Message

From: Nitish Korula [nitish@google.com]
Sent: 1/31/2017 10:23:09 PM
To: Max Loubser [maxl@google.com]
Subject: Fwd: Revenue and margin.

Nitish
---------- Forwarded message ----------
From: **Nirmal Jayaram** <nirmaljayaram@google.com>
Date: Fri, Nov 11, 2016 at 12:35 AM
Subject: Re: Revenue and margin.
To: Eisar Lipkovitz <eisar@google.com>
Cc: Nitish Korula <nitish@google.com>, Jim Giles <jimgiles@google.com>, Aparna Pappu <apappu@google.com>, Bahman Rabii <bahman@google.com>, Danielle Romain <dromain@google.com>, Chris Harris <ckharris@google.com>, Ali Nasiri Amini <amini@google.com>, Sridhar Ramaswamy <ramaswamy@google.com>

Please see the table below on the impact once DBM's markup is added. There is some improvement in the metrics, but not a whole lot (for instance, the -57% in the last row became -52% once DBM's markup is added).

As Nitish clarified, your example 2 is basically what happens in my simulations.

Nitish is referring to the phenomenon where some automated floors (such as from RPO or EDA, if they exist) will learn the drop in margins and increase. So, in your example, an automated floor will change from $3 to $3.19, and the gross revenue will then stay at $3.75. But the net revenue, which is $0.75 in the 20% margin scenario, still reduces to $0.56. So, the impact of these floors adapting is an improvement in gross revenue and a very slight improvement in net revenue.

Margin (AdX, GDN)	Gross Revenue	Net Revenue	Publisher Payout
Current	0.00%	0.00%	0.00%
15%, 20%	-1.70%	-7.69%	0.66%
10%, 25%	-3.27%	-15.04%	1.35%
5%, 28%	-4.71%	-22.05%	2.11%
0%, 32%	-6.05%	-28.96%	2.96%
10%, 20%	-3.47%	-22.92%	4.18%
5%, 20%	-5.15%	-37.83%	7.71%

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0%, 20%	-6.74%	-52.43%	11.23%

On Thu, Nov 10, 2016 at 9:27 PM, Eisar Lipkovitz <eisar@google.com> wrote:

On Thu, Nov 10, 2016 at 9:02 PM, Nitish Korula <nitish@google.com> wrote:

On Thu, Nov 10, 2016 at 11:40 PM, Nitish Korula <nitish@google.com> wrote:
[+Aparna, Jim, Bahman]

Hi Eisar,

I'm responding inline, which I hope will help:

On Thu, Nov 10, 2016 at 11:15 PM, Eisar Lipkovitz <eisar@google.com> wrote:

It was a fascinating discussion today but I have a bunch of follow up questions I hope we resolve over email.

Let's assume we have a simple proposal where we just reduce margin on the sell side and do not attempt to move margin to GDN to compensate. We go for 20% to 15%.

In that case GDN and all other buyers wouldn't change their bid.

Let's say the floor is $3

1) There was a second price of $5.

Publisher gets paid $4.25 , Google revenue $5.

[Current scheme: $4 & $5]

This is exactly right.

2) Second price lower than $3.

Publisher gets paid $3, Google revenue $3.53

[Current: $3, $3.75]

Can you confirm?

That would be correct if we indeed lowered our buyer reserve price to $3/0.85. But Nirmal's simulation (and he can correct me if I'm wrong) assumes that for a query like this where the highest bid is quite a bit higher than our current reserve of $3.75, there's no real reason to lower the reserve... after all, RPO should detect that the bid will be high and keep the reserve where it currently is. So we would have:
Publisher gets paid 0.85 * 3.75 = $3.19, Google revenue stays at $3.75.

Actually, this was inaccurate, my apologies. Just discussed with Nirmal, and I had slightly misunderstood before. The *simulation* assumes that the publisher-side floor does not change, but the floor faced by the buyer might change due to the drop in margin ,so your example is correct. However, in reality, some of our optimizations will actually keep the buyer-faced floor from some sources unchanged. Nirmal will reply with more details.

Assuming I'm right the results are pretty severe because a drop in margin is equal to a slightly larger drop in revenue first for all cases where the prices set in the auction happened due to Floors, either publisher selected or RPO.

Now a question to Danielle, my "Google revenue numbers" assuming just sell side margin but in practice we charge our buyers on GDN the extra 15%, hence my second example the actual revenue is more like $4.15, right?

The same happens when DBM is the buyer but with a different buyside margin. We need to make sure the numbers we capture account for that.

We will include in our analysis all margin (DBM revshare and AdX revshare) on impressions DBM wins on AdX. Would you like us to also include DBM spend on other exchanges, to get a sense of *total* revenue and margins? (This would not be a part of the simulation output, but we can get some estimate. It won't be perfectly accurate because if DBM spends more or less on AdX as a result of the simulated change in margins, that would affect the budget they have to spend on other exchanges.)

Are you talking about cases where DBM might lose an auction to an AdX buyer due to changes but the $$ will flow to another exchange?

I thought the impact to AdX Buyers and DBM is identical so win rate shouldn't be different.

Obviously if the changes being proposed don't change the winner in the auction you can convince me that this doesn't change the outcome of the analysis.

However when you change buy side margins on GDN, that means our bids get further lowered, which can cause different buyers to win, in all cases they are ones with lower side margins.

Now enter DRS and Bernanke. At this point my memory fails me, but I remember some basics. I think both are schemes where we give up margins in some cases to win volume and recoup that loss in a different query.

Yes, that's correct for both DRS and Bernanke.

I think DRS is for sell side and Bernanke for buyside.

Let's start with DRS, I suspect it gets invoked when floors are used to avoid cases where the auction can't clear. Sounds like you start with a floor which is a "guarantee" (post margin) to be paid to the pub, but instead of sending to the auction Floor/(1-margin), we send a lower or higher number in some cases using a model that predicts what's necessary to clear.

Am I right?

You are almost right here, and if you wait a little while, you will be. :) This is how a 'per-query truthful' version of DRS would work, and Ali has asked us to modify our current implementation of DRS to follow exactly this logic, because it's cleaner for buyers to model / interact with. We are working on it now; the current version adjusts the prices *after the fact* rather than using a model to predict what is necessary. But basically, your understanding follows the right intuition.

If that's the case does DRS really matter if the whole point of today's discussion can be summarized with my 2nd example?

DRS does matter, because that's why lowering the margin doesn't result in more impressions (i.e. matched queries). If there were no DRS, then lowering the margin could result in us clearing more queries, and making up in volume what we lose in revenue or margin per query. But with DRS, we're clearing all queries we possibly can, so we don't clear any more, and lowering margin means we just give up net revenue.

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Eisar

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