

# Scale Measures

## THICKNESS

### METRICS:

Buyers (Advertisers)

NUMBER & DIVERSITY

Sellers (Publishers)

NUMBER & DIVERSITY

## TRANSACTION VOLUME

### METRICS:

Impressions

Ad Spend

Queries

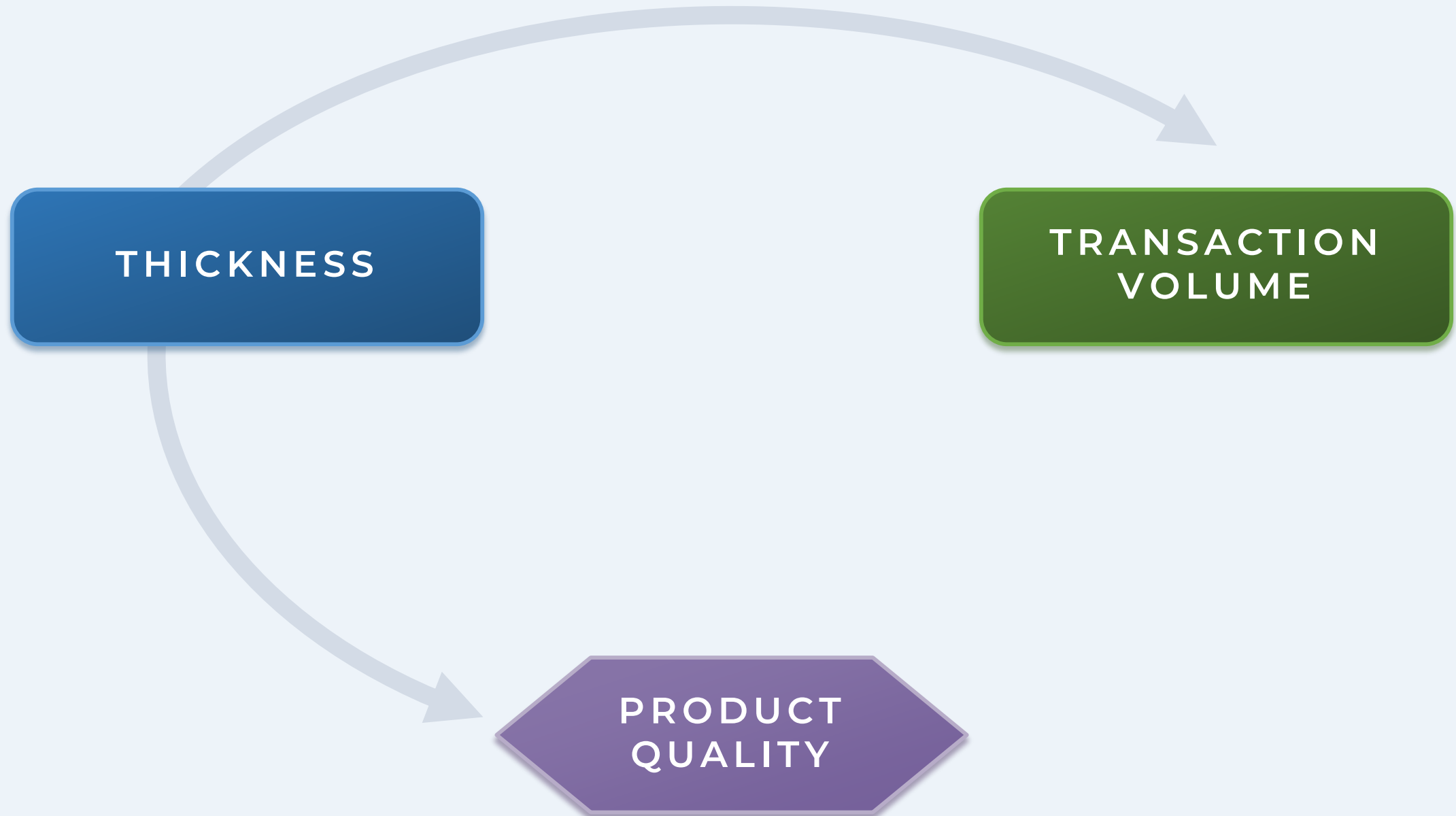
Win Rate

Pls. Demonstrative

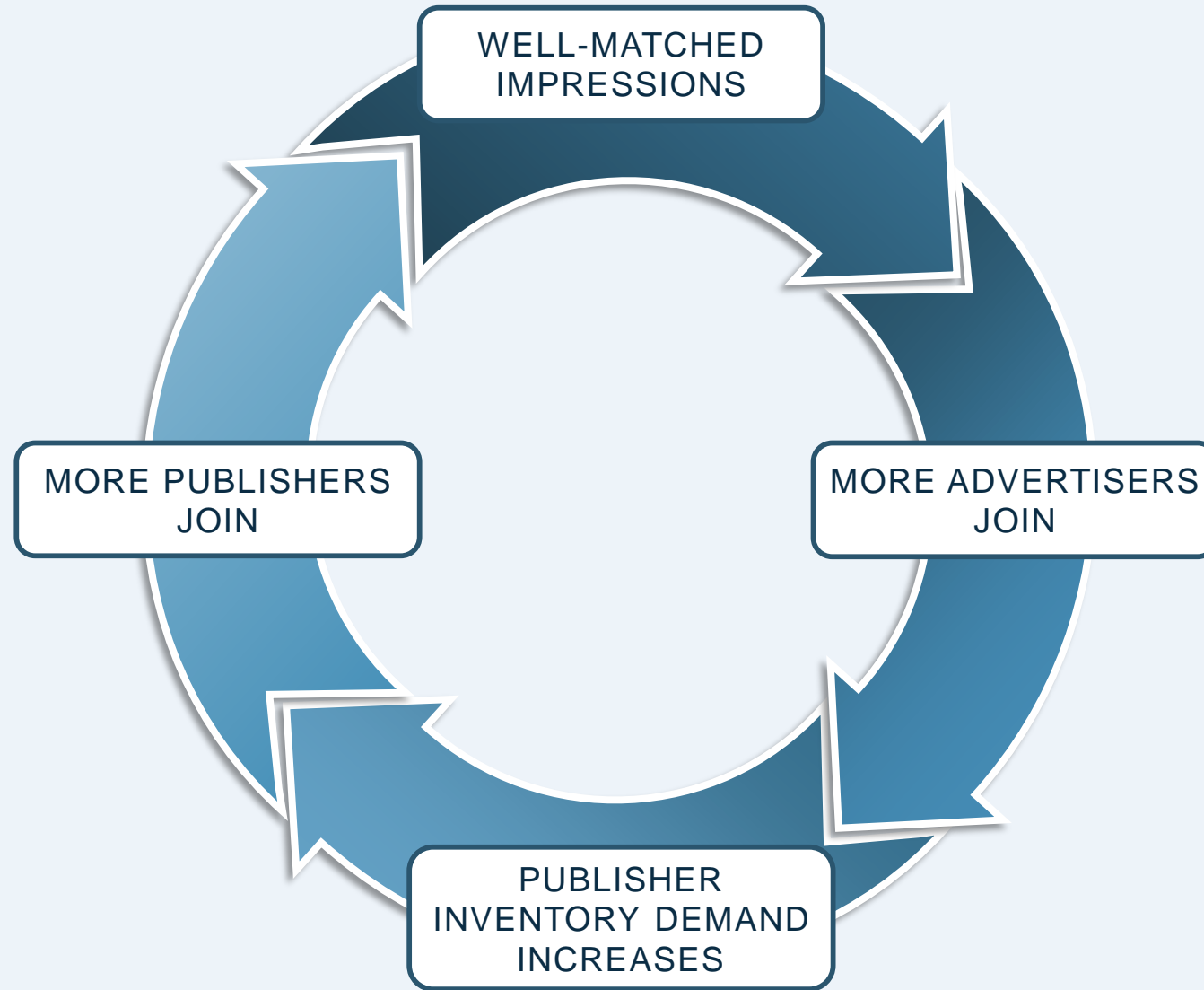
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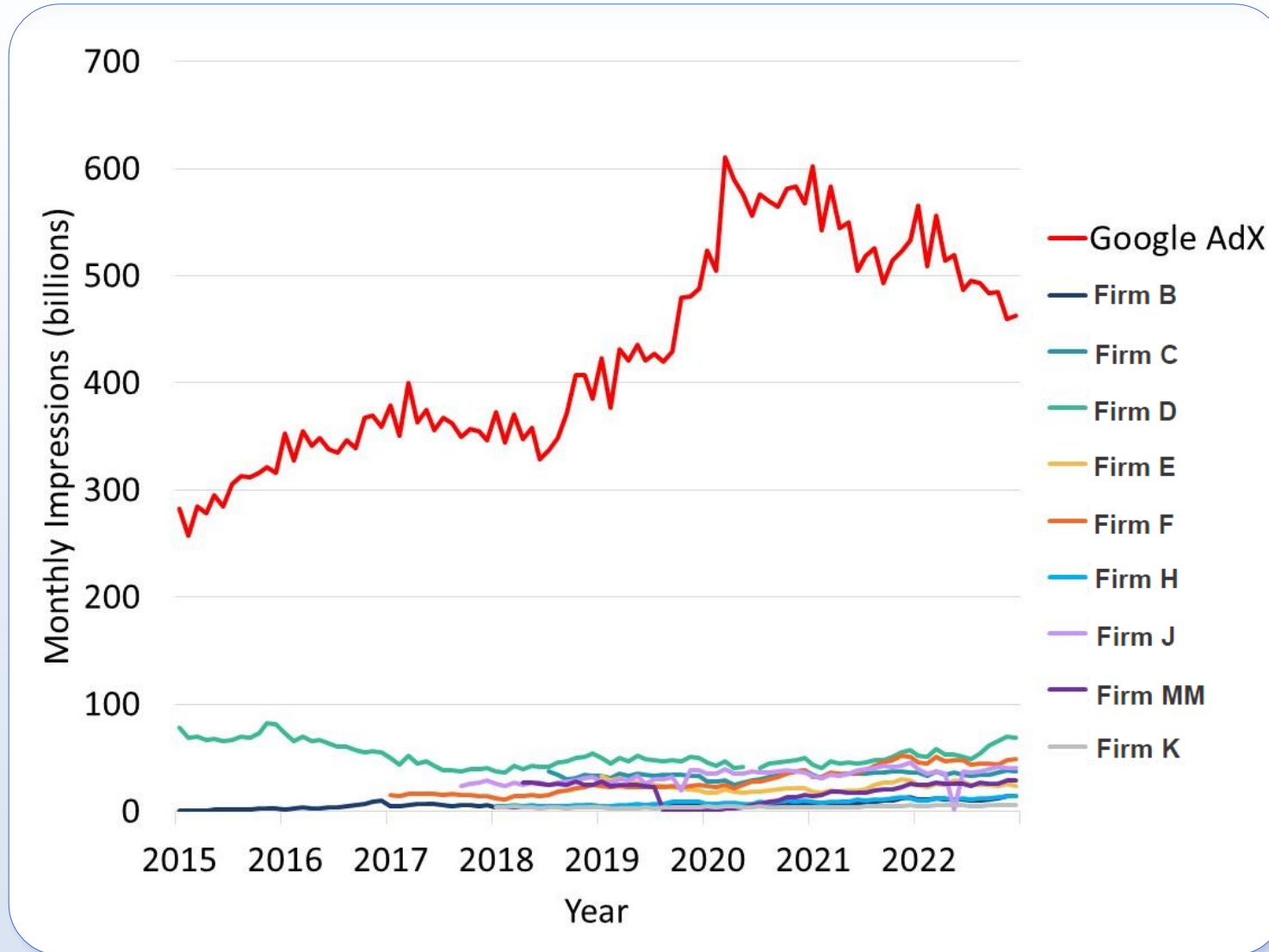
# Why Scale Matters: Thickness



# Indirect Network Effects Create Growth



# Transaction Volume: Impressions by Ad Exchange



# Why Scale Matters: Transaction Volume

THICKNESS

TRANSACTION  
VOLUME

Experiments

Algorithms

Cost Efficiencies

PRODUCT  
QUALITY



# Scale And Experiments

NUMBER OF DAYS UNTIL THE EXPERIMENT CAN DETECT A 0.05% INCREASE IN WIN RATE

SEPTEMBER						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1  (1 day)	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

Source: Expert Report of Gabriel Weintraub, Ph.D., Figure 17 and Power Analysis Workpaper.

# Scale And Experiments

NUMBER OF DAYS UNTIL THE EXPERIMENT CAN DETECT A 0.05% INCREASE IN WIN RATE



SEPTEMBER						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1 (1 Day)	2	3	4	5	6	7
Firm E (15 days)						
8	9	10	11	12	13	14
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# Scale And Experiments

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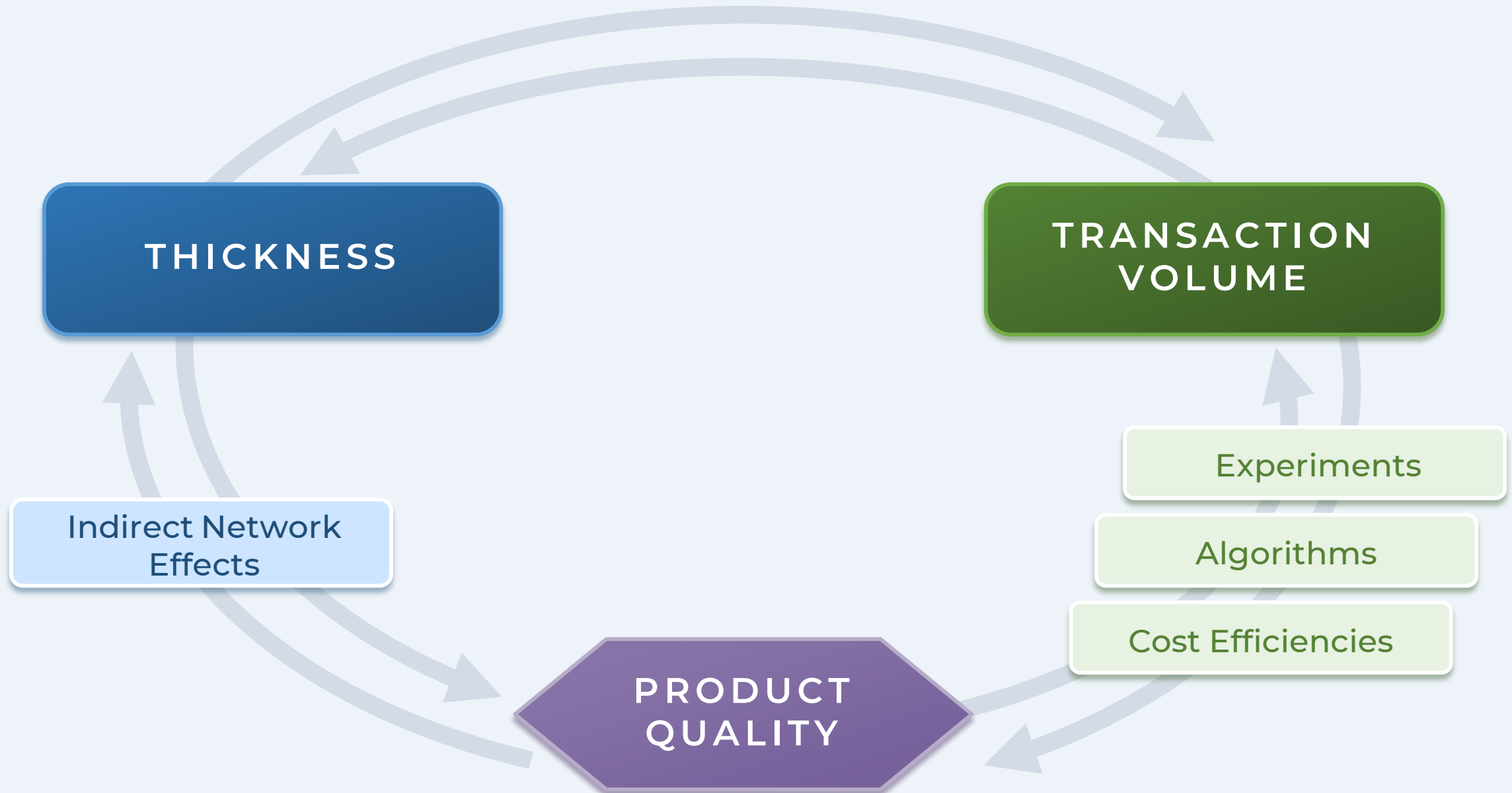


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Source: Expert Report of Gabriel Weintraub, Ph.D., Figure 17 and Power Analysis Workpaper.



# Scale Benefits From Feedback Loops



# Data Sources Relied Upon

Google's Experimental Results

Monthly Data on Impressions and Ad Spend

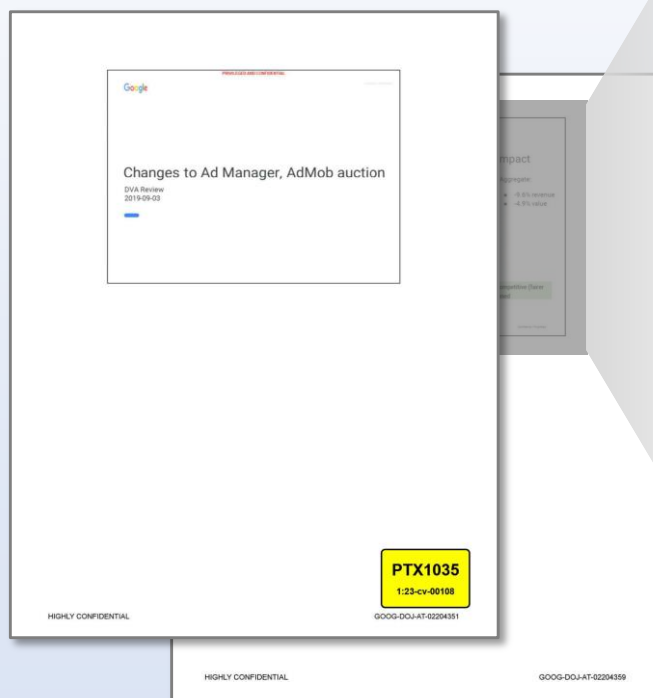
Google

Third-Party Exchanges

Google's Auction-Level Data

# Google's Experimental Results

September 3, 2019,  
Google Presentation,  
"Changes to Ad manager, AdMob Auction"



## Removing Last Look\* has significant negative impact

	Impressions	Value Clamped	Revenue	Google Profit	GDN profit	Post Revshare Payout
LastLookOverDfpRemnant::GlobalControl 246003051 TOTAL * Adx_Only * Web	548,549,820	1,786,486	690,764	154,233	56,196.1323	511,824
itPriceFromSettingWinnerCostExperiment 246003052 TOTAL * Adx_Only * Web	-496,914,005 -9.41% [-9.56, -9.26] %	1,699,227 -4.88% [-5.65, -4.12] %	624,314 -9.62% [-9.95, -9.29] %	144,356 -6.40% [-7.95, -4.86] %	54,296.8083 -3.38% [-7.79, 1.03] %	457,340 -10.64% [-10.79, -10.50] %
LastLookOverDfpRemnant::GlobalControl 246003051 Adwords_Buyer * Adx_Only * Web	333,223,170	418,763	248,815	73,917	35,312.8161	174,720
itPriceFromSettingWinnerCostExperiment 246003052 Adwords_Buyer * Adx_Only * Web	298,497,863 -10.42% [-10.58, -10.26] %	375,698 -10.28% [-11.15, -9.42] %	220,983 -11.19% [-12.16, -10.21] %	69,427 -6.07% [-9.41, -2.74] %	34,838.0716 -1.34% [-8.48, 5.79] %	151,396 -13.35% [-13.48, -13.22] %
LastLookOverDfpRemnant::GlobalControl 246003051 Dbm_Buyer * Adx_Only * Web	108,676,700	1,164,124	287,571	62,827	20,883.3162	200,201
itPriceFromSettingWinnerCostExperiment 246003052 Dbm_Buyer * Adx_Only * Web	102,152,821 -6.00% [-6.18, -5.83] %	1,147,250 -1.45% [-2.59, -0.31] %	269,666 -6.23% [-6.43, -6.02] %	59,667 -5.03% [-5.32, -4.74] %	19,468.7367 -6.82% [-7.04, -6.61] %	187,530 -6.33% [-6.52, -6.14] %

Aggregate:

- -9.6% revenue
- -4.9% value

But allows bundling of other valuable changes, that can be positioned as pro-competitive (fairer platform for \*all\* buyers); Pub outreach to reduce HB boosts planned

\* This impact is measured in a 2P auction state comparing performance with and without last look; [Rasta source](#)

Google

Confidential + Proprietary

# Conduct

First Look

Last Look

Sell-side DRS (SSDRS)

Unified Pricing Rules (UPR)

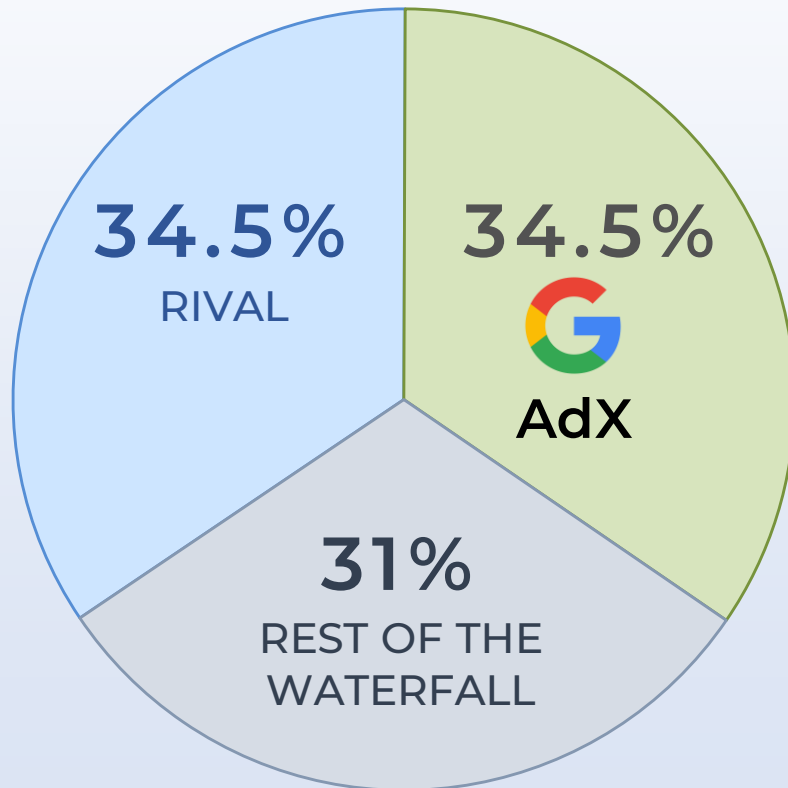
Poirot

Exclusivities

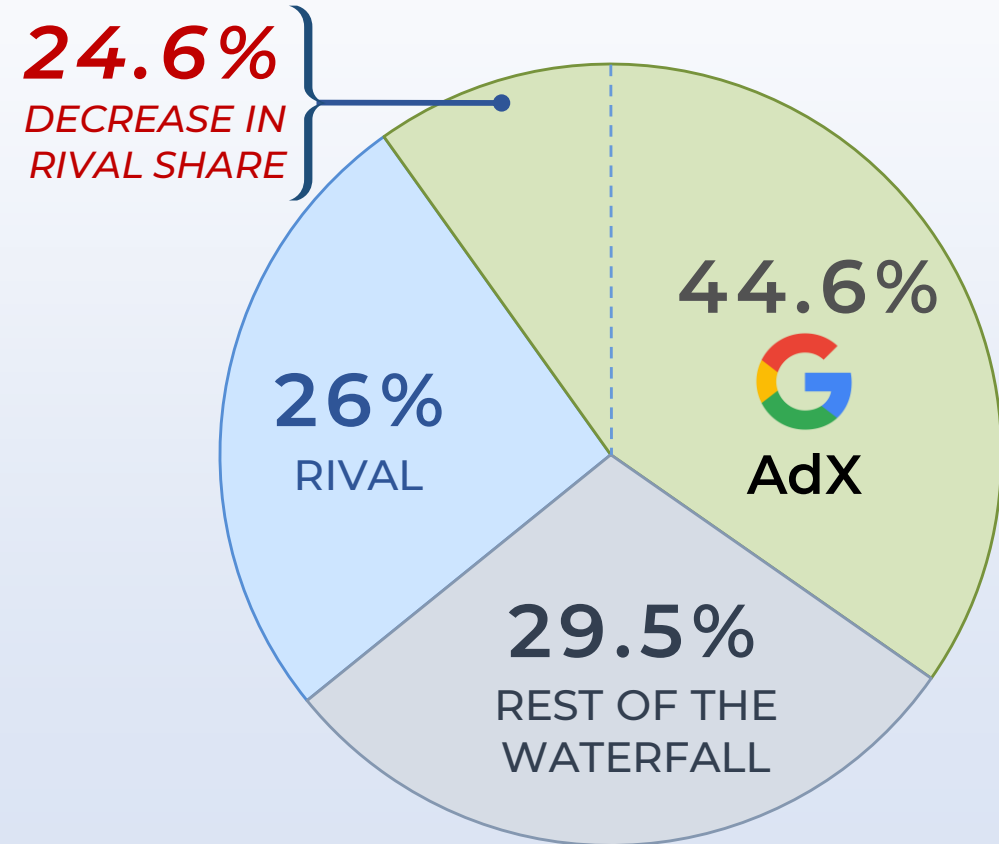
# Effects: First Look

## SHARE OF IMPRESSIONS WON

### HEAD-TO-HEAD



### FIRST LOOK



# Annual Effects of Conduct

## LAST LOOK

(Substitution from Rival Exchanges)



**-492.4 BILLION IMPRESSIONS**

( - 14.25 % )



**-\$473 MILLION AD SPEND**

( - 8.72 % )

# Annual Effects of Conduct

## SELL-SIDE DRS

(Substitution from Rival Exchanges)



**- 81.7 BILLION IMPRESSIONS**

( - 2.39 % )



**- \$161.6 MILLION AD SPEND**

( - 2.74 % )

# Annual Effects of Conduct

## UNIFIED PRICING RULES (Substitution from Rival Exchanges)



**-366.9 BILLION IMPRESSIONS**  
( - 7.95 % )





**-\$220.9 MILLION AD SPEND**  
( - 2.75 % )

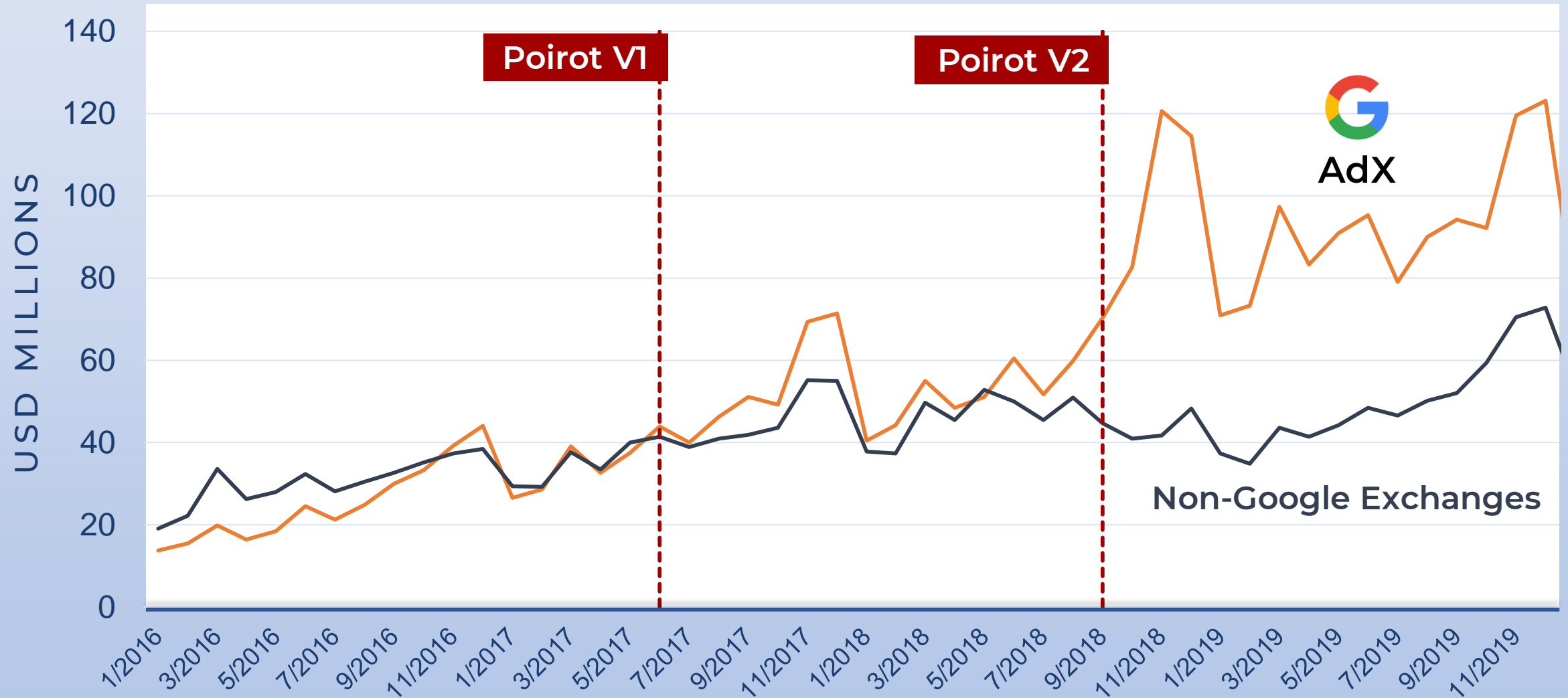


# Annual Effects of Conduct

## PROJECT POIROT

	VERSION 1	VERSION 2
	<b>-42.4 BILLION IMPRESSIONS</b>  ( - 1 . 2 6 % )	<b>-245.6 BILLION IMPRESSIONS</b>  ( - 4 . 1 0 % )
	<b>-\$59.5 MILLION AD SPEND</b>  ( - 1 . 7 6 % )	<b>-\$267.9 MILLION AD SPEND</b>  ( - 4 . 4 5 % )

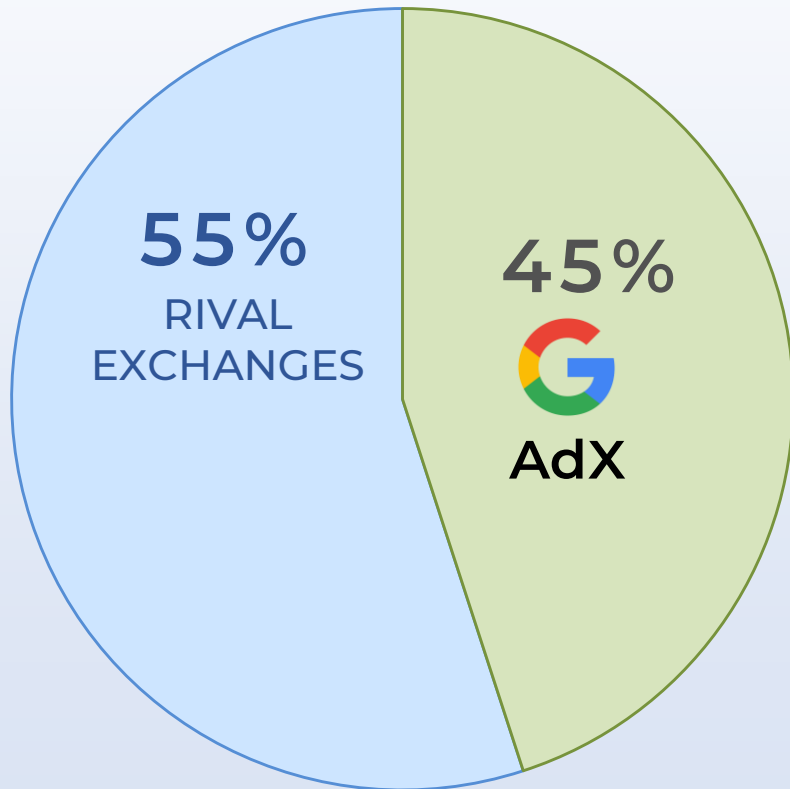
# Poirot: Ad Spend by DV360



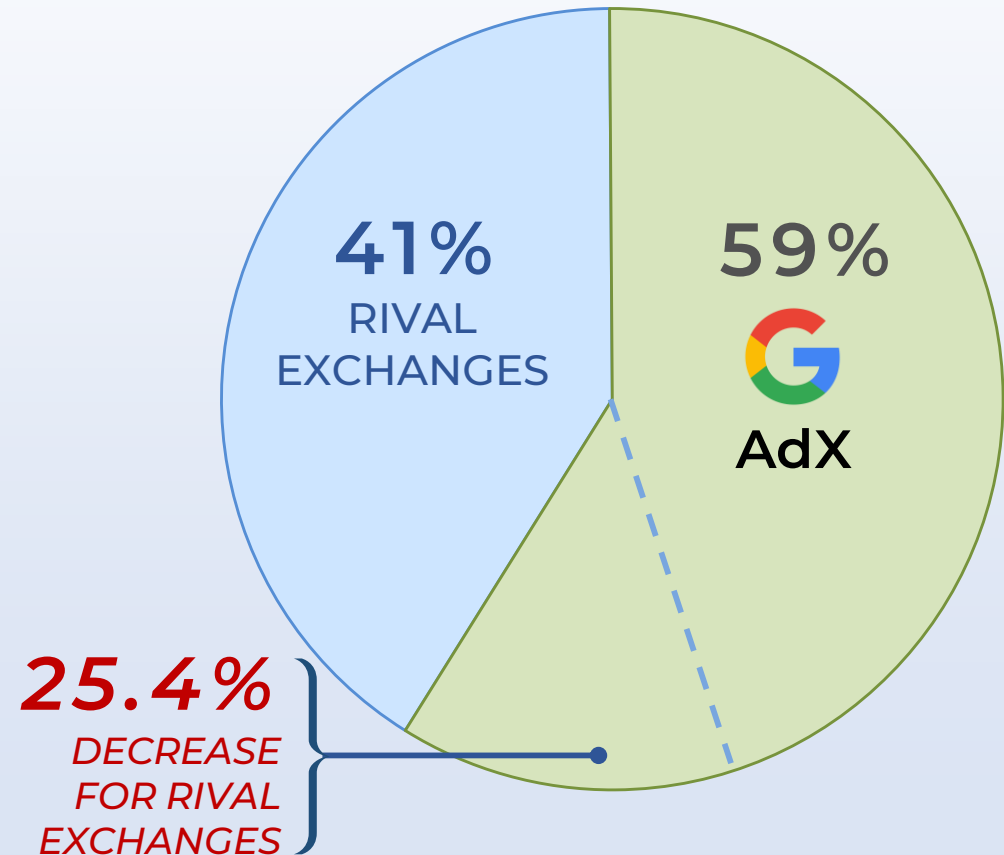
# Effects: Google Ads Exclusivity

SHARE OF IMPRESSIONS AMONG IMPRESSIONS  
WON BY GOOGLE ADX OR RIVALS

WITHOUT GOOGLE ADS RESTRICTION



WITH GOOGLE ADS RESTRICTION



# Effects on Rivals' Ability to Compete

