives of attitude change, purchase intention, and, ultimately, purchase. An outcome-based pricing model begins by specifying precisely the advertiser's goal for the target communication. Examples of typical outcomes include influencing attitudes, motivating the consumer to provide personal information, or leading the consumer to purchase. Whatever the marketing objective, the web provides a vehicle for integrated marketing campaigns, which allows the marketer to track and to measure the effectiveness of the ad. An example is per-inquiry (PI) ads where the royalty is paid only on actual product sales, and no other payment is required [10].

2.3 Hybrid Pricing Models

The CPM model and the performance-based model represent two extreme pricing strategies. Pure CPM pricing favors the website provider because there is no risk: The website provider is paid whether or not the ad is clicked upon. On the other hand, the performance-based pricing model favors the advertiser because the website provider carries all the risk: If the performance criterion of the advertiser is not met, no revenue accrues to the website provider [12]. Several recent studies analyze and compare different pricing models (e.g., see [1, 5, 13, 15]). These studies recommend a hybrid pricing model that shares the risk between the website provider and the advertiser. In [12], a hybrid pricing model is considered for optimal scheduling and placement of web ads. In 2013, approximately 2 % of the web advertising revenues were priced on a hybrid basis [11].

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