

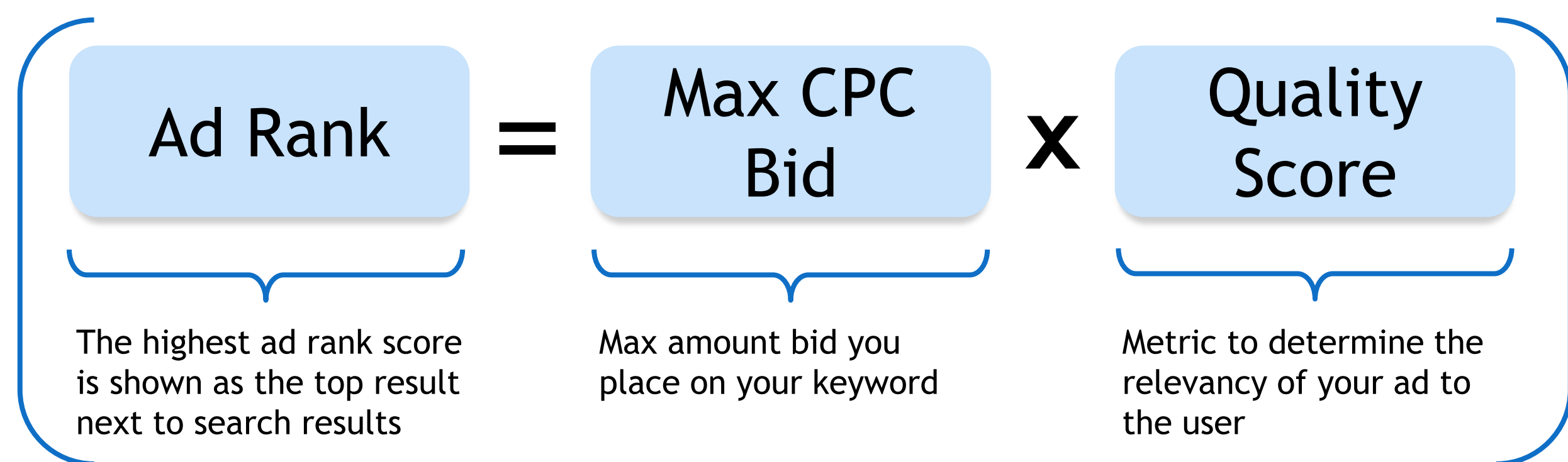
Google advertising: an overview

Irene Juang '14

Google's Ad Auction: How it Works

The first thing the Google Ad Auction looks at to determine your ad ranking (position) is:

- 1) your maximum bid and
- 2) your quality score for that keyword



Quality scores are still a mystery as to exactly how they're calculated, but it takes into account the relevancy between keywords, ads and URLs, the CTR, historical performance, and more.

The price you pay is then determined by the equation below:

$$\text{Actual CPC Price} = \frac{\text{Ad Rank of advertiser below you}}{\text{Your Quality Score}} + \$0.01$$

Example calculations the auction makes::

| | Max Bid | Q.S. | Ad Rank | Position | Actual CPC |
|--------------|---------|------|---------|----------|------------|
| Advertiser 1 | \$2.00 | 10 | 20 | 1 | \$1.61 |
| Advertiser 2 | \$4.00 | 4 | 16 | 2 | \$3.01 |
| Advertiser 3 | \$6.00 | 2 | 12 | 3 | \$4.01 |

* Note: A higher quality score allows top advertisers to pay less than those below them

Because of this algorithm, the auction produces results that satisfy all parties:

- Users find what they're looking for
- Advertisers are connected with users at low prices
- Google can monetize their product

Fun Facts

- Ads generate over 90% of Google's revenue
- 18 year-old drop-out, Scott Banister came up with the idea of pay-for-placement search listings
- Spring 2011, Google had over 1.2 million businesses advertising in search
- Adwords was originally called Adwords Select
- Ads in the top positions can get 10 times as many clicks as side-position ads
- The average CTR of a search ad in position 1 is 7.94%
- Amazon spent \$54+ million on Adwords in 2011
- Most expensive keyword is "insurance" at \$54.91 a click

Introduction

Google has 1.17 billion unique searchers each month, and they hold 67% of the U.S. search market. When people open up an internet browser, 80% begin their session at a search engine, and search engines have now created a billion dollar industry referred as search engine marketing (SEM). However, search engines initially found it difficult to monetize their product. They tried selling keywords and even search result rankings via negotiation. It wasn't until Google came up with the winning ad auction algorithm did they start making revenue. This idea came from a start-up called Overture (later acquired by Yahoo), which ranked ads based on their bids. Google took it a step further by ranking their ads by expected revenue (based on bids and expected clicks) to display to users the most relevant ads. Now Google's auction is deemed "the World's Biggest Auction."

1 Top ad positions 1-3

2 Google Shopping Ads

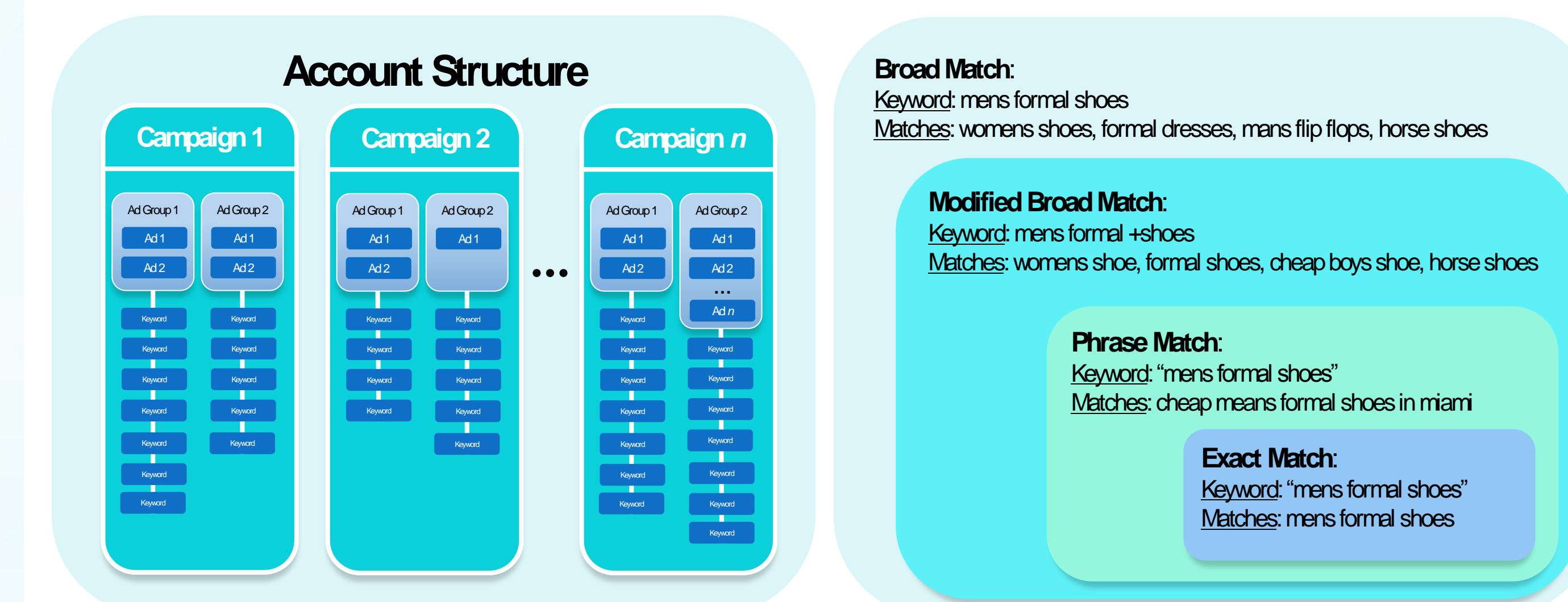
3 Side ad positions 4-10

4 Organic Search Results

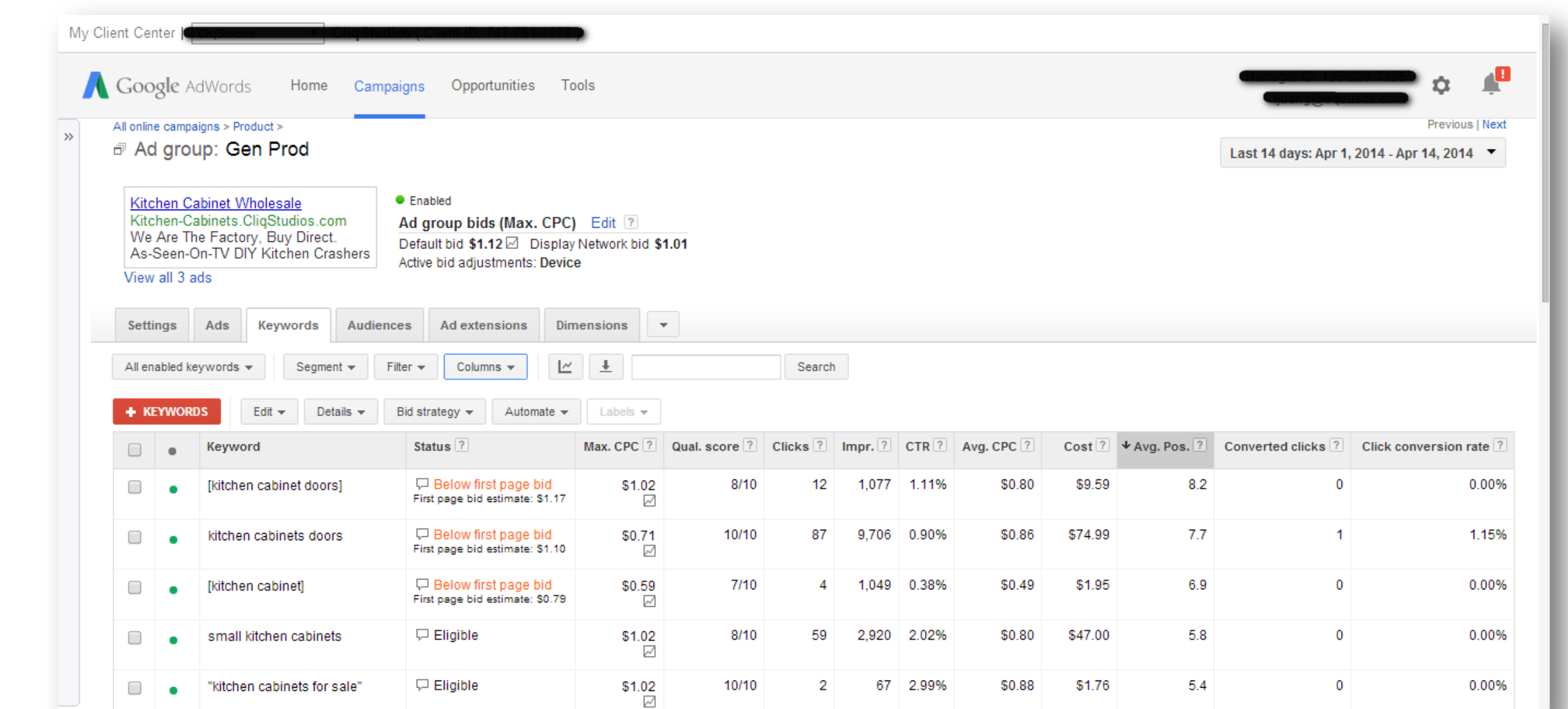
For Potential Advertisers

Compared to traditional media, TV, or magazine publishers, advertising on Google has become one of the lowest cost places to advertise for your product or service. Not only is it low cost, there is much more control over your marketing campaigns. Any changes made is instant (edited ads, bid changes, budget constraints, etc.), and the data collected and analytics are far superior to any billboard you may put up. This is why Google has become a great place for businesses of all sizes to advertise.

The tool for advertisers to use is called Google Adwords, and it is free for anyone to create an account. You simply pay for the ads that get clicked on. It is fairly easy to use if you know your product or service well. It begins by creating a list of keywords (of different match types) and ads you want searchers of that keyword to see. See below for the account structure and match types examples.



A peek at the interface:



Terminology

- PPC (Pay-per-click)** – Internet advertising model where advertisers pay for the number of times their ad is clicked
- CPC (Cost-per-click)** – Determined by the advertiser, this is the cost per click on your ad
- Click** – Whenever someone clicks on your ad
- Impressions** – The number of times your ad is shown
- Campaign** – A set of ad groups that share a budget, location target, preferences, etc.
- Ad group** – A set of keywords, ads, and bids you manage together
- Ad** – Your ad in your Ad group that is limited to 200 characters
- Keyword** – A word or phrase describing your product or service to determine where your ad appears
- Search query** – A user's request to the search engine
- Bid** – Determine the highest amount you're willing to pay for a click on your ad
- Ad Rank** – A value that determines your ad position calculated by your max bid and quality score

Sources

- Hansen, "The Economics of Search Engines – Search, Ad Auctions & Game Theory."
- Metaxas, "The Economics of Web Search."
- Robinson, "Computer Scientists Optimize Innovative Ad Auction."
- Varian, "The Economics of Internet Search."
- <http://expandedramblings.com/index.php/by-the-numbers-a-gigantic-list-of-google-stats-and-facts/#.U00w5VdVqU>
- <http://www.webranking.com/blog/pay-per-click-keyword-match-types-exact-phrase-broad-and-modified>
- <http://www.wordstream.com/articles/what-is-google-adwords>
- <http://www.wordstream.com/blog/ws/2012/08/13/google-adwords-facts>