

FROM THE INDUSTRY

How Google

TRIED TO SOLVE PROGRAMMATIC ADVERTISING'S DIRTY SECRETS

EXCERPTED FROM *YIELD: HOW GOOGLE BOUGHT, BUILT, AND BULLIED ITS WAY
TO ADVERTISING DOMINANCE* (AMPLIFY, 2025) ALL RIGHTS RESERVED.®

FORMER GOOGLE EXECUTIVE ARI PAPARO LIFTS THE LID ON THE MURKY
WORLD OF ONLINE ADVERTISING IN HIS EXPLOSIVE NEW BOOK, *YIELD*.

IN THIS EXCLUSIVE EXCERPT FOR BROADBAND JOURNAL, PAPARO
REVEALS HOW POWER, PROFIT, AND OPAQUE ALGORITHMS SHAPED THE
DIGITAL AD EMPIRE.



Financial markets are heavily regulated. Banks have internal compliance officers with fiduciary duties to protect not just the firm but also the market. In the years since the emergence of ad exchanges, the advertising market has adopted the structure of finance markets without any meaningful oversight or controls. A stock market had organically grown, and the “banks” were put in charge of their own regulation.

This gap in accountability would allow Google, but also its many independent competitors, to manipulate the market for their own gains. The actual customers, the advertising buyers and publisher sellers, would largely be afterthoughts and would have little insight into what was happening in the middle of their transactions.

Five years after the transformative DoubleClick acquisition, Google found itself in an enviable position within the fast-growing and dynamic display advertising business. Google effectively had strong—or arguably dominant—technology in every corner of the digital advertising business. That meant that for many available ad auctions, Google technology, and Google customers, were on both sides of the transaction. In many cases, Google systems would set both the price the advertiser was willing to bid and the price at which the seller was willing to sell. They also controlled the ad server that determined which ad ultimately

would serve and the exchange that saw all the demand for each ad, yielding nearly perfect information on every transaction. In what would become an iconic—and quite infamous—comment in an email discussion, Jonathan Bellack laid it all out, asking, “Is there a deeper issue with us owning a platform, the exchange, and a huge network? The analogy would be if Goldman or Citibank owned the NYSE.

In 2012 a New York-based quantitative team called gTrade was formed. Their mission was to develop, test, and implement changes to the display advertising systems to improve Google’s profits, particularly on the buy side, meaning the ad network and DSP. This was a proven model within Google, as the innocuously named Ads Quality Team had been regularly tweaking and influencing search ads results for some time in order to increase revenue, sometimes generating enormous returns. gTrade took on some projects that would result in improvements in the ad products themselves, such as better fraud detection. They would become better known for a series of changes to the auction mechanics that in some cases would become quite controversial. The outside advertising community would not hear about the projects with code names like DRS, Bernanke, Poirot, and Bell for many years, but they would feel the results. Google would use these projects to grow its revenue at the expense of competitors, and in some cases at the expense of its own customers.

Project Poirot stands out among Google’s various auction manipulations as possibly the most reasonable. While the imperative for Poirot was formed in reaction to header bidding, the actual problem it meant to solve was real. The evidence clearly suggests that ad exchanges were running “dirty auctions,” where the second-price auction mechanism was being manipulated to raise prices for advertisers. Google’s internal data showed that reducing bids on those exchanges produced better results for advertisers with the same level of quality.

There were other ways for ad exchanges to try to juice their results. An exchange might duplicate its bids to the same buyer just to see if the buyer’s algorithms might have some throttling or inefficiency to exploit. Some exchanges would send multiple sequential auctions but with slightly lower floor prices each time to try to “fish” for the highest possible bid from the buyer.

Even without cheating, there was enormous inefficiency in the ad exchange world that had developed by the late 2010s. A typical setup for a publisher might include two header bidding wrappers (one from Amazon, one from the prebid open source project), plus Google’s product Open Bidding through the ad server, resulting in three calls to each exchange for each impression. Each exchange would then, in turn, make ad requests to all the Demand Side Platforms (DSPs) they had connected to, resulting in potentially hundreds of requests for each single impression. On top of this spider’s web, you have aggressive yield management techniques being implemented by the publishers themselves, trying to eke out additional pennies wherever possible, causing prices on the same inventory to vary enormously depending on the buying path.

All of this is to say there can be culpability for Google for their actions, but we must consider the challenges of operating within this fog of war—programmatic advertising had evolved into a complex and challenging environment without ground rules or regulations and with active and innovative adversaries.

Google is ultimately an engineering company. The driving ethos of the people who work there is to solve problems. They could only continue for so long acting as a leader in advertising while inefficiencies, workarounds, and complexity proliferated. By 2019 the advertising market was certainly filled with all those problems, and the AdX and Open Bidding teams were going to try to solve them all in one swoop.



Google

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Following the announcement of Open Bidding as Google's answer to header bidding, the product and engineering teams wanted to clean up various problems that were creeping up and threatening to get worse as the overall environment's complexity increased. For example, because bids could now come in from some exchanges in the header and other exchanges in Open Bidding, each with different auction mechanics and pricing, it was very possible that the highest bid would not actually win every auction.

Since header bidding gained widespread adoption, the argument for second-price auctions became questionable and almost all the non-Google exchanges were switching to first-price auctions, where the highest bid won. AdX, meanwhile, was still on a second-price auction, which was causing all kinds of weird situations. It was possible for a bid to come in from a header as a first-price bid, while the same advertiser's bid would come in through AdX as a second-price bid, and the two would compete with each other.

Header bidding had finally eroded, but not fully killed, Google's unique data and bidding advantage, Dynamic Allocation,

which allowed them to bid \$0.01 higher than other inbound bids to snipe auctions for itself. To roll out Open Bidding, Google had made the concession to remove this advantage since otherwise they would likely have gotten little participation.

Finally, Google was aware that many publishers actively manipulated floor prices for better yield. In particular, they set their price floors higher for AdX than for other exchanges. This was rational since AdX's 20% fee was higher than competitors', so making it bid higher would ultimately give publishers more of every dollar spent.

Google wanted to solve all these problems at once. They would follow up on the launch of Open Bidding with several changes. They would move AdX to a first-price auction, get rid of Last Look entirely, and stop customers from pricing AdX higher than other exchanges. They called this whole package of changes the Unified Auction, since in theory it would force all demand (header, AdX, Open, and direct) to compete on a fair basis all at once. There was just one problem: while publishers were happy about the first two changes, the last one, the removal of flexible pricing floors, was about to set off a riot.

In a meeting at Google's New York headquarters this package of auction changes was announced, and the publisher customers were not happy. The audio recording of this meeting would later be played in a federal courthouse during the subsequent antitrust proceedings, with audience call outs like "The major difference between the financial market and the programmatic market is that the people that own the financial markets are not also bidding on the same markets" and "there's really no recourse for us whatsoever to force you to change a product that you've already built."

You cannot draw a straight line from this fiasco to the subsequent antitrust and legal troubles, but there are certainly connecting dots. Beginning in the late 2010s, Google got caught in a maelstrom of political and legal trouble, pushed along by partisan politics, struggling competitors, and an angry mob of media companies and their lobbyists.

Yield: How Google Bought, Built, and Bullied Its Way to Advertising Dominance (Amplify) by Ari Paparo is available online and in all good book shops.



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