Economic and Business Dimensions

Search Engine Advertising

Examining a profitable side of the long tail of advertising that is not possible under the traditional broadcast advertising model.

The long tail is no secret to Internet users or vendors. Both Amazon and Cafepress, for example, have shown that it is possible to profit from providing many niche or unusual products that would take up expensive shelf space offline. Less appreciated is how the long tail alters advertising strategies. In a recent research paper, we explored how, and how much, search engines can profit from providing advertising for niche or unusual popular products. The best way to determine this turns out to be an analysis of Internet advertising purchased by lawyers.

Industry Background

Search platforms enjoy a huge advantage over other online advertising platforms, because they can use a customer’s own search terms to match customers’ interests with advertisers. Ads are displayed only when a Web user enters a search term, and the advertiser only pays when the user clicks on the ad and is redirected to the advertiser’s Web site. Offline companies find this kind of tailoring much more difficult, so Google can charge higher prices for these ads than for conventional non-tailored ads.

For example, lawyers specializing in computer crime lawsuits can use search engine advertising to ensure their ads are displayed only to people searching for “computer crime lawyer.” Their alternatives would be either: ordinary broadcast-style media like newspapers, magazines, television, and banner ads; or contacting people directly via telephone, postal mail, email, or in person.

Using broadcast media would waste eyeballs: Many of the people who saw the ad would have no interest in find-
There has been no real competitive response to the new phenomenon of search engine advertising from the broadcast media.

In contrast, the same string of words costs about $32 in Montgomery, AL. “Employment attorney” costs about $17 in Boise, but just $5 in Montgomery. We combine this data with information about the popularity of the search terms and about restrictions on lawyer behavior across locations.

We find that search engine advertising generates value through both of the drivers of match difficulty: the number of potential buyers and the difficulty of targeting niche customers. In particular, we show that, controlling for location and search term, firms bid more for keywords when there are fewer customers and therefore a greater need for targeting. This result suggests a possible reason for the price differences between Boise and Montgomery: when there are fewer searches for a string, firms want to find these niche customers and they bid the price of that string higher.

Establishing Causation
Correlation does not establish causation. Higher global temperatures are correlated with a lower incidence of piracy on the high seas, but that doesn’t mean that building pirate ships will reduce global warming. For empirical economists, one of their biggest challenges is working out how to establish causation from correlations in the data.

We found a raw correlation in the data between a lack of searches and higher prices, but of itself this does not establish a causal link between match difficulty and bids for search engine ads. To establish a causal link, we exploit a “natural experiment” that results from the fact that lawyers’ activities are regulated at the state level, by their state’s bar association. These state regulations mean that you can have two similar states, but in one state lawyers are permitted to do something, while in another state they are not.

Specifically, many state bar associations prohibit “ambulance chasing” behavior. In 15 states, lawyers are not permitted to contact clients directly (electronically or in writing) for a period following “personal injury or wrongful death.” This behavior is permitted in the other 35 states. This restriction affects personal injury lawyers, but it does not affect others. When direct solicitation is banned, it is more difficult for personal injury lawyers to target clients. In the absence of search engine advertising, these lawyers could only use broadcast media to find clients. A key point is that the restrictions do not affect the ability of other lawyers to find clients; only personal injury lawyers are affected.

We show that when personal injury lawyers are forbidden from directly contacting clients, they are willing to pay significantly more for search engine advertising, all else equal. By “all else equal,” we mean we control for the fact the keyword string “truck accident attorney” generally costs more than the keyword string “employment attorney” and for the fact that search engine ads in Montgomery cost slightly more than search engine ads in Boise. Our analysis therefore compares whether personal injury keywords in locations with restrictions cost more than other law keywords in those locations, compared to locations without restrictions. If we exclude all other reasonable explanations for the price difference, then we can legitimately attribute the cost difference to the presence or absence of restrictions on lawyer behavior. We will spare you the complicated statistical details—you can read the full paper for those—but we worked out a way we could legitimately connect the restrictions and keyword prices.

We find that personal injury keywords cost approximately $1 more per click (or 11%) in places where directly contacting clients is prohibited. By making targeting more difficult, the value of search engine advertising in-
Search engine advertising is most valuable when firms have just a few hard-to-reach customers.

creases substantially. Interestingly, we find the solicitation restrictions only matter when it is especially difficult to locate clients. These restrictions only affect prices when there are relatively few searches for that keyword in that location. If there are many people searching for that string, and therefore many potential customers, then the restriction on offline targeting does not matter. Search engine advertising is most valuable when firms have just a few hard-to-reach customers. Therefore, it is match difficulty that is driving the relationship between ad prices and the regulation.

Checking our Results
To ensure our results were reliable, we performed a battery of statistical tests. We tried different definitions of personal injury. Also, it could be that the results are driven by the underlying, unobserved condition of commerce of a particular state, and not by people’s real advertising choices. For example, the state’s personal injury attorneys could be systematically more aggressive at pursuing customer leads than regular attorneys, which could lead both to their valuing leads more and their being regulated more by that state. So, to make sure our result is real, we performed a “falsification test.”

We chose a type of law that was similarly motivated, but that would not increase the price paid for ads. This was a type of law that set limits on lawyers taking cases on a contingency fee basis. In states with contingency fee limits, personal injury lawyers paid relatively less for personal injury keywords compared to other legal keywords. So, the falsification test reassures us that there was not something about states that enact lawyer regulations that can provide an alternative explanation of our results.

What it Means
We show that targeting generates the most value in small markets, where the ability to target using traditional direct response media is limited. We provide clear empirical evidence of the extent to which advertisers value context-based advertising’s ability to target very narrow markets. This enables a “long tail of advertising” that is not feasible under the traditional broadcast advertising model. Whether customers are difficult to find because there are few of them or because it is costly to communicate with them, search engine advertising helps firms overcome these challenges and therefore generates considerable value to firms, customers, and (of course) the search engines themselves.

The profitability of search markets for search engines is highly dependent on the availability of alternative marketing communications channels both online and offline. It is therefore not clear that extending electronic auctions to other advertising networks without context-based advertising in place will necessarily be profitable. For example, it is not clear that Google’s plans to bring online auctions to TV advertising and conduct these auctions on the basis of “daypart, geography and […] demographic,” will prove as successful as its prior online search auctions that are conducted using specific context-based pricing and extreme micro-targeting.

We have illustrated this process on lawyers because it is convenient to do so, but there is nothing to suggest the results are unique to legal advertising. We believe we will see similar spreads in prices for local market services in which online advertising permits a high level of targeting.

Reference

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