Google

DVAA P&L 101

Aug 2018

Highly confidential, do not share outside of Ads Finance

PTX0939

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Agenda

- Evolution of the P&L
- DVAA revenue … a crash course in ~5 to 7 minutes
- P&L mechanics
- DVAA P&L trends, highlights and 2019+ priorities

The Evolution of the P&L at Google

Google

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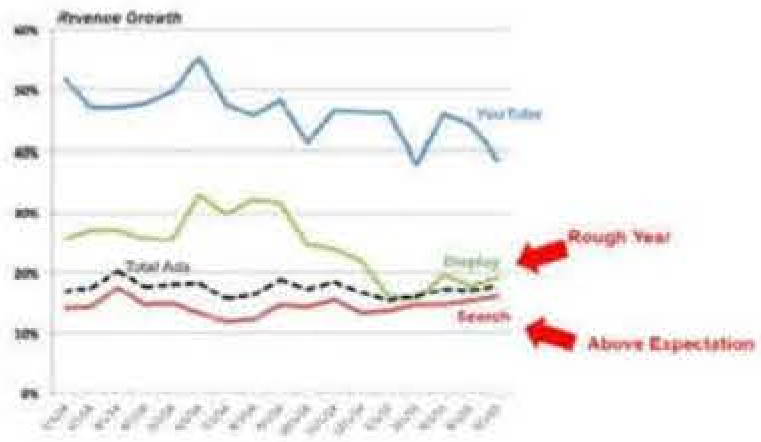
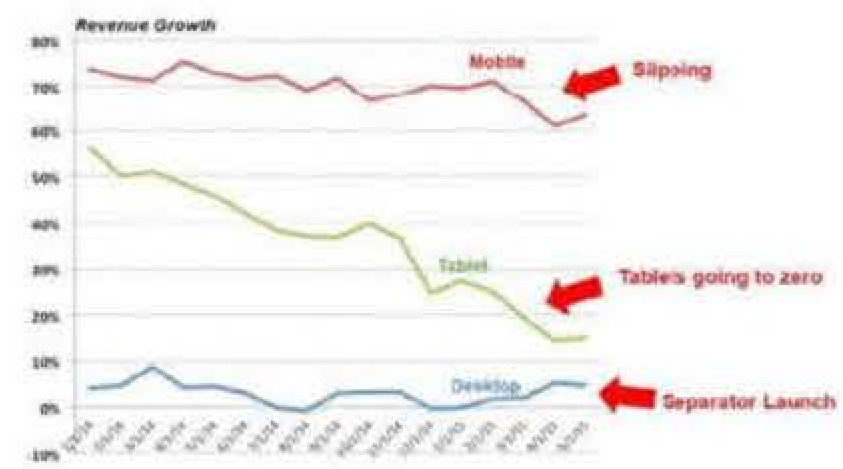
Pre-2015: Revenue solves all problems!

Ads Revenue



Shift to Mobile going well in Search



Google

2015: What's a P&L?

		Search $	Search v Plan	Search YoY		Display $	Display v Plan	Display YoY
Revenue	Desktop	[illegible]	[illegible]	[illegible]	Desktop	[illegible]	[illegible]	[illegible]
	Mobile	12,854	840	[illegible]	Mobile	[illegible]	[illegible]	[illegible]
	AFS	[illegible]	138	[illegible]	GDN	1,821	277	[illegible]
					AdX	[illegible]	[illegible]	[illegible]
Served Revenue (Fixed)		**$53,382**	**896**	15.7%		**$10,823**	**(673)**	17.9%
$1B Initiative		0	(540)			0	(195)	
FX/Adjustments		(2,381)	[illegible]			(400)	[illegible]	
Incentive Spend		(120)	[illegible]			(87)	(24)	
TAC/CAC		6,875	161			7,335	361	
Transactional COS		378	[illegible]			-10	(10)	
Gross Margin* (Booked)		**$43,621**	**(842)**	12.2%		**$3,016**	**(615)**	9.9%
Machine / Network								
Opex & COS								
Payroll								
Expense								
Contribution Margin								
Contribution % (of Gross Booked)								
Contribution % (of Net Booked)								

		YouTube $	YouTube v Plan	YouTube YoY		Platform $	Platform v Plan	Platform YoY	TOTAL ADS $	TOTAL ADS v Plan	TOTAL ADS v Prev Fcst	TOTAL ADS YoY
Revenue	Video	[illegible]	[illegible]	[illegible]	DCM	[illegible]	8	[illegible]				
	Other	941	17	5%	DFP	221	32	5%				
					DA	[illegible]	11	[illegible]				
Served Revenue (Fixed)		**$5,100**	**8**	41.0%		**$621**	**49**	9.8%	**$69,606**	**21**	**32**	17.2%
$1B Initiative		0	(130)			0	0		0	[illegible]	0	
FX/Adjustments		(266)	(188)			(0)	(0)		(2,727)	[illegible]	1,000	
Incentive Spend		(111)	(17)			0	0		(321)	(4)	(24)	
TAC/CAC		2,023	96			1	(0)		16,834	83	72	
Transactional COS		2	(8)			0	0		369	8	22	
Gross Margin* (Booked)		**$2,098**	**(241)**	26.0%		**$620**	**49**	9.7%	**$49,355**	**[illegible]**	**1,102**	13.4%
Machine / Network												
Opex & COS												
Payroll												
Expense												
Contribution Margin												
Contribution % (of Gross Booked)												
Contribution % (of Net Booked)												

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2016-2017: Oh S***, we spend how much on REWS???

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2018+: YOU get a P&L! And YOU get a P&L!

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DV ... A? ... A?

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Display & Video (ads), Apps and Analytics

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DVAA Mission

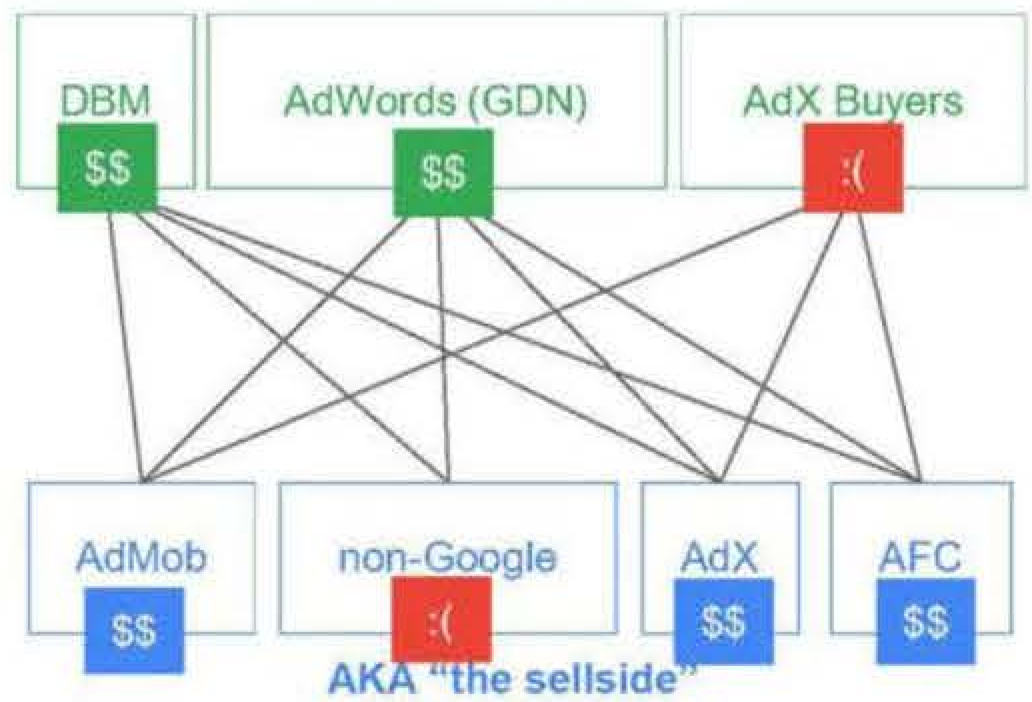
“Strengthen Google’s Mission by efficiently connecting advertisers to users through great, accessible content.”

DBM: Highly sophisticated, Google owned DSP

AdWords/GDN (Google Display Network): Easy to use, CPC bidding;

AdX Buyers: Other DSPs Advertisers can use to access Google inventory/sellside products

AKA "the buyside"
AKA "buying door"
AKA "front-end"
AKA "advertiser view"



AKA "the sellside"
AKA "pub product"
AKA "inventory source"
AKA "publisher view"

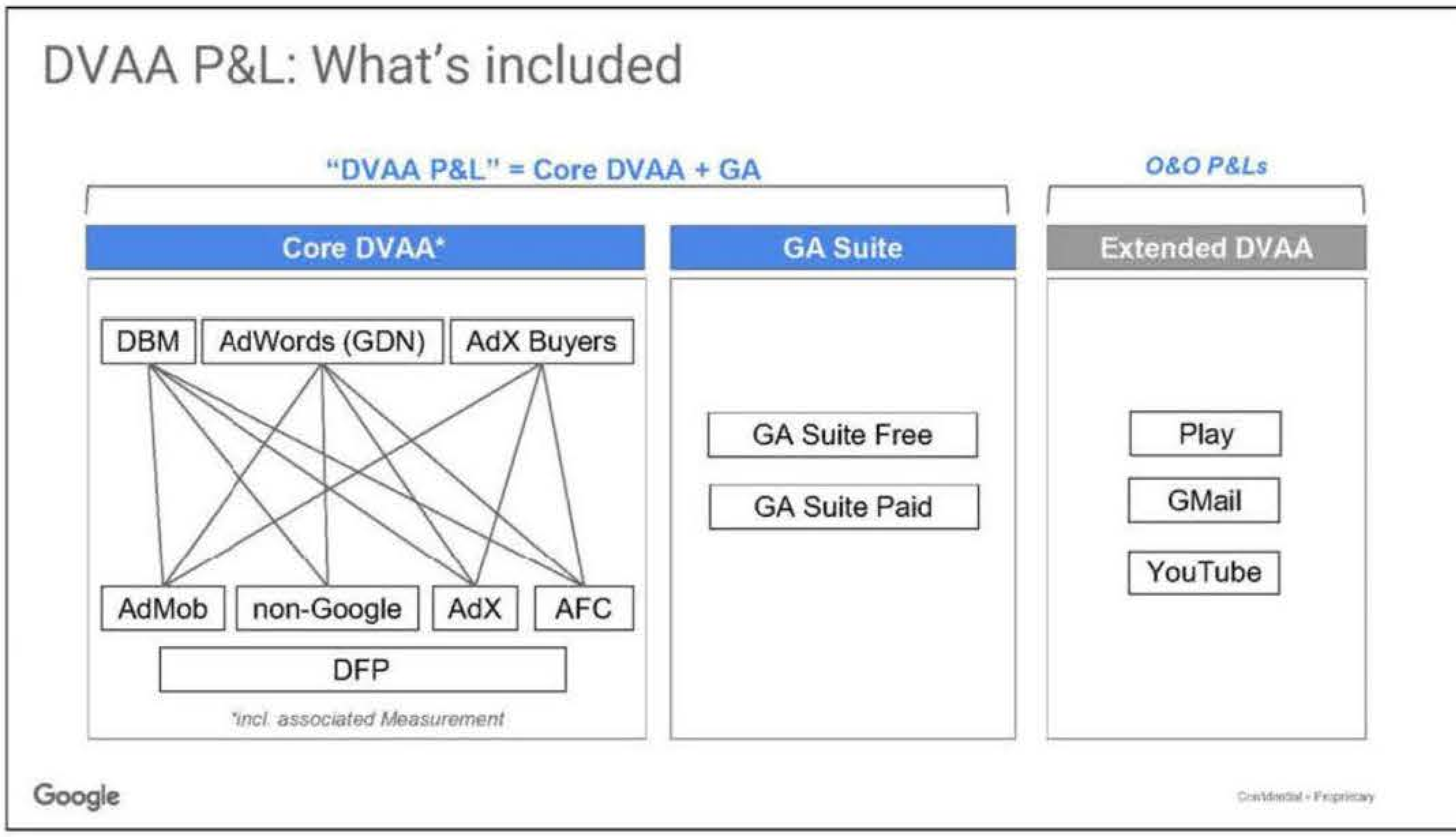
AdMob: App-focused inventory

AdX: Big publisher websites (ESPN, NY Times)

AFC: Smaller, mom & pop websites, blogs,

Non-Google: other inventories where Google doesn't directly own relationship with the publisher

Google


DVAA P&L: What's included
"DVAA P&L" = Core DVAA + GA
O&O P&Ls
Core DVAA*
GA Suite
Extended DVAA
DBM
AdWords (GDN)
AdX Buyers
AdMob
non-Google
AdX
AFC
DFP
*incl. associated Measurement
GA Suite Free
GA Suite Paid
Play
GMail
YouTube
Google
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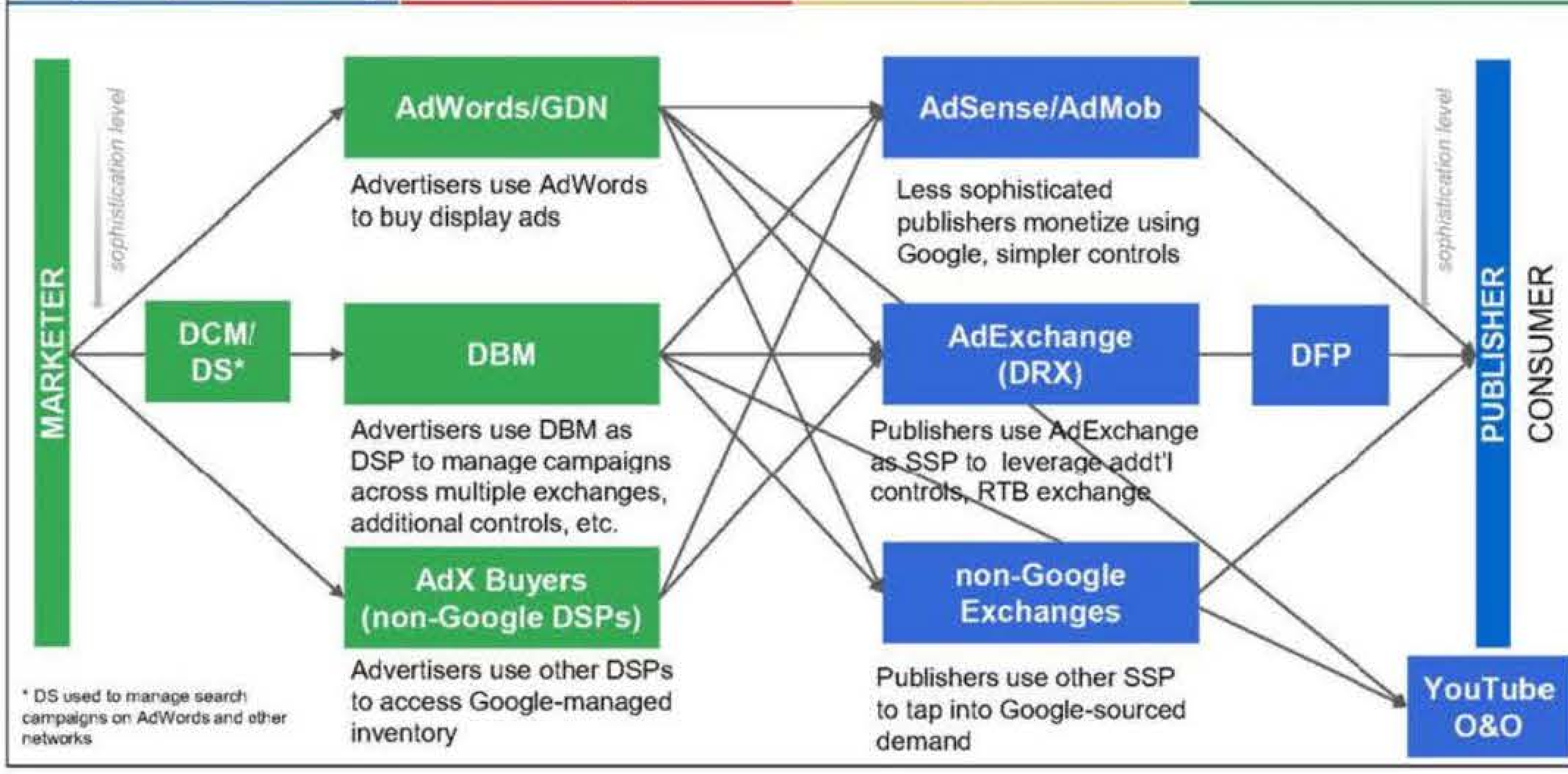
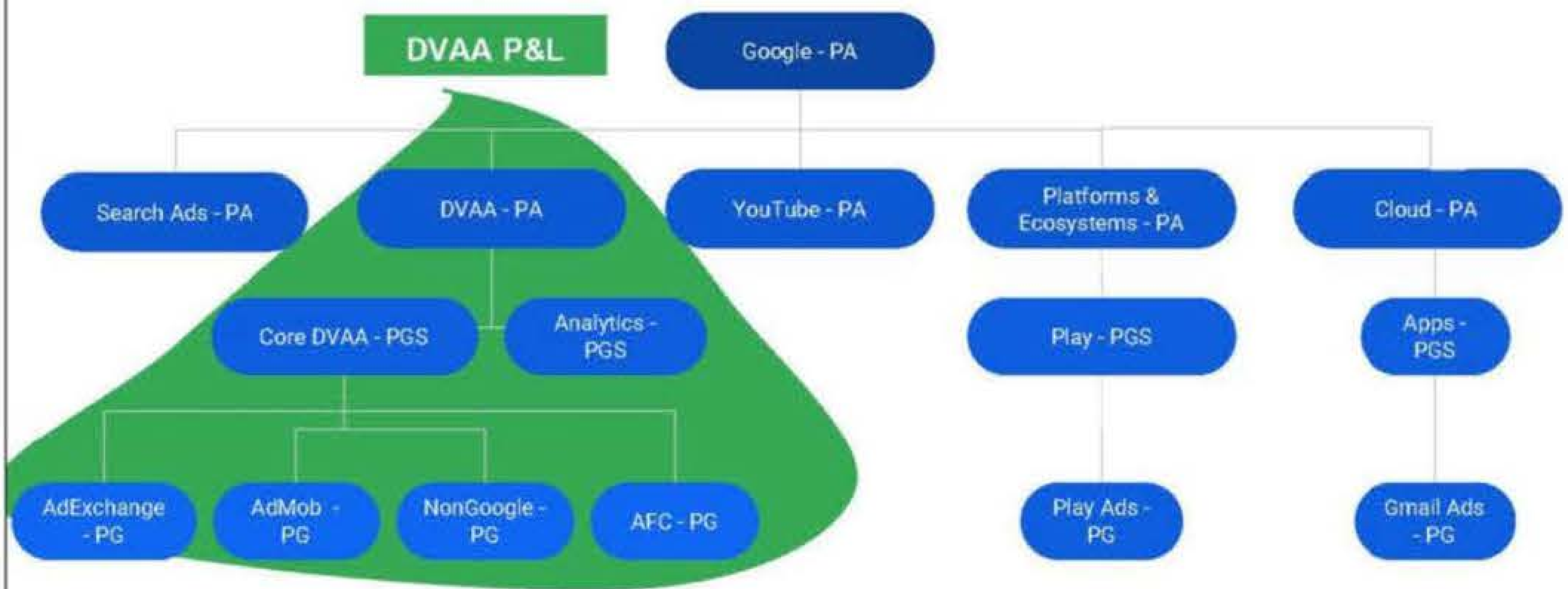
DVAA addresses spectrum of marketer/publisher use cases (simple to sophisticated) and optimizes for access



How are P&Ls defined?



- PAs are defined by **sellside** product (i.e., where did the ad land/was viewed by the user?)
- This is why YouTube isn't part of the DVAA P&L, even though our teams do work that benefit them! (i.e. DBM)

P&L Mechanics

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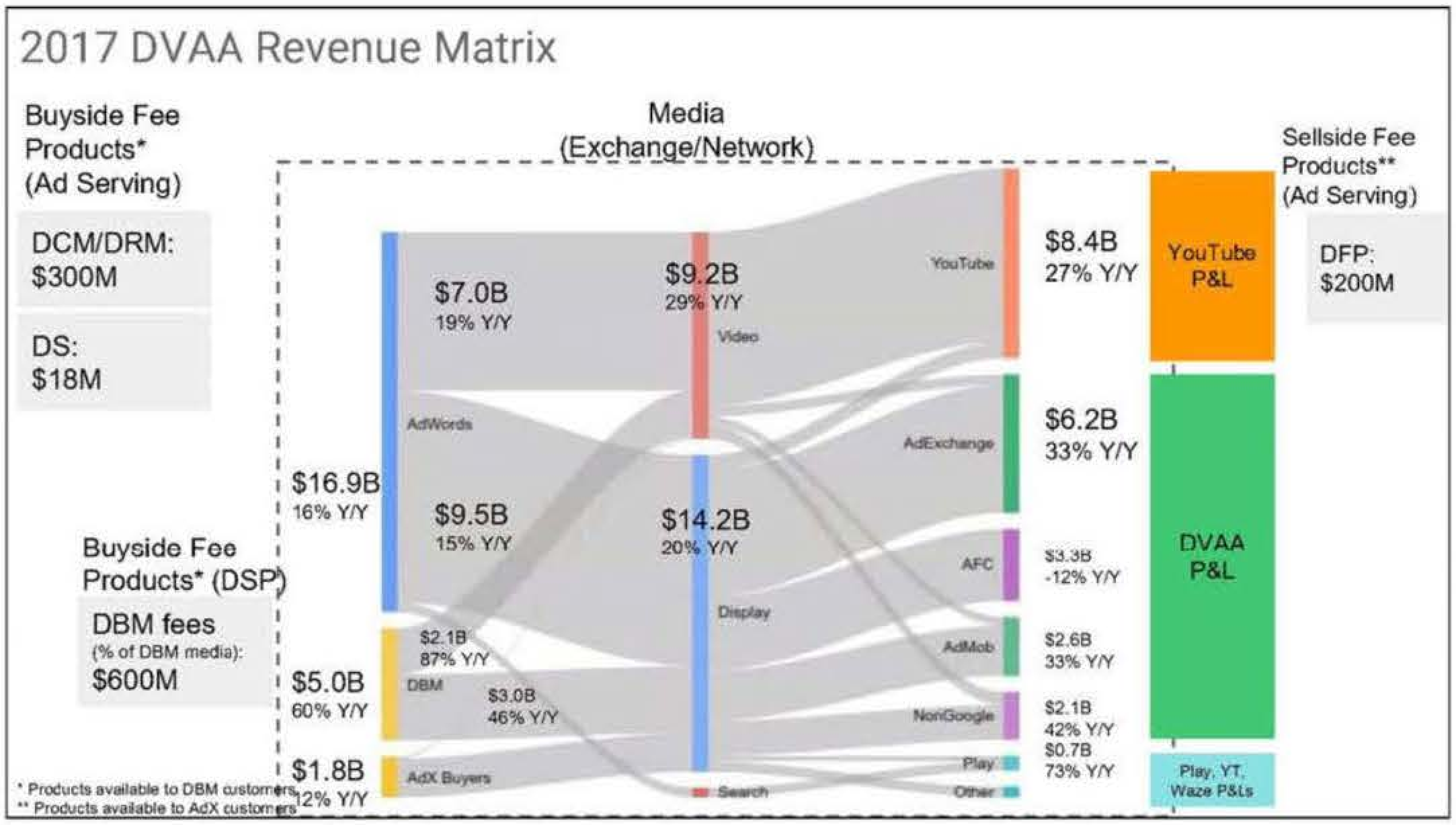
P&L Definitions

	Served Revenue (Fixed FX)	**RevForce revenue + Fees (in fixed Annual Plan rate FX)**
	Contra Revenues	Spam/Credits, Sales Allowance (bad debt), DVIP
	Booked Revenue (Floating FX)	**Accounting revenue (in floating FX)**
Cost of Sales	TAC	Applies to media revenue only (except PG/PD, Exchange Bidding)
Cost of Sales	**Net Revenue**	**Booked Revenue - TAC**
Cost of Sales	*Net Revenue Margin %*	*Net Revenue / Booked Revenue*
Cost of Sales	Other COS	Credit Card Fees, transactional gTech, data licenses (e.g. White Ops)
Cost of Sales	Machine/Network	Resource Economy charges, incl. share of Ads-PA Reserve, Logs, Payments
	Gross Margin	**Booked Revenue - Cost of Sales**
	Gross Margin %	*Gross Margin / Booked Revenue*
OpEx	Total Opex	All the FTE HC (Payroll, SBC) + non-Payroll OpEx (e.g. TVCs, licenses) supporting DVAA Business
OpEx	EngPM	DVAA FTEs, non-Payroll OpEx and Other SR Teams supporting DVAA (EngProd, DIA, Payments Infra)
OpEx	GBO	GBO FTEs selling/supporting Core DVAA + GA products (gTech, LCS, Platforms Sales, Partnerships, etc.)
OpEx	Marketing	
OpEx	G&A	REWS, Legal, Finance, PeopleOps
OpEx	TI	SRE, Privacy/Security, Machines/Network "Overhead," Corp Equipment (e.g. laptops, Tech Stops)
	Operating Profit	**Gross Margin - OpEx**
	Operating Profit %	*Operating Profit / Booked Revenue*

Source: https://docs.google.com/spreadsheets/d/1lmyHRpxs_fosbkRGbwenaOE2hKaWQAvUTTzcIsrw6BQ/edit#gid=1479443361



Key takeaways:
Google "owns" majority of these transactions on both sides -- AdX and nonGoogle relatively small parts of DVAA business

Core DVAA P&L TAC Rate is driven by Revenue Mix; Net Revenue Margins vary significantly by Buying Door/Inventory combinations

2017 Actual		AdWords	DBM					AdX Buyers			Exchange Bidding
			OA	PD	PA	PG	Tag	OA	PD	PA	
Network	AFC/AdMob	0% 32% 32% $5.4B	11% 32% 43% $0.4B					0% 32% 32% $0.5B			
Network	AdX Pubs	15% 18% 30% $3.1B	10% 20% 30% $1.0B	10% 8% 18% $0.2B	10% 16% 26% $0.3B	4% 7% 10% $0.2B		0% 20% 20% $0.8B	0% 8% 8% $0.1B	0% 16% 16% $0.2B	0% 5% 5% $0.2B
Non-Google	Reservation						3% 0% 3% $0.0B				
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1 Significant variance in DBM net margins across inventory sources

2 Significant variance in buy and sell side contributions across deal types

3 DBM on 3PE net revenue margin depends solely on buyside fees

Legend:

Buyside Fee →	6%	27%	← Google Rev Share
Net Revenue Margin →	31%	$2.4B	← Media Spend

***AWBid (AdWords on 3PE) target margin is 15% as per Product*
Net Revenue Margin = (Buyside Platform Fee + Google's Revenue Share) / Media Spend
Programmatic Guaranteed and Preferred Deals recognized as net revenue in external/financial reporting
Increased TAC due to Open Auction tiered deals (and minimum guarantees for AdX Pubs and AFC/Admob not included; overall impact is -25bps to Google Total Net Revenue Margin in 2017

OpEx Allocations: EngPM

Dear YT, my boi Bahman says we spend ~5% of our time building out YT-specific formats. So pleez enjoy this $10M OpEx allocation 4 our good werk

Process: 1X annually, Ads Finance analysts solicit feedback from EngPM
allocations by product based on estimated time spent a

- Allocations are uploaded into go/turboallocrates b
- Allocation rates are applied to all Payroll, SBC, T& iv
designated PG

Example: Bahman Rabii manages EngPM Cost Center ts, which houses ~400 Engineers or ~$200M of OpEx. He provides the followin rates to his trusty financial analyst, Piper:

P&L	Product	Allocation Rate	Allocated OpEx $
YouTube P&L	YouTube	5%	$10
DVAA P&L	AFC	12%	$24
	AdMob	20%	$40
	AdExchange	42%	$84
	3PE/NonGoogle	18%	$36
Play P&L	Play Ads	2%	$4
Gmail P&L	Gmail Ads	1%	$2
	Total	100%	$200

Based on Bahman's inputs, Piper uploads these new allocation rates into go/turboallocrates

Hyperion then takes the $400M total OpEx forecast/spend in Bahman's cost center and applies the relevant allocation rates to ensure OpEx hits each P&L accordingly

Source: https://docs.google.com/spreadsheets/d/1lmyHRpxs_fosbkRGbwenaOE2hKaWQAvUTTzcIsrw6BQ/edit#gid=1479443361

OpEx Allocations: GBO & Marketing

Process: 1X annually, every GBO Googler completes the GBO time study survey

- One question is spearheaded by the Central Ads Finance team, where the GBO Googler is asked to manually enter how long he/she spends on each product listed (out of 100%). The product options presented are relevant to the team of the Googler taking the survey (ie GMS, LCS, etc.)
- Central Ads Finance scales up the results and applies them to the entire Sales, Marketing, Partnerships, and Google for Work rollups by cost center. The products are mapped to the appropriate Product Areas and Product Groups using Corp's latest Product Taxonomy
- For Buyside Teams working on GDN (AdWords) or DBM, costs are allocated to Sellside product (AdX, AdMob, AFC, YouTube, Play Ads, etc.) on the basis of Revenue

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Source: https://docs.google.com/spreadsheets/d/1lmyHRpxs_fosbkRGbwenaOE2hKaWQAvUTTzcIsrw6BQ/edit#gid=1479443361

OpEx Allocations: G&A and TI

Process: G&A (REWS, POps, Finance) and TI allocated to P&Ls using a series of drivers

- REWS - $3.7B: Volume of seated Headcount
- TI - $3.9B: PA-specific applications/infrastructure
- POps - $1.1B: count of net hires
- Finance - $0.8B: volume of activities that drive work (invoices, manual journal entries)
- Legal - $7.0B: product launches, PA specific policy issues

go/corpsites/ga-turbo

Source: https://docs.google.com/spreadsheets/d/1lmyHRpxs_fosbkRGbwenaOE2hKaWQAvUTTzcIsrw6BQ/edit#gid=1479443361

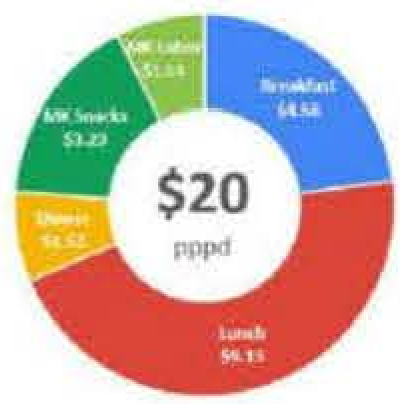
REWS budget is highly fixed in the short-term with the exception of workplace services

1. ~60% of the REWS budget is fixed in the short-run but represent the greatest long-term opportunity. Key levers:
   - Location
   - Build/Buy v Lease
   - Fitout specifications
   - Density
2. Facilities and Safety & Security (~15% of REWS) may have room on the margins, but are difficult to find structural changes given the requisite nature of maintaining and securing our portfolio
   - NorCal and EMEA facilities contracts out to bid
   - Security is standardizing contractors
3. Food spend is highly variable but also highly visible. Key levers:
   - How often you feed people (e.g., # of meals)
   - How many people you feed (e.g., TVCs, visitors)
   - How much you subsidize (e.g., currently 100%)
   - What you feed people (e.g., hot breakfast, MK snacks)
4. Transportation is specific to the Bay Area and necessary for future development; possible to overhaul routes and scheduling but would impact Googlers flexibility and commute times

Google Notes: Based on 2017 V6 Forecast; excludes write-offs and one-time gains

Food: Current Global CPPPD[1] of $20 has seen a mix benefit from the increase in GOVOs but faces pressures in labor costs

Breakdown by Meal



- All sites provide MK services but meal offerings vary by site type and size
  - GOGOs also provide lunch while # of breakfast and dinner offerings vary by site
  - GOVOs are MK services only and make up 5% of program spend (but 22% of the population)

Breakdown by Account

- Labor costs increases pose the largest risk to food unit costs while the program continues to push for operational efficiencies through continued consolidation of vendor partners
- Food & Beverage inflation (1% CAGR in the US[2]) is actively offset through a focus on waste reduction and economies of scale through procurement

Google [1] CPPPD = Cost per person per day
[2] US locations account for 69% or program costs and 55% of the population

DVAA P&L and trends

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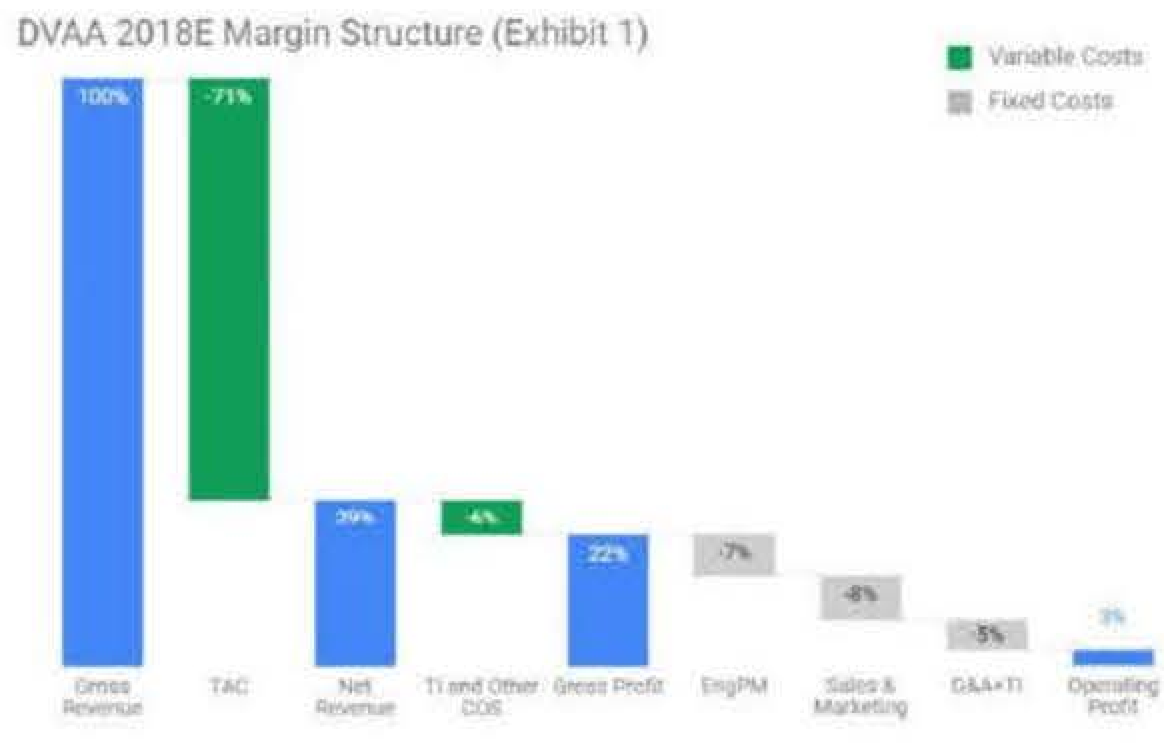
DVAA Margin structure heavily dependent upon TAC



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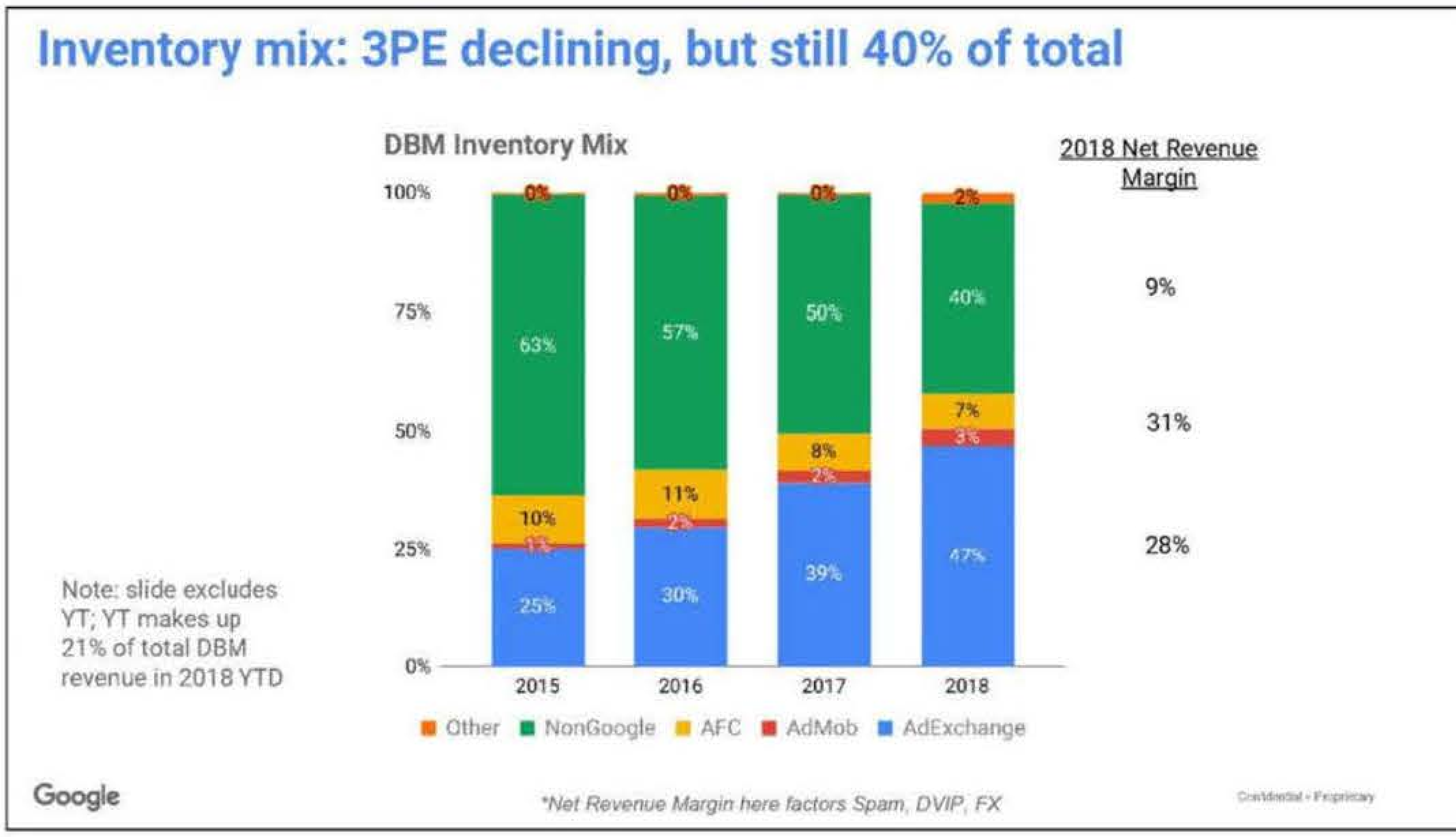
DVAA profitability and value creation in 2019+

1. **Increase net revenues:** pricing, inventory mix, product launches

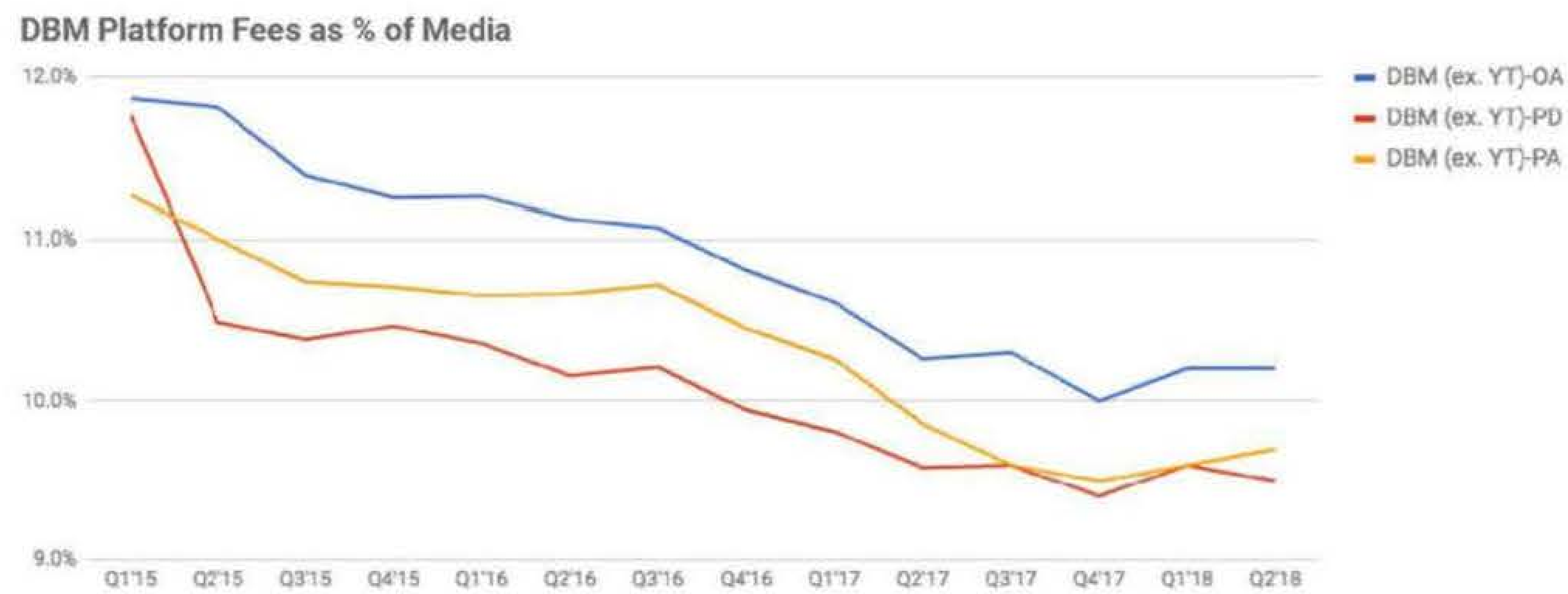
1. **Control Operating Expense Growth:** DBM GBO serviceability, EngPM growth

1. **Control Capital Expenditures:** consider dropping low value queries



AFC: 28% in go/projectslice + 3ppt if DVIP had same % of rev as AFC on AW

DBM platform fees have been in decline



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Note that recent uptick in 2018 is mainly due to mix shift, as Agencies with lower rates have decelerating growth and Direct clients with higher rates are maintaining stable growth trajectory

Supporting DasNav: https://docs.google.com/presentation/d/1hGlqawxIKCXwOvLGD1FAJU3u_0pWNu-2Nnz2gZ_t5lQ/edit?ts=5af26e64&pli=1#slide=id.p

Proposal: Drive profitable DVAA growth through new investment framework

	ESTABLISHED	EMERGING	NEW	SUPPORTING
	Established, at scale businesses with relatively low growth potential	High revenue growth potential, already at minimum scale	Early stage businesses with little or no revenue	Infrastructure and businesses that support other businesses or create optionality
	Web	*Apps*	*Video, OOH, etc*	*GA Suite*
Goals	Drive significant operating profit, FCF improvement	Drive revenue growth and variable margin improvement	Hit technical and adoption milestones; establish demand and unit economics	Drive measurable impact on other businesses

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Appendix/Extras

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Data Sources/References

go/adspnl - Total Ads P&L (DVAA, Search Ads, YT) updated each forecast cycle *(Central Ads Finance)*

go/adspnlmapping - Product/product groups (PG) hierarchies for DVAA vs. Search vs. YT, etc *(Central Ads Finance)*

go/displayperformance - Display/Video gross revenue forecasts by buying door, sellside product, format, environment, etc. *(Display Rev Team)*

go/projectslice - Splits total DVAA P&L by various cuts: buying door, sellside product, format, environment, channel, etc. *(DVAA Finance)*

go/dvaatraining - Series of trainings on DVAA products, revenue, etc. *(DVAA PM)*

go/corpsites/ga-turbo - Overview of all Turbo G&A allocated costs: REWs, POPs, Finance, TI, etc. *(G&A Finance)*

Most recent Q2'18 DVAA All Hands recording

Google

Finance Glossary

Variable Costs: Costs that increase with incremental revenue. Our TAC is a variable cost, because it increases with our revenues

Variable margin: Ratio of incremental profits to incremental revenues. e.g. If we add $1 incremental gross revenue with 80% TAC, we add $0.20 to our profits (neglecting incremental TI costs). The variable margin is 20%. A business that has high variable margins and can grow revenues is highly likely to turn profitable and be valuable over time, unless its engineering and sales are not well managed, or it requires massive infrastructure to run *(see invested capital below)*

Fixed Cost: Costs that do not increase directly with revenue growth, like EngPM, G&A or REWS

Invested Capital: Value of the assets (e.g. office buildings, data centers, machines, inventories) needed to support the business

Return on Invested capital (ROIC): Whether or not generating $20 operating profit on $100 of revenues creates value depends on how much capital is invested in the business. If the capital invested (eg TI infrastructure) is $80, then the return is 25% ($20 operating profit / $80 invested); 25% return is generally excellent for a well understood, established business. However, if the business generates $20 operating profit but had to invest $1,000 of capital, then the return is 2% and it'd be better off investing in US bonds (~3% return, with no risk). Prospectively, if a business is very risky, then the potential return that would make it an attractive investment has to be higher, as higher risk investments should have higher potential returns. A key reason why Google is so valuable is because its overall return on invested capital, which is driven primarily by Search, is significantly higher than 25%.

For a business to be valuable, it is not sufficient to have high ROIC. If you walked to Gabe Kronstadt in the offsite and gave him $5 in exchange for $10 (worth the try!), your return would be 100%, but you would not be rich. For you to become wealthy, you would have to do this many, many times, i.e. invest quite a few $5s. That is why when smart businesses find opportunities with high returns they invest a lot in them, e.g., R&D, sales and marketing, and infrastructure, often making profitability and returns temporarily negative to generate more value later.

A business can be very valuable and have low or negative ROIC in the present or near future, e.g., if it is in an investment cycle. A business *will not* be very valuable if its ROIC is low or negative and has no prospects of increasing (or if ROIC is high but expected to decline quickly)

Capital Intensity: Ratio of cash outlays for capital expenditures to revenue (eg, machines). Higher capital intensity businesses have higher invested capital and require higher margins to create value

Note. These are simplified definitions and omit several technical considerations (e.g. taxes)

GBO Fall 2015 Intro Page and Sample LCS Allocation Question

Fall 2015 GBO Sales Activity Survey

Thank you for participating!

- Agency
- CSI/GSL Brand, Performance & Platforms
- CSI Platforms Sales
- GCAS
- gTech Ads LCS
- gTech Ads Global Support, Dedicated & Specialist Teams
- PBS
- LCS
- OZ Hub, BR Performance Pod
- SMB

Teams that do NOT need to take the survey:

Questions?

FAQs

How is this different from Googlegeist?

How will the survey data be used?

Section 1: Overall, what percentage time do you spend on the following products? (Responses must sum to 100)

Admob *

Computer Tablet Search *

DBM (formerly known as Invite Media) *

GDN - Brand *

GDN - Performance *

Mobile GDN - Brand *

Mobile GDN - Performance *

Mobile Search *

Shopping - PLA *

Travel - HPA *

YouTube *

Google

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2017 DVAA "Waffle" - Buyside Fee, Rev Share, Net Rev % & Media Spend

		AdWords	DBM OA	DBM PD	DBM PA	DBM PG	DBM Tag	AdX Buyers OA	AdX Buyers PD	AdX Buyers PA	Exchange Bidding
O&O	YouTube	0% 45% 45% $5.6B	4% 45% 49% $1.0B								
O&O	Gmail	0% 100% 100% $0.4B									
Network	AFC/AdMob	0% 32% 32% $5.4B	11% 32% 43% $0.4B					0% 32% 32% $0.5B			
Network	AdX Pubs	15% 16% 30% $3.1B	10% 20% 30% $1.0B	10% 8% 18% $0.2B	10% 16% 26% $0.3B	4% 7% 10% $0.2B		0% 20% 20% $0.8B	0% 8% 8% $0.1B	0% 16% 16% $0.2B	0% 5% 5% $0.2B
Non-Google	Reservation						3% 0% 3% $0.0B				
Non-Google	3PE	15% 0% 15% $0.3B	10% 0% 10% $1.3B	9% 0% 9% $0.1B	10% 0% 10% $0.4B						

1. Significant variance in DBM net margins across inventory sources
2. Significant variance in buy and sell side contributions across deal types
3. DBM on 3PE net revenue margin depends solely on buyside fees

Legend:

Buyside Fee → 6% 27% ← Google Rev Share

Net Revenue Margin → 31% $2.4B ← Media Spend

*O&O not included in DVAA P&L
**AWBid (AdWords on 3PE) target margin is 15% as per Product
Net Revenue Margin = (Buyside Platform Fee + Google's Revenue Share) / Media Spend
Programmatic Guaranteed and Preferred Deals recognized as net revenue in external/financial reporting
Increased TAC due to Open Auction tiered deals (and minimum guarantees for AdX Pubs and AFC/Admob not included; overall impact is -25bps to Google Total Net Revenue Margin in 2017

AdWords has higher net rev margin than DBM mainly due to larger YT share of spend, but DBM is higher margin when limiting to Network and Auction only

All Trans Types	AdWords		DBM
O&O	0% 49% 49% $6.0B		4% 45% 49% $1.0B
Network	6% 27% 31% $8.5B		9% 20% 29% $2.1B
Non-Google	15% 0% 15% $0.3B		10% 0% 10% $1.8B
Total	4% 35% 38% $14.8	1	8% 19% 27% $5.1B
Total ex-O&O	6% 26% 31% $8.9B	2	10% 11% 20% $3.9B

Auction Only	AdWords		DBM
O&O	0% 49% 49% $6.0B		4% 45% 49% $1.0B
Network	6% 27% 31% $8.5B	3	10% 23% 34% $1.5B
Non-Google	15% 0% 15% $0.3B		10% 0% 10% $1.3B
Total	4% 35% 38% $14.8		9% 21% 30% $3.7B
Total ex-O&O	6% 26% 31% $8.9B	3	10% 13% 23% $2.7B

1. Total net rev margin of 38% for AdW vs 27% in DBM, but YT was ~2x share of Adwords spend (40%) vs DBM (21%)
2. Removing YT, AdW net rev margin still significantly higher because DBM has direct deals (lower buyside fees and Google rev share) and also falls on 3PE (0% Google rev share)
3. Removing YT and limiting to Auction only, DBM has slightly higher net rev for Network, but AdW remains 8pp higher than DBM in Total net rev margin due to DBM spend on 3PE

Legend:

Buyside Fee →	6% 27%	← Google Rev Share
Net Revenue Margin →	31% $2.4B	← Media Spend

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Programmatic Guaranteed and Preferred Deals recognized as net revenue in external/financial reporting
Increased TAC due to Open Auction tiered deals (and minimum guarantees for AdX Pubs and AFC/Admob not included; overall impact is -35bps to Google Total Net Revenue Margin in 2017

Glossary of basic Google display terms: display products

GDN (Google Display Network): Advertiser product to place display ad on collection of websites via Google. Sometimes referred to as AdWords because advertisers use the same front-end system as for search ads/traditional AdWords.

DBM (Doubleclick Bid Manager): Google's DSP (Demand Side Platform), where advertisers can go to advertise both on Google publisher product websites (AFC and AdExchange) as well as non-Google exchanges. Formerly known as Invite Media.

AFC (AdSense for Content): Google's traditional display publisher product. Other AdSense publisher products that fall under display include AFD (AdSense for Domain), AFE (AdSense for Error), AFG (AdSense for Games), AFV (AdSense for Video).

Display Buyside: Includes all Google display advertiser products except GDN/AdMob' Display Buyside includes AdX Buyers, DBM, DS/DoubleClick Search, DFA/DoubleClick for Advertisers, DRM/DoubleClick Rich Media.