

Traditional Advertising Metrics on the Web: Forecasting GRPs, Reach and Effective Reach Online

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Introduction

This Digital Marketing Insight report from the Atlas Institute shows how advertisers can more easily incorporate online advertising into their overall advertising mix—by bringing industry-standard metrics from traditional ad media into the online world. This report includes:

- 1) An overview of commonly-used traditional metrics and how they are derived.
- 2) A detailed discussion of how to apply these metrics to online media.
- 3) The results of an online ad campaign in which the effectiveness of traditional metrics online was tested using Atlas' GRP and Reach Forecaster.

Consumers are Online

An estimated 64% of North Americans are online and reachable through online advertising.¹ Furthermore, “about 12% of media consumption is on the Internet. But online advertising currently accounts for only 3% or less of overall U.S. ad dollars.”² Why aren't advertisers taking greater advantage of the widespread consumer adoption of the Internet? One major reason has been that online media planning has lacked the *metrics* advertisers are accustomed to offline; they have had to turn to site traffic and sales data instead. So it has been difficult to make apples-to-apples comparisons across media and plan an appropriate media mix accordingly.

The Traditional Advertising Metrics

Some of the metrics that traditional advertising uses to quantify advertising exposure to specific audiences are as follows:

- **Reach** is defined as the percentage of people within a given universe who are exposed to a particular advertisement at least once within a given period of time. Offline, the universe is typically based on total U.S. households.
- **Gross Ratings Points** (GRP) are calculated by dividing the Gross Impressions of a media buy by the population of the audience reached. Targeted Rating Points (TRP) are GRPs for a specific target segment.
- **Effective Reach** is defined as the percentage of the universe reached at a particular frequency.

New Planning Tool Accurately Predicts Online Reach

In a campaign with a leading brand advertiser, Atlas' GRP and Reach Forecaster predicted online reach *within 4.3% of actual reach results.*

¹ Harris Interactive, 2001

² The Industry Standard, *The Great Flameout*, March 19, 2001

Data is the Key

The metrics to which traditional media planners are accustomed are indeed available online. Calculating them for a particular buy is actually quite simple; the difficulty thus far has been in finding the necessary online data to predict reach and frequency levels. Two kinds of data are essential:

- 1) **Site population estimates with demographic compositions**—from providers of website demographic data, such as Media Metrix, Nielsen/NetRatings, comScore and @Plan.
- 2) **Historical user-level frequency data on individual sites**—available only from companies like Atlas who have delivered and tracked many online campaigns on many sites. This data can be used to model the complex interplay between impressions and reach.

Once this data is in hand, planning tools can be created to simplify the use of traditional metrics online.

How GRPs and TRPs Work Online

The formula for calculating online GRPs is relatively simple. The calculation is the total impressions on a site divided by audience size. TRPs are calculated by multiplying the forecasted GRPs by the demographic composition of the site. The percentage of users reached can be based off of the Internet Universe or total U.S. Households.

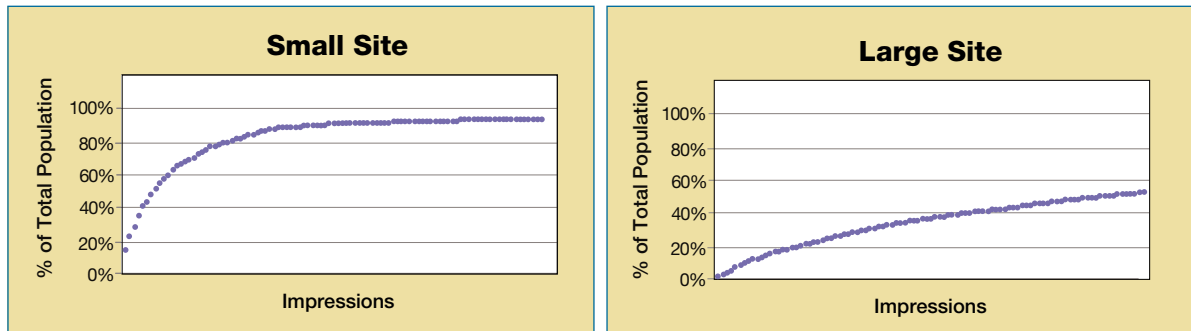
On the Internet, due to fragmentation of users and the variance of frequency across individuals, media planners need reach prediction data to supplement their GRP metrics.

How Reach Works Online

Advertisers have always been interested in the number of people who view their ads. On the Internet, every impression is logged and reach numbers are commonly reported. What has been lacking is a way to also *predict* accurate reach numbers online.

Predicting online reach is very different from predicting reach on television or radio. In these traditional media, reach is simply the total number of viewers of a particular campaign. Online, the calculation is much more complicated. For example, a campaign of one million impressions on a site with one million unique users may reach only a small percentage of the site's population. This is because these impressions compose a small fraction of the total monthly impressions on the site. Therefore, when predicting online reach, one must take into consideration the frequency distributions of the sites in question, the run rate (the number of impressions in a given time period) and other subtleties such as site overlap.

To illustrate the difficulty in predicting reach, in the charts below, we see that the same number of impressions run on a large site and a small site may yield dramatically different site penetration curves. These curves are built by using the frequency distribution of the site's users. Then, a statistical simulation is run, modeling the interaction between reach and impressions.



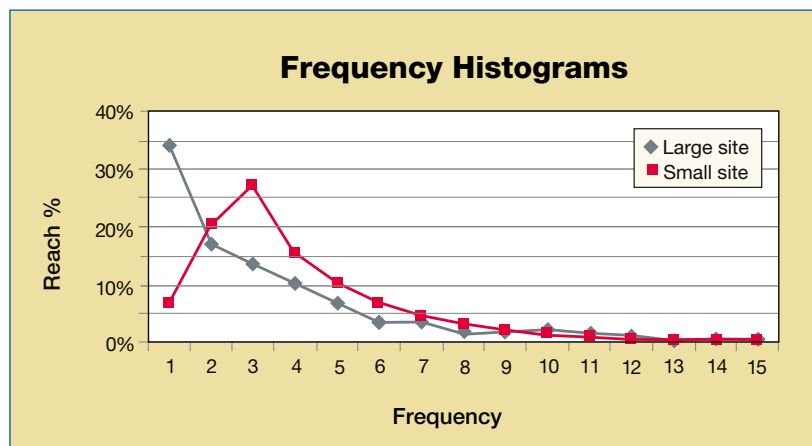
These charts represent the relationship between site penetration (on the vertical axis) and impression levels (on the horizontal axis) for two types of sites. Notice how small sites may become much more quickly saturated than large sites at the same impression level.

As you can see from the charts, a small site can quickly become saturated; whereas, a larger site can show steadily increasing reach. Additionally, the surfing behavior of the site can play a large role in reach/impression dynamics. On some sites, 5% of users may see 70% of the total impressions shown on the site. This phenomenon dramatically decreases reach.

Once the challenge of predicting reach has been overcome, one can use the demographic makeup of each site, as provided by the site population data, to determine reach to a particular target. Combining these two types of data yields great flexibility in predictive media planning. Not only can a site be chosen because it has a disproportionate number of females ages 18-24, but one can estimate the number of users reached and determine cost effectiveness beforehand.

How Effective Reach Works Online

Before we leap to the conclusion that small sites are undesirable because their potential reach is lower, one should consider the metric of *Effective Reach*. Effective reach is the percentage of users reached at a target frequency level or higher. This number can give a marketer a sense of how many users are having multiple interactions with their brand. On a small site, one commonly sees higher average frequencies. This, in turn, can lead to higher effective reach numbers. Let's examine the frequency histograms for a sample small site vs. a large site (this time with the same number of impressions and the same total reach):



This chart shows how many users were reached at various frequency levels for a buy on a large site and on a small site. These buys were chosen to have the same impressions and reach. Note the most common frequency on the large buy is 1, while the most common frequency on the small site is 3.

A marketer with an effective frequency goal of three would find it much more cost effective to advertise on the smaller site. In short, the ability to predict effective reach can have a dramatic influence on the types of sites chosen for a buy.

Proven Effectiveness for a Major Brand Advertiser

Atlas, because it has amassed the necessary frequency data over more than 50,000 campaigns for a variety of brands—and through the integration of website demographic data³—has created a capability new to the online medium, GRP and Reach Forecaster. This new tool allows media planners to incorporate traditional metrics in online plans. This capability will be incorporated into the Media Console of The Atlas Digital Marketing Suite.

In order to better understand a proposed media plan for a major brand advertiser, the tool calculated a number of different fields:

- Potential reach to a targeted demographic (18-24 year olds)
- Unduplicated reach across the entire buy
- Male/female split for the buy

At right is a comparison between the predictions of the GRP and Reach Forecaster and the actual reach numbers at the halfway mark of the campaign.

As you can see, the variance across sites never exceeded 17% and the overall campaign prediction was very accurate (within 4.3% of actual results).

Publisher	Predicted Reach*	Actual Reach*	Difference
Site A	1.1%	1.1%	1.6%
Site B	0.8%	0.7%	16.6%
Site C	1.1%	1.0%	15.2%
Site D	1.4%	1.5%	-8.6%
Site E	1.4%	1.3%	2.8%
TOTALS	5.8%	5.6%	4.3%

*18-24 year olds

What This Means for Advertisers

For the first time, advertisers and their agencies have access to a simple yet powerful way to place online media planning on par with offline planning. By allowing frequency modeling to inform the choice of sites included on a buy, marketers can dramatically improve performance on metrics that traditional advertisers care most about: GRPs, reach, and effective reach.

About the Atlas Institute

The Atlas Institute is the research and education arm of Atlas, a provider of accountable marketing tools and expertise for agencies, marketers, and publishers. The Institute publishes Digital Marketing Insights, a series of publications by Atlas senior marketing analysts and digital marketing experts that help our customers improve their digital marketing effectiveness. Many of these findings are also made available to the digital marketing industry at large. Each Digital Marketing Insight report is designed to help marketers more successfully build value with their customers, throughout the customer lifecycle: from awareness to acquisition and from retention to growth. The Atlas Institute also provides education in digital marketing to Atlas customers and partners. To view a full listing of the Atlas Institute's Digital Marketing Insights, please visit www.AtlasSolutions.com/insights.

³The GRP and Reach Forecaster is designed to be used with website demographic data from any leading provider.