



## Best Practices in Using Data for Marketing Insights

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# What is the AIG Rapid Learning Lab?

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Statistics & Data Science



Computer Science

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Optimization Engineering



Finance & Strategy

# What is our goal?

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*Maximize Profitable  
Growth*

# What are our 'Table Stakes'?

1. Compliancy.....*Can we do it?*

2. Transparency.....*Can we measure it?*

3. Scalability.....*Can we grow it?*

# An area of our focus: Travel Guard Direct to Consumer

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# 1. Compliance.....*Can we do it?*

## Case Study:

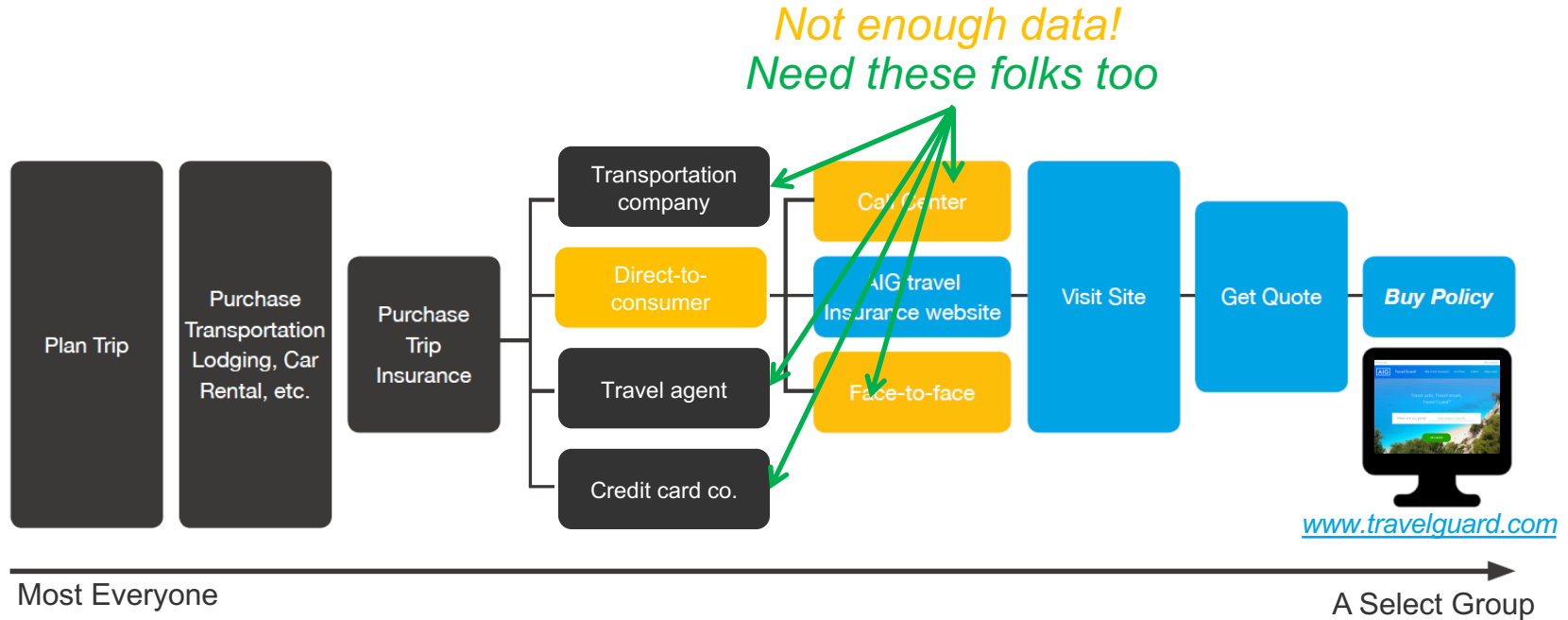
DSP Derived Look-Alike Model In-Market Activation Using CRM  
Seed to Hold-Out Comparison

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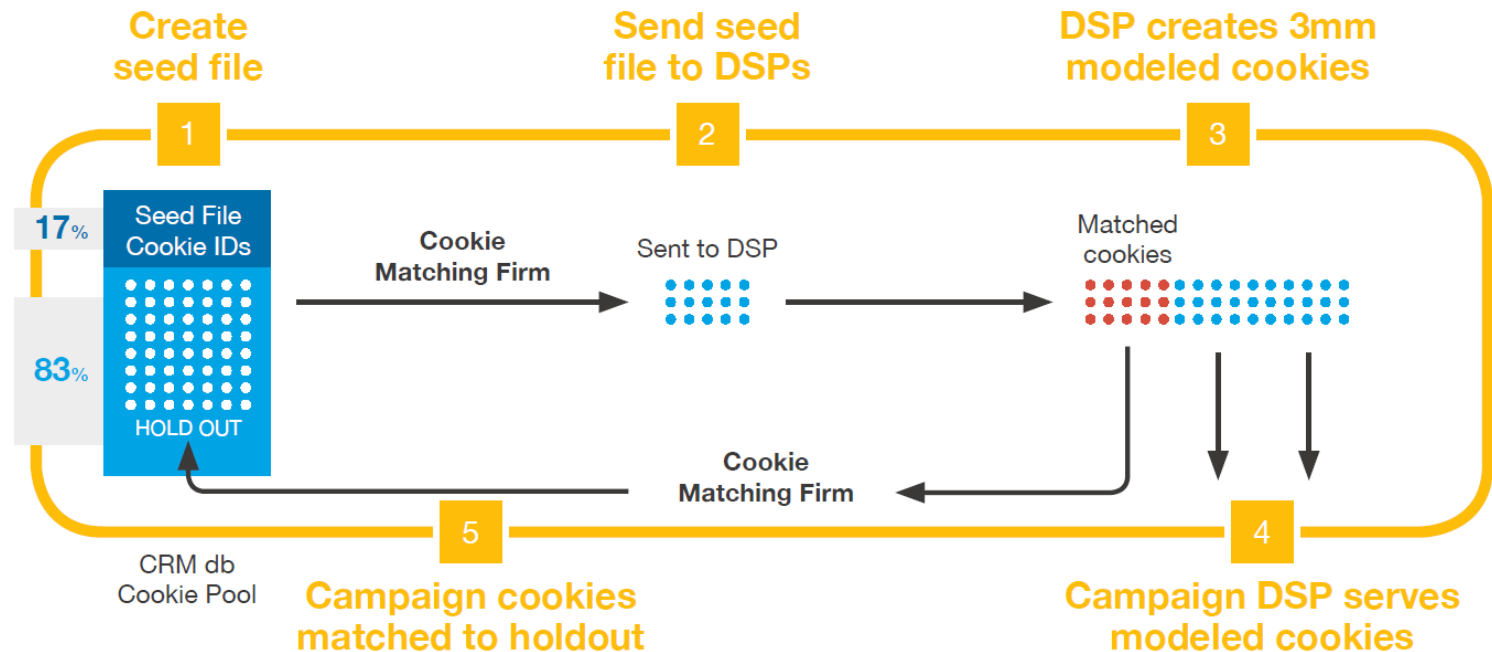
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# Folks Who Buy Travel Guard Travel Insurance

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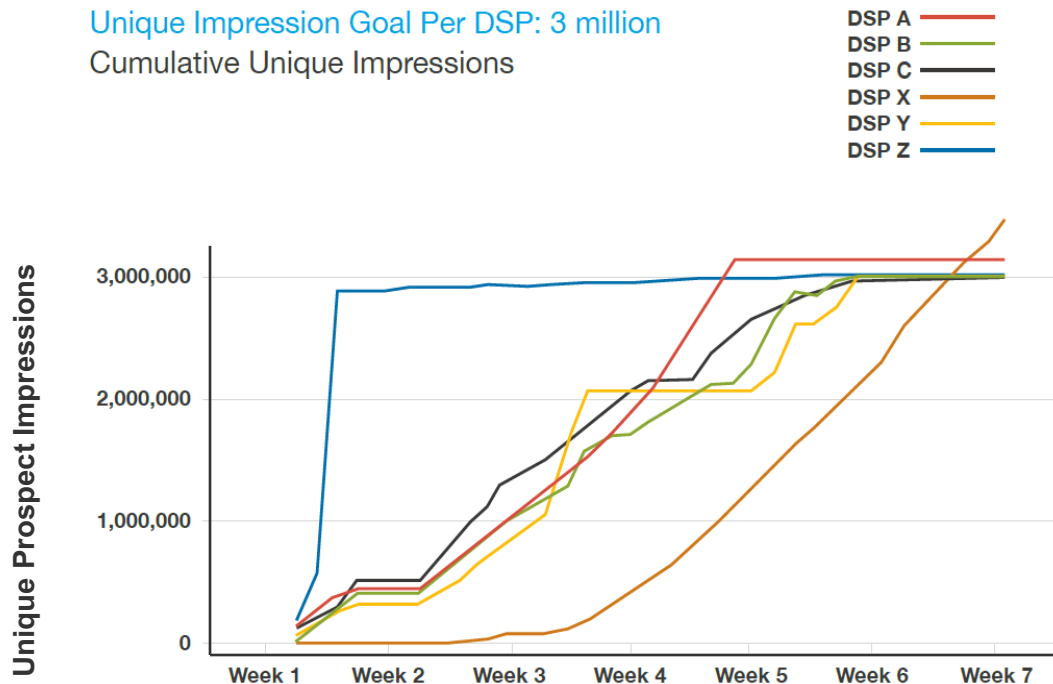


# How were we going to do it?





# Some DSPs took different approaches to ad serving



# Did it work?

## ***ROAS by DSP Compared to Non-Model Benchmark Performance Index:***

*(Do Look-Alike Model Campaigns Using CRM Data Drive Profitable Growth?)*



*Every single campaign had significantly higher ROI than Business as Usual*

## 2. Transparency.....*Can we measure it?*

### Case Study:

Using Machine Learning to Maximize Profitable Revenue for  
Digital Display Marketing

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Since insurance products have a risk component, there are multiple marketing considerations beyond just top line sales

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***Key Performance Optimization Considerations When  
Marketing Insurance***

*Probability of Sale .....Will they buy?*

*Expected Premium .....How much will they pay?*

*Expected Loss .....How much will they claim?*

*Expected Acquisition Cost .....How much will I spend?*

Richness of data available at moment of digital ad placement and complex relationship to economic value creates opportunities for optimization

Data available is complex, rich, deep and broad. Exposure history further complicates the problem.

## *Illustrative Data Sets for Digital Display Marketing of Travel Insurance*

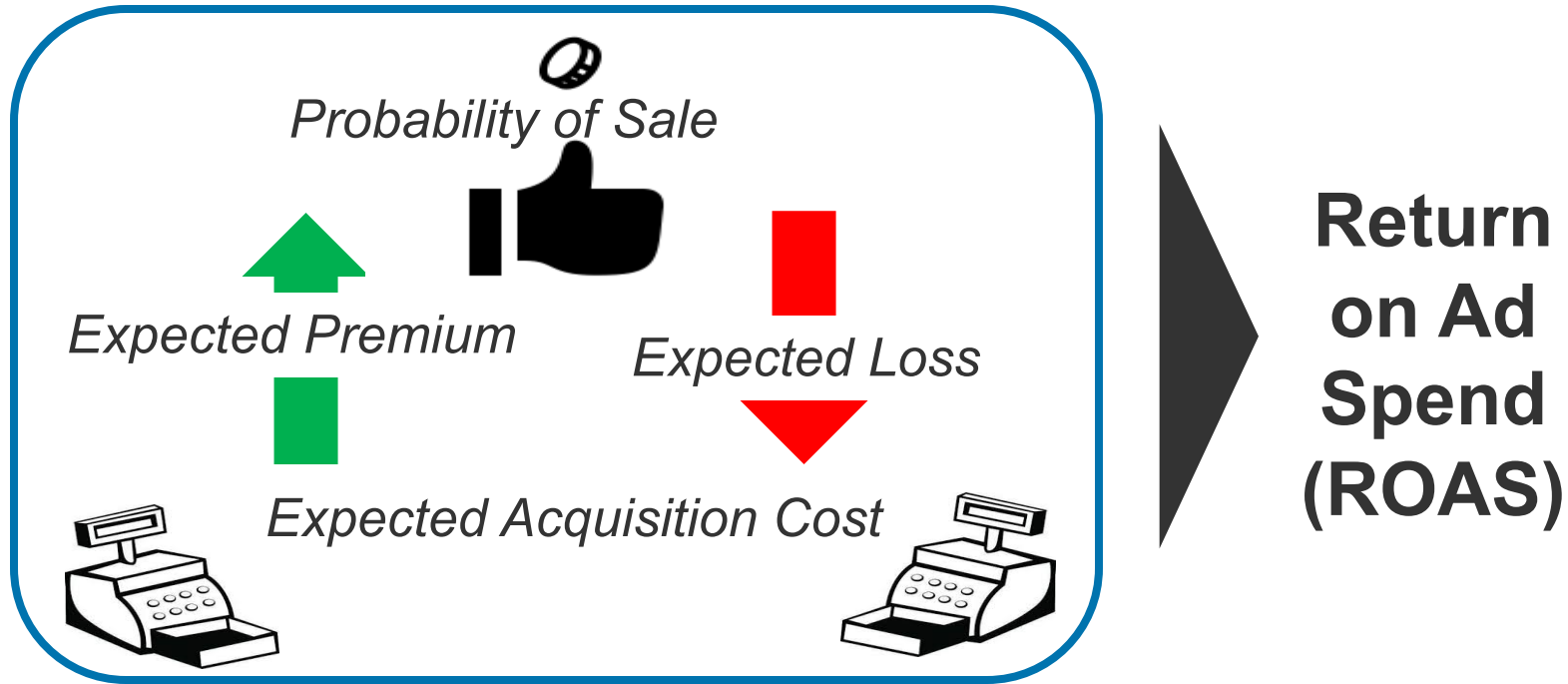


Machine Learning is a natural solution approach

Each component of the economic equation may be a function of distinct and overlapping factors and is modeled separately

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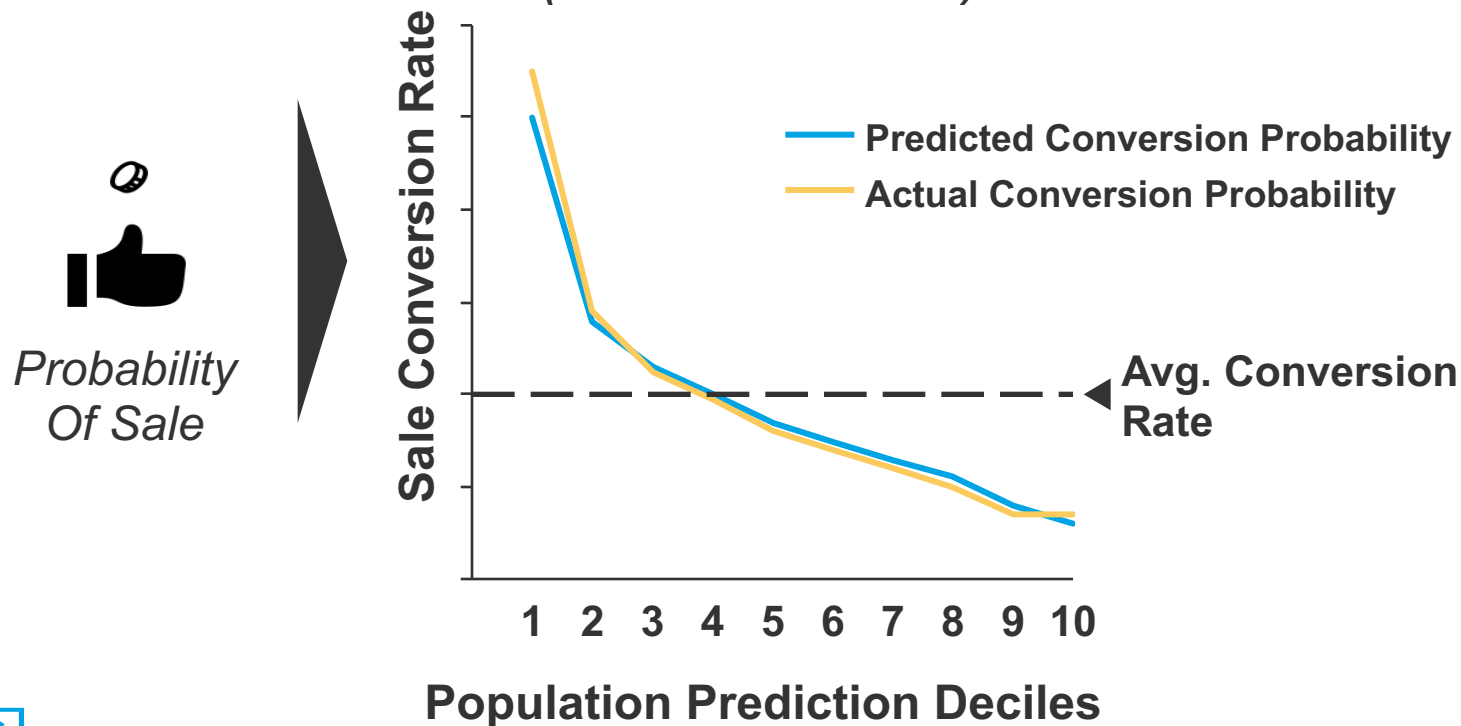
### *Insurance Marketing Predictive ROAS System Model*



A Gradient Boosted MART model captures the complex relationships between the predictive factors and likelihood to purchase

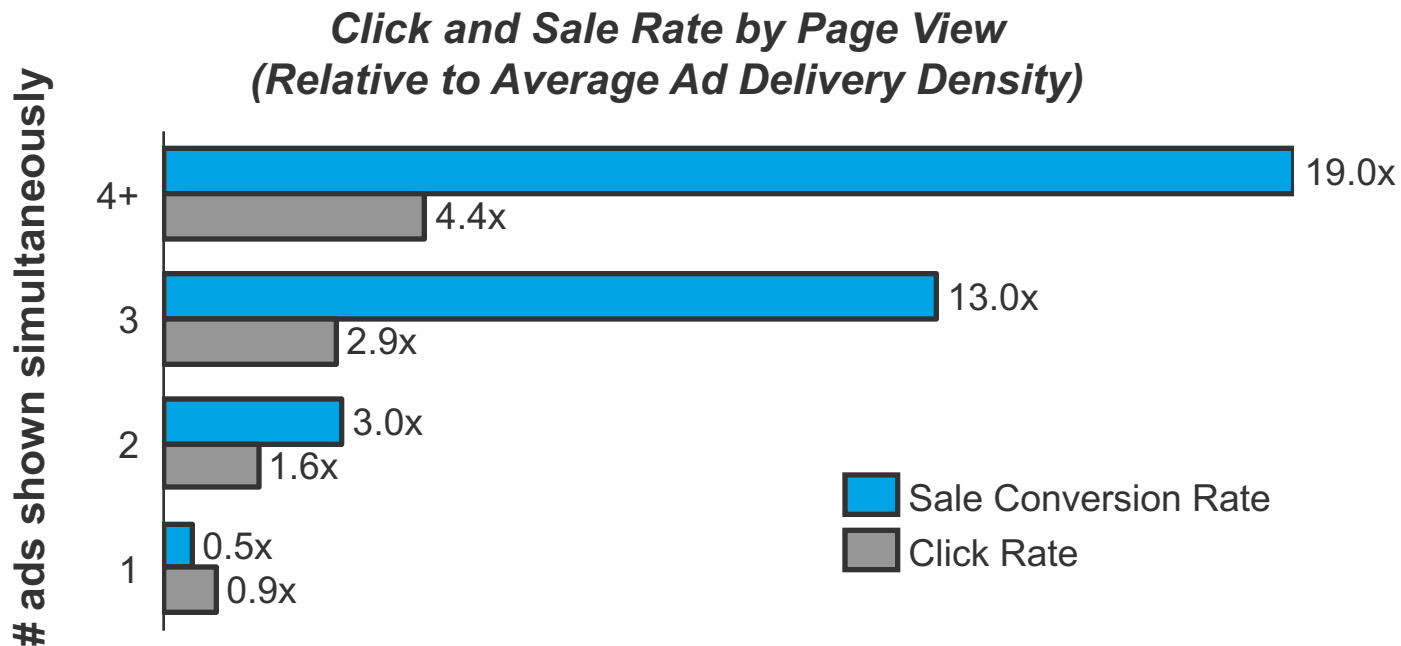
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**MART Model Sale Conversion Rate (CR) Decile Breakdown  
(Predicted vs. Actual)**



# Partial dependency plots provide insights into effects of individual factors - Multiple ads shown simultaneously boost click and sales rate

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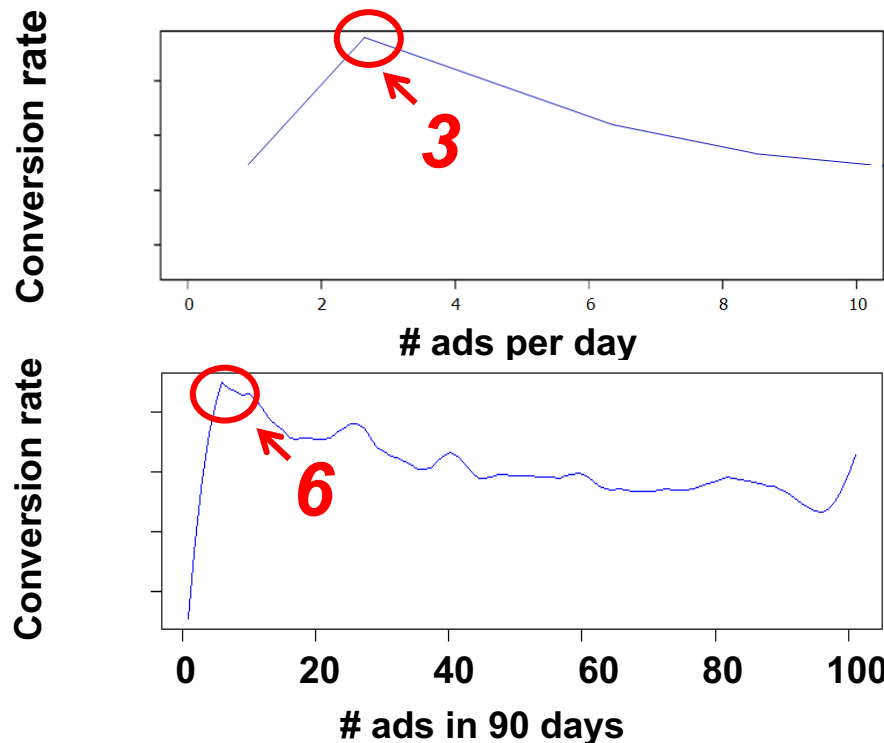


“Buying out a page” with 3 or more ads has dramatically higher sales and conversion rates



Looking at the varying sales effectiveness of the frequency and volume of ads also shows areas for optimization

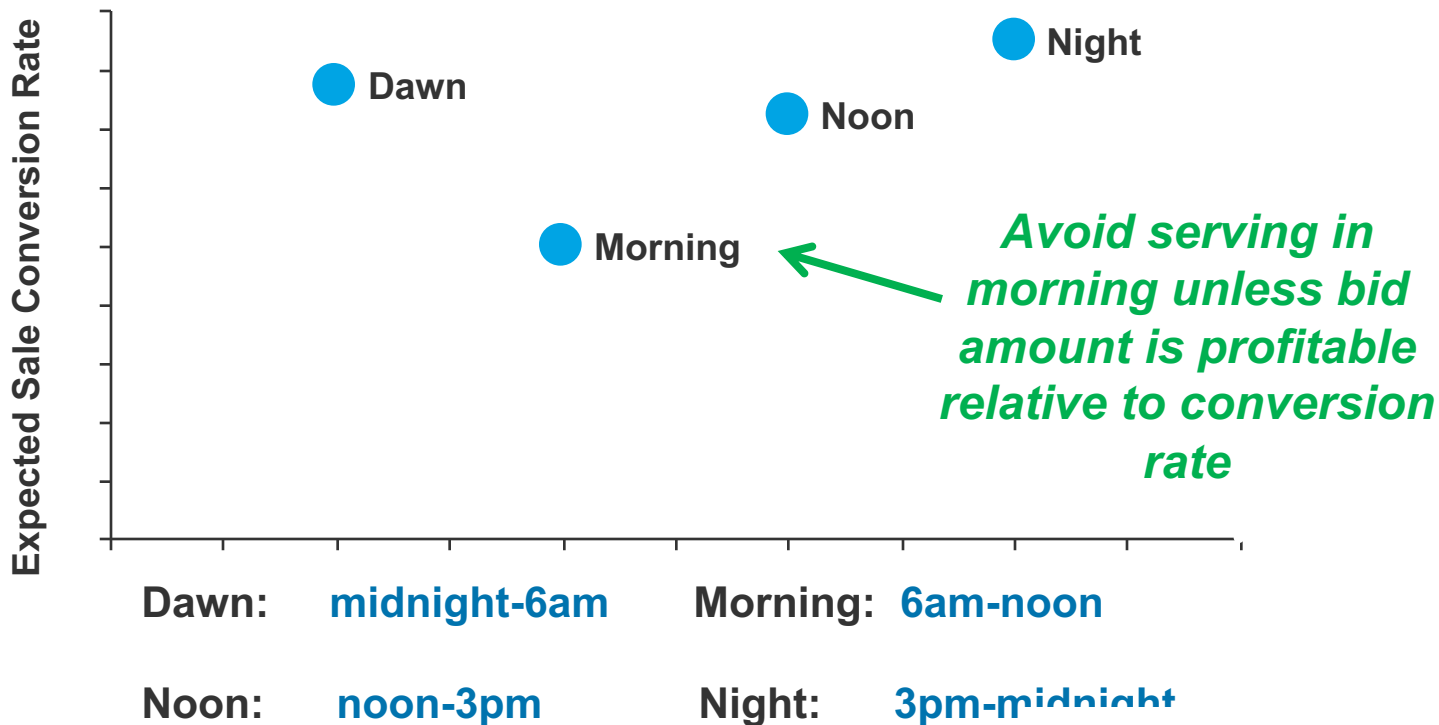
***Sale Conversion Rate by # of Ads Shown Per Day & In 90 Days  
(Relative to Average Ad Delivery Density)***



***Capping # of  
ads to 4 per  
day and 10  
total per 90  
days reduces  
ad inventory  
buy ~40%***

# The time of day an ad is served also matters to ad efficiency

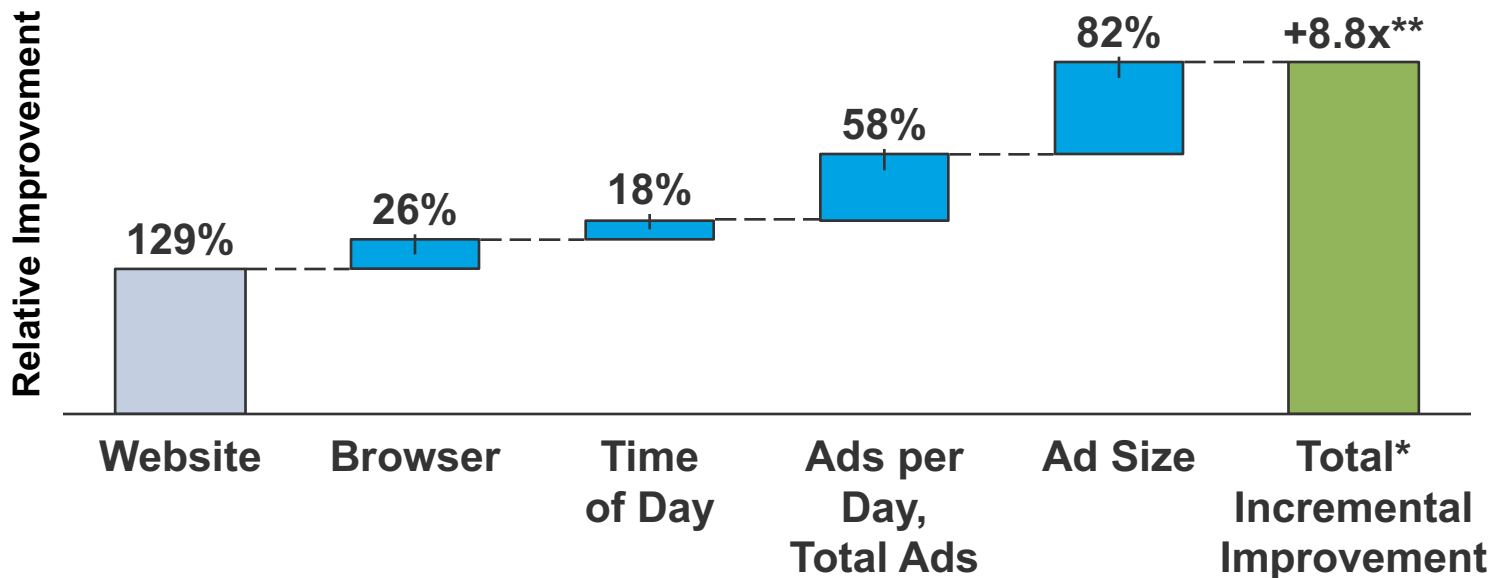
*Expected Sale Conversion Rate by Time of Day Ad is Served*



# Results of modeled optimization of each of the conversion rate factors can show dramatic improvement potential overall

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## ***Incremental Relative Improvement in Conversion Rates Due to Targeting & Controls***



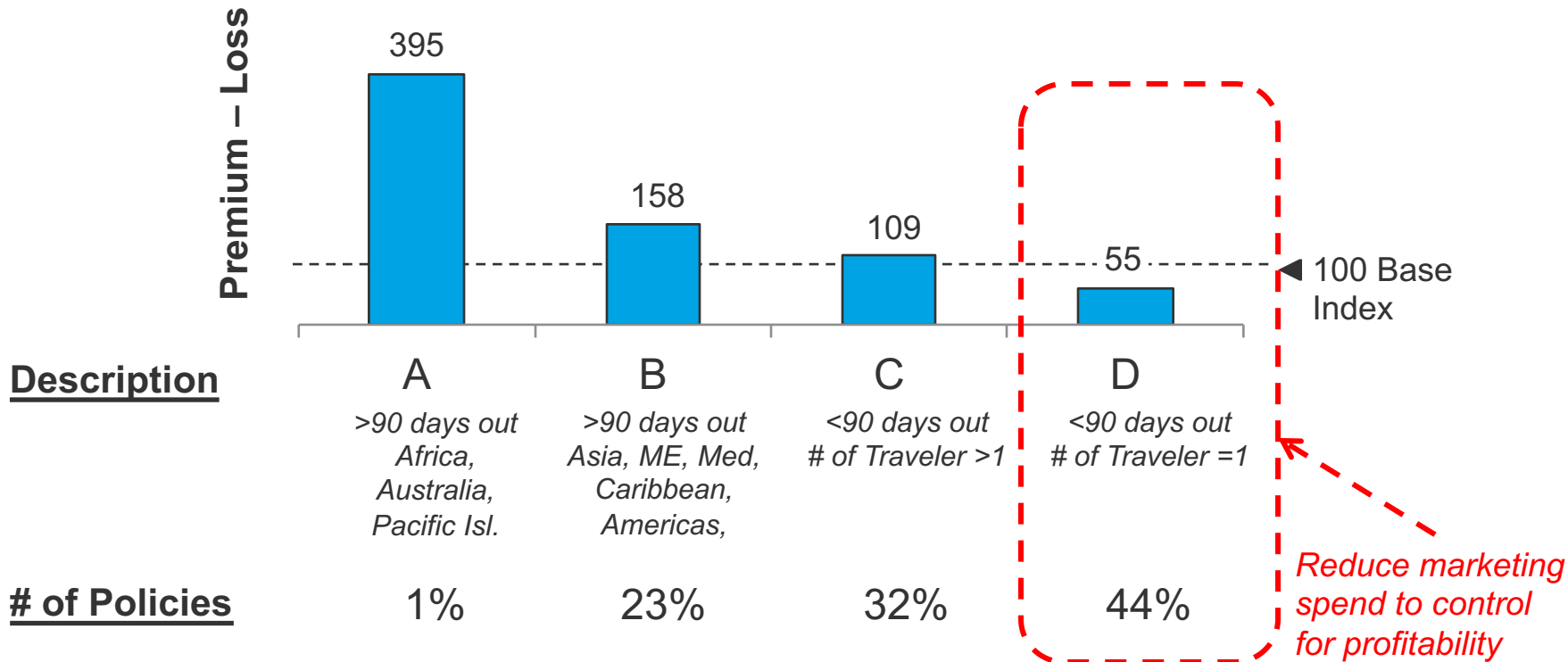
***\*Actual results will depend on available ad inventory***

***\*\*Relative improvements are multiplicative***

# Folding in expected premium and loss adds critical dimensions to improve the business results

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## Travel Insurance Economic Profit Customer Segmentation



### 3. Scalability .....*Can we grow it?*

#### Case Study:

#### Facebook: Working with Aggregated Data in Social Media

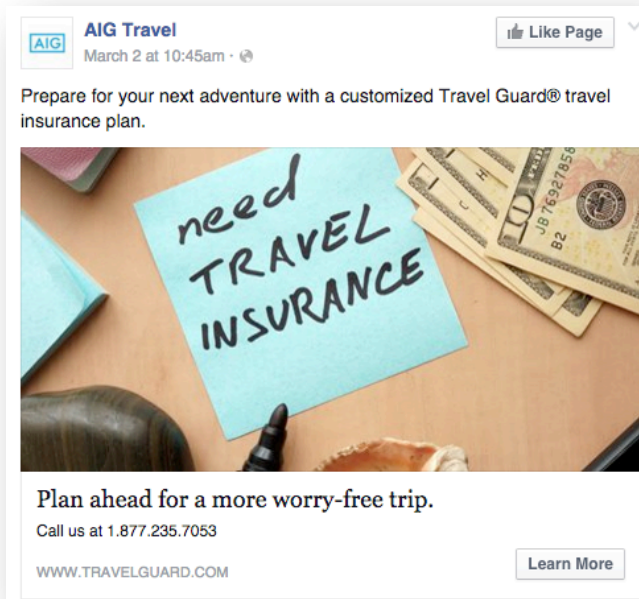
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# We started with very simple creatives

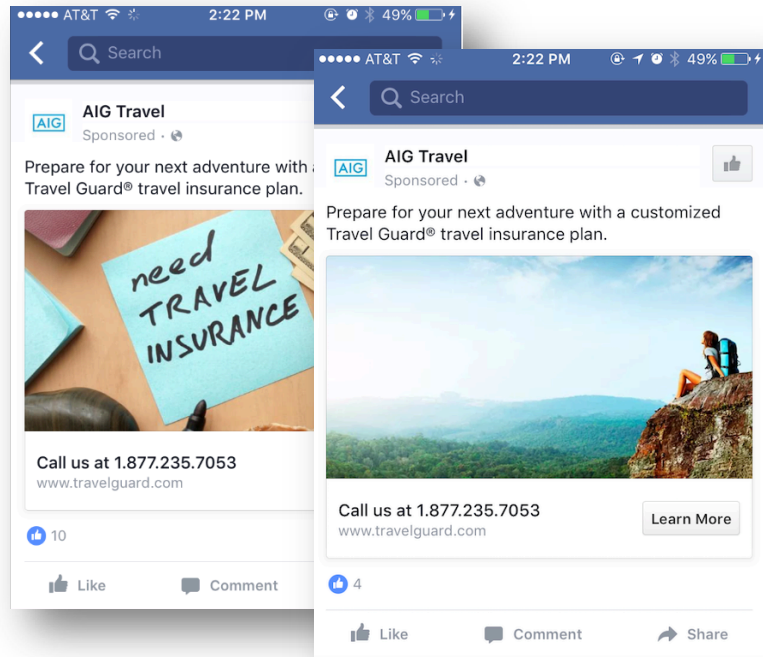
## US Travel Guard Early Facebook Ads (Q1 2016)

### Desktop



A desktop view of a Facebook advertisement for AIG Travel. The ad features a light blue sticky note with the handwritten text "need TRAVEL INSURANCE" placed on a wooden desk. In the background, there are several US dollar bills and a black pen. The text "need TRAVEL INSURANCE" is written in black marker, with "need" in lowercase and "TRAVEL INSURANCE" in all caps. The ad includes the AIG Travel logo, the text "Prepare for your next adventure with a customized Travel Guard® travel insurance plan.", and a call to action: "Plan ahead for a more worry-free trip. Call us at 1.877.235.7053". A "Learn More" button is located at the bottom right.

### Mobile



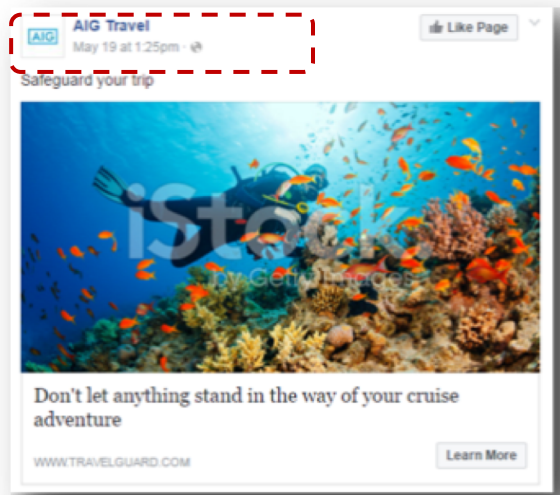
A mobile view of a Facebook advertisement for AIG Travel. The ad features a light blue sticky note with the handwritten text "need TRAVEL INSURANCE" placed on a wooden desk. In the background, there are several US dollar bills and a black pen. The text "need TRAVEL INSURANCE" is written in black marker, with "need" in lowercase and "TRAVEL INSURANCE" in all caps. The ad includes the AIG Travel logo, the text "Prepare for your next adventure with a customized Travel Guard® travel insurance plan.", and a call to action: "Call us at 1.877.235.7053". A "Learn More" button is located at the bottom right. The mobile view also shows a search bar at the top and a "Like" button at the bottom.

With other marketing in the field it was critical to measure incremental lift

## Attribution Holdout Process Summary

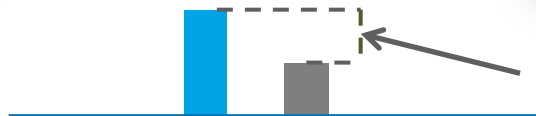
Treatment: ~80%

Placebo: ~20%



Travel Guard

Placebo



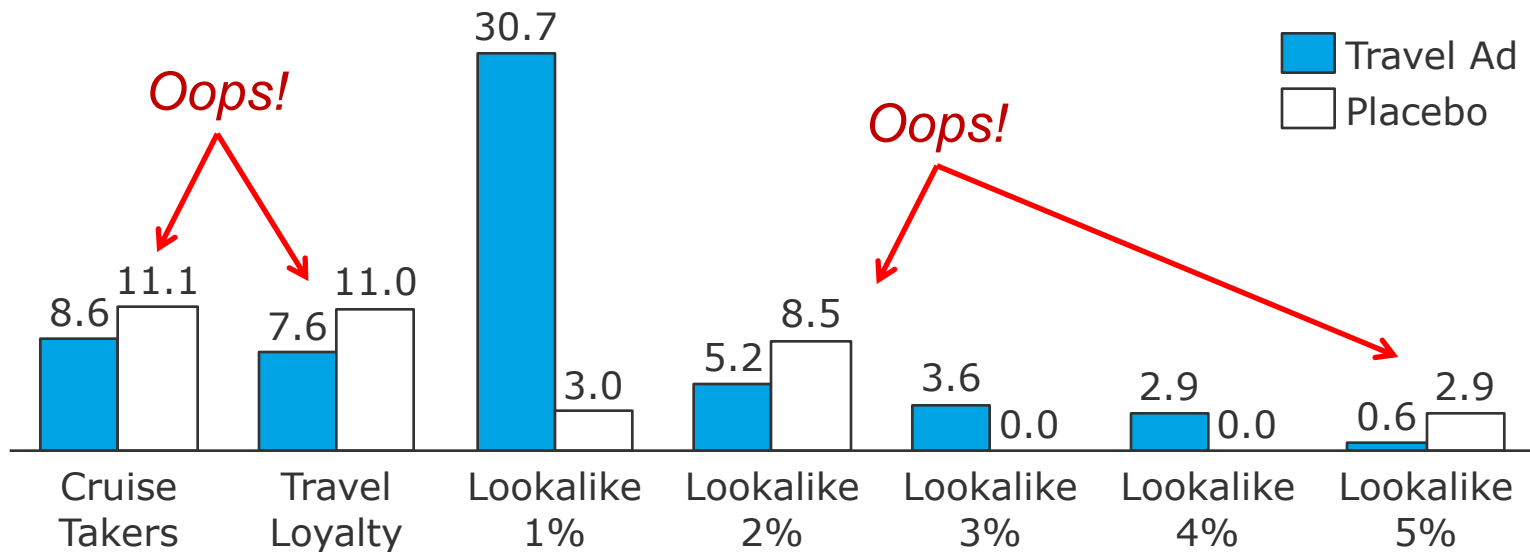
Sale Rate

$\Delta$  = Travel  
Guard  
Campaign  
Lift

With the exception of our Lookalike 1%, initial prospecting results were underwhelming

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*Lift in Sales Rate\* Ad to Placebo: Prospecting*



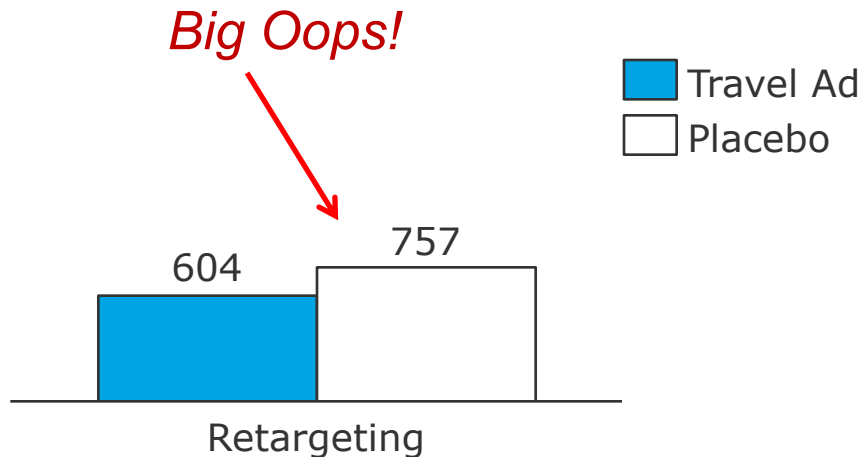
\*Sale Rate Indexed



Retargeting, while better at finding converters, also didn't initially show incremental lift

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*Lift in Sales Rate\* Ad to Placebo: Retargeting*



Combined Lift with Prospecting and Retargeting was thankfully +61% meaning we would continue...but we knew we could do better

# Cross-device behavior, a big advantage with Facebook, revealed clear inefficiencies

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## Cross Device Behavior-Impression Device to Conversion Device

Imp. Served to the User On	Converted On						Share of Total Imp	Conversion efficiency
	Desktop	iPad	iPhone	Android Smrtphn	Android Tablet	Other		
iPhone	29.9%	0.8%	0.5%	0.0%	0.0%	0.0%	33.5%	0.60
Desktop	46.8%	0.6%	0.0%	0.1%	0.0%	0.0%	30.7%	1.00
Android Smrtphn	10.7%	0.1%	0.0%	0.1%	0.3%	0.0%	25.3%	0.29
iPad	8.1%	0.9%	0.0%	0.0%	0.0%	0.0%	8.6%	0.68
other	0.7%	0.0%	0.0%	0.0%	0.0%	0.2%	1.4%	0.42
Android Tablet	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	0.26
Share of Total Conversions	96.4%	2.4%	0.5%	0.3%	0.3%	0.2%		

26%  
of  
Impr.

# Looking at Age Bands, we also saw some levers to pull

## Performance\* of Affinity Audience by Age Bands

Campaign	Age Groups	CTR	Sale Rate
Cruises	18-24	19	0
	25-34	21	0
	35-44	19	2
	45-54	23	4
	55-64	31	1
	65+	44	0
Travel Loyalty Programs	18-24	21	0
	25-34	19	0
	35-44	18	2
	45-54	22	2
	55-64	37	1
	65+	47	1

Very Clicky (\$\$)

\*CTR & Sales Rate Indexed

# Re-launching we made 3 key enhancements and predicted the results

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## Audiences

### Key Learnings

HHI >\$150, Leisure Travelers, LAL 4% & 5% did <.50 ROAS

### Enhancement

Suspend 4 underperforming Audiences

### Estimated Impact

- **25%** reduction in spend
- **1%** loss of revenue



## Demographics

### **For Affinity Audiences:**

- <35 years old converted the least
- >65+ didn't convert in Cruises and were expensive

Limit age exposure for Audiences that were still live

- Up to **32%** reduction in spend
- **2%** loss of revenue



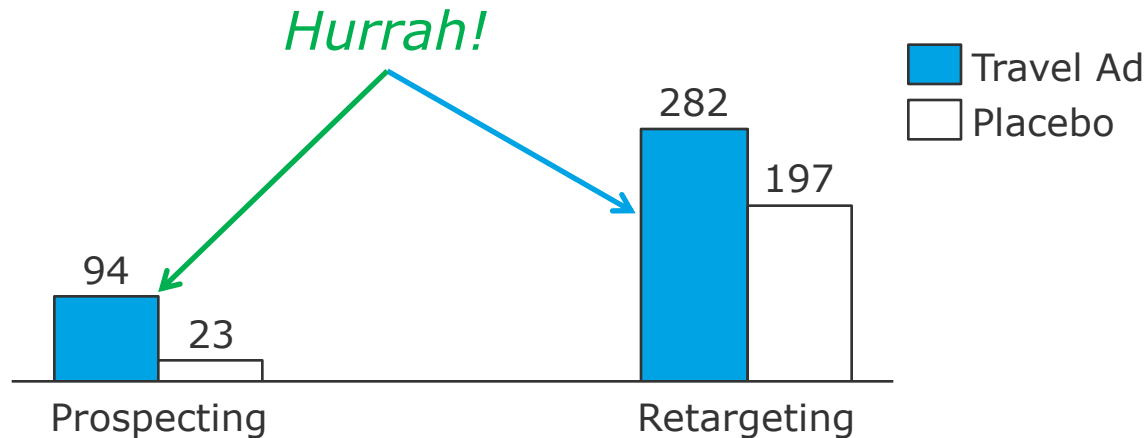
Android users converted the least

Don't serve to Android users in Affinity Audiences

- Up to **26%** reduction in spend
- Up to **11%** loss of revenue

While iterative, we ultimately produced significant, profitable growth with Facebook

*Lift in Sales Rate\* Ad to Placebo: Prospecting & Retargeting*



*Optimized Facebook Prospecting and Retargeting produced incremental ROAS 160x over other digital advertising*



# Thank You!

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