

Produced in Native

**PTX0499**

**1:23-cv-00108**

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AllCustodians : George Levitte,  
Jerome Grateau, Max  
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Custodian : Chris LaSala  
eAuthor : jbellack@google.com  
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bzHcn1uL2jiInlGf\_01  
XbZ1YsCBnvHk.xlsx

## Assumptions

Lower AdX OA revshare for all buyers -- GDN, DBM, AdX

GDN raises its revshare to keep total GDN-AdX take rate ~32%

[Alternate model could be built where we lower AdX OA revshare for AdX buyers only, keep DBM at 20%]

## Scenarios

	Notes
No cut	What happens if we don't cut, and HB continues to grow? What do we stand to lose?
15%	Modest cut -- matches Rubicon stated rate we believe (but they have hidden buyside fees)
10%	Matches Index Exchange rate, which we are told is comfortably profitable
5%	Need to lower PA too in this case -- basically levels all programmatic at 5% (OA, PA, Deals, EB)
0%	Like AdMob mediation -- no charge

## Impacts

### Who does it

Win rates	Simulation team	When does GDN lose when it used to win, is DBM or AdX buyers the new winner? (If GDN wins less than it did previously, can we determine the margin cut to keep impressions even?)
Net rev	Simulation team	Holding gross revenue constant (no new wins vs DRX), what's the impact on net rev?
Wins vs DRX	Simulation team	How much more do we win vs DRX when we used to lose? Who wins -- GDN, DBM, AdX? Does this differ on pubs with HB vs not HB?
Net rev w/DRX wins	Simulation team	Adding in the gross revenue from the new wins on DRX, what is our net revenue?
Pub allocation shifts	Sales	How much will pubs deliberately change competition to give more to AdX with this new revshare? (Across existing DRX pubs how much more inventory would AdX open auction get access to?)
Pub wins	Sales	What deals could we win with this new revenue share that we are not winning today? @ 15%, @10%, @5% and 0%

***Can we also run other experiments to see how results compare when are more aggressive with RPO & DRS?***

## Reactions

Price responses	Sales/PM	Will the other exchanges lower their revshares to match? What will happen? Which can sustain that in market?
Platform pricing	Sales/PM	Will any other exchange give up on revshare and move to platform pricing (flat fees)?
Acquisition	Sales/PM	Would a whale like Amazon or Facebook buy AppNexus or someone else?

## A - INPUT - SIMULATION RESULTS

WIN RATES AND DEMAND SHARES BASED ON DIFFERENT SELLSIDE REVENUE SHARES

Change based only on simulations due to auction dynamics, not pub changes

ASSUMES HOLDING GDN CONSTANT AT NET 32%: All

		Sellside revshare =>	20%	15%	10%
Match rate of eligible					
GDN winners	GDN total revenue		\$73,771.02	\$73,976.30	\$74,182.41
	AdX gross revenue		\$62,558.89	\$59,091.80	\$56,021.17
	Publisher payout		\$50,047.11	\$50,228.03	\$50,419.05
	AdX Gross eCPM		\$0.55	\$0.55	\$0.55
	Impressions		91,423,553	91,712,505	91,981,860
DBM winners	AdX gross revenue		\$25,972.32	\$24,892.07	\$23,894.38
	Publisher payout		\$21,094.81	\$21,331.42	\$21,580.73
	AdX Gross eCPM		\$1.97	\$2.00	\$2.03
	Impressions		10,706,699	10,674,250	10,647,257
RTB winners	AdX gross revenue		\$29,758.50	\$28,541.80	\$27,402.19
	Publisher payout		\$25,090.40	\$25,303.37	\$25,533.92
	AdX Gross eCPM		\$1.10	\$1.11	\$1.12
	Impressions		22,879,578	22,795,336	22,721,791

## B - INPUT - SALES FEEDBACK

Impact of price change on impressions

Change to eligible queries -- opening new inventory to AdX thanks to winning new deal or changes in DFP setup (ex p

Change to match rate -- increase in our ability to win based on pubs changing competition (example = lowering floors,

ASSUMES HOLDING GDN CONSTANT AT NET 32%: All

	Sellside revshare =>	20%	15%	10%
Eligible queries (% increase)		100%	100%	100%
Match rate (% increase)		100%	100%	100%
Combined effect of increased AdX competitiveness		100%	100%	100%

## C - CALCULATED - REVENUE IMPACT

CALCULATED -- DO NOT EDIT

ASSUMES HOLDING GDN CONSTANT AT NET 32%: All

	Sellside revshare =>	20%	15%	10%
<b>GDN total revenue</b>		\$73,771.02	\$73,976.30	\$74,182.41
<b>AdX Gross revenue total</b>		<b>\$118,290</b>	<b>\$112,526</b>	<b>\$107,318</b>
GDN		\$62,559	\$59,092	\$56,021
DBM		\$25,972	\$24,892	\$23,894
Other RTB		\$29,758	\$28,542	\$27,402
<b>Publisher payout</b>		<b>\$96,232</b>	<b>\$96,863</b>	<b>\$97,534</b>
GDN		\$50,047	\$50,228	\$50,419
DBM		\$21,095	\$21,331	\$21,581
Other RTB		\$25,090	\$25,303	\$25,534
<b>Net sell-side revenue</b>		<b>\$22,057</b>	<b>\$15,663</b>	<b>\$9,784</b>
GDN		\$12,512	\$8,864	\$5,602
DBM		\$4,878	\$3,561	\$2,314
Other RTB		\$4,668	\$3,238	\$1,868

<b>Final Results (purely based on auction change)</b>				
Sellside gross revenue change (purely based on auction change)		0.00%	-4.87%	-9.28%
Sellside net revenue change (purely based on auction change)		0.00%	-28.99%	-55.64%
Sellside + GDN buy-side gross revenue change (purely based on auction change)		0.00%	-1.62%	-3.11%
Sellside + GDN buy-side net revenue change (purely based on auction change)		0.00%	-8.18%	-16.00%
Publisher payout change (purely from auction change, not including better access)		0.00%	0.66%	1.35%

**Final Results (w/ sales input on better access)**

<b>Sellside gross revenue change (w/ sales input on better access)</b>	<b>0.00%</b>	<b>-4.87%</b>	<b>-9.28%</b>
<b>Sellside net revenue change (w/ sales input on better access)</b>	<b>0.00%</b>	<b>-28.99%</b>	<b>-55.64%</b>
<b>Sellside + GDN buyside gross revenue change (w/ sales input on better access)</b>	<b>0.00%</b>	<b>-1.62%</b>	<b>-3.11%</b>
<b>Sellside + GDN buyside net revenue change (w/ sales input on better access)</b>	<b>0.00%</b>	<b>-8.18%</b>	<b>-16.00%</b>
<b>Publisher payout change (includes more payout due to sales estimate of better access)</b>	<b>0.00%</b>	<b>0.66%</b>	<b>1.35%</b>

I Sellside Revshare drop transferred

Only transferring 5% of Sellside Revshare to GDN

5%	0%	10%	5%	0%
\$74,398.70	\$74,639.29	\$74,372.30	\$74,695.94	\$74,959.25
\$53,305.70	\$50,927.13	\$59,401.79	\$59,657.95	\$59,868.88
\$50,640.41	\$50,927.13	\$53,461.61	\$56,675.05	\$59,868.88
\$0.55	\$0.55	\$0.57	\$0.59	\$0.61
92,256,228	92,534,796	93,765,711	95,758,382	97,685,019
\$22,967.51	\$22,112.20	\$23,762.19	\$22,713.65	\$21,740.76
\$21,841.44	\$22,112.20	\$21,462.07	\$21,600.33	\$21,740.76
\$2.06	\$2.09	\$2.05	\$2.10	\$2.14
10,623,081	10,599,546	10,487,321	10,310,312	10,143,538
\$26,330.61	\$25,617.53	\$27,107.07	\$25,766.64	\$25,215.06
\$25,783.52	\$25,617.53	\$25,332.78	\$25,377.07	\$25,215.06
\$1.14	\$1.13	\$1.14	\$1.16	\$1.18
22,656,935	22,592,125	22,309,331	21,862,854	21,448,586

putting us higher in a waterfall)

or taking another exchange out of HB)

I Sellside Revshare drop transferred

Only transferring 5% of Sellside Revshare to GDN

5%	0%	10%	5%	0%
100%	100%	100%	100%	100%
100%	100%	100%	100%	100%
100%	100%	100%	100%	100%

I Sellside Revshare drop transferred		Only transferring 5% of Sellside Revshare to GDN		
5%	0%	10%	5%	0%
\$74,398.70	\$74,639.29	\$74,372.30	\$74,695.94	\$74,959.25
<b>\$102,604</b>	<b>\$98,657</b>	<b>\$110,271</b>	<b>\$108,138</b>	<b>\$106,825</b>
\$53,306	\$50,927	\$59,402	\$59,658	\$59,869
\$22,968	\$22,112	\$23,762	\$22,714	\$21,741
\$26,331	\$25,618	\$27,107	\$25,767	\$25,215
<b>\$98,265</b>	<b>\$98,657</b>	<b>\$100,256</b>	<b>\$103,652</b>	<b>\$106,825</b>
\$50,640	\$50,927	\$53,462	\$56,675	\$59,869
\$21,841	\$22,112	\$21,462	\$21,600	\$21,741
\$25,784	\$25,618	\$25,333	\$25,377	\$25,215
<b>\$4,338</b>	<b>\$0</b>	<b>\$10,015</b>	<b>\$4,486</b>	<b>\$0</b>
\$2,665	\$0	\$5,940	\$2,983	\$0
\$1,126	\$0	\$2,300	\$1,113	\$0
\$547	\$0	\$1,774	\$390	\$0

-13.26%	-16.60%	-6.78%	-8.58%	-9.69%
-80.33%	-100.00%	-54.60%	-79.66%	-100.00%
-4.48%	-5.51%	-3.29%	-4.88%	-5.86%
-23.56%	-28.73%	-24.90%	-41.32%	-54.64%
2.11%	2.52%	4.18%	7.71%	11.01%

-13.26%	-16.60%	-6.78%	-8.58%	-9.69%
-80.33%	-100.00%	-54.60%	-79.66%	-100.00%
-4.48%	-5.51%	-3.29%	-4.88%	-5.86%
-23.56%	-28.73%	-24.90%	-41.32%	-54.64%
2.11%	2.52%	4.18%	7.71%	11.01%

Blue outline means OK TO EDIT  
Please do not edit data outside the blue outlines

GDN Budget-Constrained fraction	0.4
DBM Budget-Constrained fraction	0.8
RTB Budget-Constrained fraction	0

Notes

102%	103%	104%	102%	103%	104%
104%	104%	104%	104%	103%	104%
104%	104%	104%	104%	103%	104%

## Data notes

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### SALES FEEDBACK

Changes from Section A based on Section B Sales feedback

**Calculated by multiplying simulation revenue from Section A with the increased AdX competitiveness (better access) from Section B, while controlling for budget-constrained spend. (Budget constrained advertisers cannot fully increase spend even given more queries / better auction position)**



[REDACTED]

[REDACTED]

[REDACTED]





[REDACTED]

[REDACTED]

[REDACTED]

## A - INPUT - SIMULATION RESULTS

WIN RATES AND DEMAND SHARES BASED ON DIFFERENT SELLSIDE REVENUE SHARES

ASSUMES HOLDING GDN CONSTANT AT NET 32%

Source for 20%: October 2016 from go/lumina

Sellside revshare =>	20%	15%	10%	5%	0%
Match rate of eligible	32%				
GDN share	52%				
DBM share	22.9%				
AdX share	25.6%				
GDN gross eCPM	\$0.82	\$0.82	\$0.82	\$0.82	\$0.82
DBM gross eCPM	\$2.57	\$2.57	\$2.57	\$2.57	\$2.57
AdX gross eCPM	\$1.53	\$1.53	\$1.53	\$1.53	\$1.53

## B - INPUT - SALES FEEDBACK

Impact of price change on impressions

Change to eligible queries -- opening new inventory to AdX thanks to winning new deal or changes in DFP setup (ex putting us higher i

Change to match rate -- increase in our ability to win based on pubs changing competition (example = lowering floors, or taking anothe

Sellside revshare =>	20%	15%	10%	5%	0%
Eligible queries	56%				
Match rate	32%				

## C - CALCULATED - REVENUE IMPACT

CALCULATED -- DO NOT EDIT

Sellside revshare =>	20%	15%	10%	5%	0%
Total queries	1,830,000,000,000	1,830,000,000,000	1,830,000,000,000	1,830,000,000,000	1,830,000,000,000
Eligible queries	56%	0%	0%	0%	0%
Match rate	32%				

<b>Won queries total</b>	<b>329,575,680,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
GDN	170,526,720,000	0	0	0	0
DBM	75,097,344,000	0	0	0	0
AdX	83,951,616,000	0	0	0	0
<b>Gross revenue total</b>	<b>\$461,278,057</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
GDN	\$139,831,910	\$0	\$0	\$0	\$0
DBM	\$193,000,174	\$0	\$0	\$0	\$0
AdX	\$128,445,972	\$0	\$0	\$0	\$0
<b>Net sell-side revenue</b>	<b>\$92,255,611</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
GDN	\$27,966,382	\$0	\$0	\$0	\$0
DBM	\$38,600,035	\$0	\$0	\$0	\$0
AdX	\$25,689,194	\$0	\$0	\$0	\$0
<b>Change in gross revenue</b>	<b>0%</b>	<b>-100%</b>	<b>-100%</b>	<b>-100%</b>	<b>-100%</b>
<b>Change in net revenue</b>	<b>0%</b>	<b>-100%</b>	<b>-100%</b>	<b>-100%</b>	<b>-100%</b>

Blue outline means OK TO EDIT

Please do not edit data outside the blue outlines

#### Notes

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Change just due to auction dynamics not pub changes

**Gross eCPMs will change, MAKE THIS PERCENTAGE**

in a waterfall)

r exchange out of HB)

#### Notes

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**CHANGE THESE TO PERCENTAGE BOOSTS INSTEAD?**

Change just due to pub changes not auction dynamics

#### Data notes

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from Oct 2016 go/lumina

SALES FEEDBACK

**THIS MATH IS WRONG, NEED TO CHANGE IT**

match rates from SIMULATION section

eCPMs from SIMULATION section

GDN revshare held constant at 20%  
Revshare from the row at the top  
Revshare from the row at the top

[REDACTED]

[REDACTED]

[REDACTED]



[REDACTED]

[REDACTED]

[REDACTED]

	80000,68000	85000,68000	90000,68000	95000,68000	100000,68000	90000,72000	95000,76000	100000,80000
<b>GDN impressions</b>	91,423,553	91,712,505	91,981,860	92,256,228	92,534,796	93,765,711	95,758,382	97,685,019
<b>GDN revenue</b>	\$73,771.02	\$73,976.30	\$74,182.41	\$74,398.70	\$74,639.29	\$74,372.30	\$74,695.94	\$74,959.25
<b>GDN payout</b>	\$50,047.11	\$50,228.03	\$50,419.05	\$50,640.41	\$50,927.13	\$53,461.61	\$56,675.05	\$59,868.88
<b>GDN profit from GDN winners</b>	\$11,212.14	\$14,884.51	\$18,161.24	\$21,093.00	\$23,712.16	\$14,970.51	\$15,037.99	\$15,090.37
<b>Total profit from GDN winners</b>	\$23,723.92	\$23,748.28	\$23,763.36	\$23,758.28	\$23,712.16	\$20,910.69	\$18,020.89	\$15,090.37
<b>AdX revenue from GDN winners</b>	\$62,558.89	\$59,091.80	\$56,021.17	\$53,305.70	\$50,927.13	\$59,401.79	\$59,657.95	\$59,868.88
<b>GDN component of the margin fi</b>	47.40%	47.28%	47.13%	46.92%	46.56%	39.11%	31.80%	25.21%
<b>Margin from GDN winners</b>	125.00%	117.65%	111.11%	105.26%	100.00%	111.11%	105.26%	100.00%
<b>DBM impressions</b>	10,706,699	10,674,250	10,647,257	10,623,081	10,599,546	10,487,321	10,310,312	10,143,538
<b>DBM revenue</b>	\$25,972.32	\$24,892.07	\$23,894.38	\$22,967.51	\$22,112.20	\$23,762.19	\$22,713.65	\$21,740.76
<b>DBM payout</b>	\$21,094.81	\$21,331.42	\$21,580.73	\$21,841.44	\$22,112.20	\$21,462.07	\$21,600.33	\$21,740.76
<b>DBM profit</b>	\$4,877.51	\$3,560.65	\$2,313.64	\$1,126.07	\$0.00	\$2,300.12	\$1,113.32	\$0.00
<b>DBM profit margin</b>	18.78%	14.30%	9.68%	4.90%	0.00%	9.68%	4.90%	0.00%
<b>RTB impressions</b>	22,879,578	22,795,336	22,721,791	22,656,935	22,592,125	22,309,331	21,862,854	21,448,586
<b>RTB revenue</b>	\$29,758.50	\$28,541.80	\$27,402.19	\$26,330.61	\$25,617.53	\$27,107.07	\$25,766.64	\$25,215.06
<b>RTB payout</b>	\$25,090.40	\$25,303.37	\$25,533.92	\$25,783.52	\$26,042.36	\$25,332.78	\$25,377.07	\$25,433.90
<b>RTB profit</b>	\$4,668.10	\$3,238.44	\$1,868.28	\$547.10	-\$424.83	\$1,774.29	\$389.57	-\$218.84
<b>RTB margin*</b>	15.69%	11.35%	6.82%	2.08%	-1.66%	6.55%	1.51%	-0.87%
<b>Total queries</b>	435,028,944	435,028,944	435,028,944	435,028,944	435,028,944	435,028,944	435,028,944	435,028,944
<b>Total impressions</b>	125,009,830	125,182,091	125,350,909	125,536,244	125,726,467	126,562,363	127,931,548	129,277,143
<b>Total revenue</b>	\$129,501.85	\$127,410.18	\$125,478.98	\$123,696.82	\$122,069.03	\$125,241.56	\$123,176.23	\$121,215.07
<b>Total payout</b>	\$96,232.31	\$96,862.82	\$97,533.70	\$98,265.37	\$99,081.69	\$100,256.46	\$103,652.45	\$107,043.54
<b>Total profit</b>	\$33,269.53	\$30,547.36	\$27,945.28	\$25,431.45	\$22,987.33	\$24,985.10	\$19,523.78	\$14,171.53
<b>Overall margin</b>	25.69%	23.98%	22.27%	20.56%	18.83%	19.95%	15.85%	11.69%

Open Auction Only??

Inputs	Inventory Mix (Revenue)				BuySide Fee Structure			SellSide Fee Structure		
	% on AdSense	% on AdX	% on AdMob	% on 3rd Party	on AdSense	on AdX	on AdMob	on AdSense	on AdX	on AdMob
Buyer Type										
GDN										
DBM										
3rd Party										
<b>AdX</b>		Google BuySide Fee Google SellSide Fee Realized by Pub								
\$1 GDN		15%	20%	\$0.68						
\$1 DBM		10%	20%	\$0.72						
\$1 3rd Party		0	20%	\$0.80	not apples to apples					
<b>AdSense</b>		BuySide Fee	SellSide Fee	Realized by Pub						
\$1 GDN		15%	20%	\$0.68						
\$1 DBM		10%	32%	\$0.61						
<b>AdMob</b>		BuySide Fee	SellSide Fee	Realized by Pub						
\$1 GDN		15%	20%	\$0.68						
\$1 DBM		10%	32%	\$0.61						

How do we acknowledge the actual \$\$ spent by agency, trading desk (before DSP, SSP)...possibly we should address in this model as well???

## NOTES

Sheet Name: Notes

CELL A1:

Note

absolute # queries

-Jonathan Bellack

---

Sheet Name: Notes

CELL A16:

Note

+jbellack@google.com

+jimgiles@google.com

+nitish@google.com

How about also adding who loses? ie. which exchanges represented by 3p LIs are most affected by the increased AdX wins. We can re-use the HB detection for this as long as simulation includes losing DFP LI.

-Max Loubser

---

Sheet Name: Model v1

CELL C11:

Note

do you want payout / impressions here instead of revenue / impressions? since that's what will govern pub behavior?

-Nirmal Jayaram

Perhaps, in which case I'll convert it to net eCPM. But will check with Jonathan

-Nitish Korula

---

Sheet Name: Model v1

CELL C65:

Note

+nitish@google.com Is this all three buyer types -- AdX+DBM+GDN?

-Jonathan Bellack

Yes. This includes AdX gross revenue from AdX buyers and DBM, and GDN gross revenue (which is basically AdX gross revenue + GDN margin)

-Nitish Korula

OK. Also -- is this calculation including the sales estimates, or is this just from the simulation?

-Jonathan Bellack

We don't have the sales estimates from Chris / Bryan yet, but this number will include it when we have it. Right now we have some token increase in queries and match rate as placeholders.

-Nitish Korula

Oh. Got it, didn't realize those were placeholders.

-Jonathan Bellack

I think like the publisher payout in 60/61, it would be good to look at the numbers both before and after the increased inventory access from sales to give us a range.

-Jim Giles

---

Sheet Name: Model v1

CELL H18:

Note

The simulation has a slight \_negative\_ profit here, which seems to just be noise. I replaced this with 0 profit, which is what we would expect.

-Nitish Korula

+nirmaljayaram@google.com

-Nitish Korula

yes, the DBM slice doesn't display this phenomenon but the RTB slice does, most likely due to some logging oddness. Good to replace with 0.

-Nirmal Jayaram

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Sheet Name: Model v1

CELL H46:

Note

+nitish@google.com

Hey so if i compare this number to D46, and look up the same drop between D40 and H40 basically the adx gross rev drops by ~3k but pub payout only increases by 1K, what is the reason?

Are you accounting for auction pressure changes because of bid prices being lower when the gdn buy-side cut is higher?

-Vivek Rao

I'm not sure I understood the question, because it sounds like you're expecting payout from DBM winners to increase by more than 1K when gross revenue from DBM winners decreases by ~3K?

Roughly speaking, what's happening is this: Gross revenue from DBM winners goes down slightly because GDN wins more. Payout nevertheless increases because AdX keeps a smaller share of this gross revenue.

Were you asking about something else, though?

-Nitish Korula

Why does GDN win more? For this column the sell side floor goes down and a GDN bid that is entered into the auction actually goes down. This means that GDN should actually win less?

Basically if the adx 20% rev moved to GDN, then buy-side cut is 32% and that means if i bid \$1 then you will only enter \$0.68 into the auction.

-Vivek Rao

Auctions happen in the post-revshare space. So if the advertiser bids \$1, then regardless of how the margin is split between AdX and GDN, the bid in the auction is 0.68. So that doesn't change anything; the reason GDN wins more is that other buyers get the advantage of sell-side dynamic revshare, GDN does not (at their request). When there's less margin on the sell-side, the benefit to other buyers from this feature is reduced.

-Nitish Korula

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Sheet Name: Model v1

CELL K18:

Note

The simulation has a slight negative profit here, which seems to just be noise. I replaced this with 0 profit, which is what we would expect.

-Nitish Korula

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Sheet Name: Model v0.5

CELL B12:

Note

Need to change eCPMs to be percentage changes

-Jonathan Bellack

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Sheet Name: Model v0.5

CELL C21:

Note

is this based on one month, one week, one day, etc?

-Jonathan Bellack

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