



# Driving Business Growth with Experimentation + Personalization



**Pete Gray**

SVP, Customer Growth Strategy

# One Story: Two Data Sets

## PG's Anecdotal Data

8 years building  
experimentation  
program @

WSJ

BARRON'S

MarketWatch

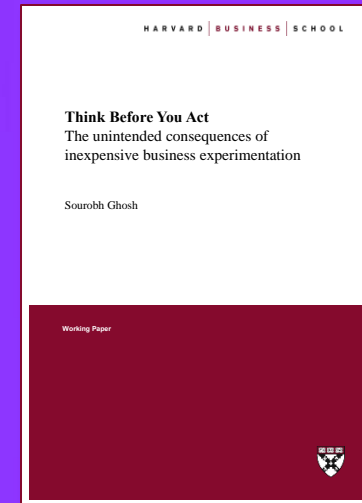
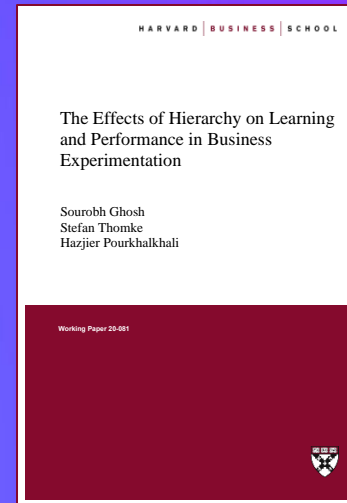
VP, Growth Product + Core  
Product Experimentation

2x Subscriber Base to 5M

Cultural Transformation

## Optimizely Customer Data

2 Benchmarks:  
250K+ Experiments





# How Does Experimentation Drive Growth?

# Built-In Growth Drivers of Experimentation

Literally never make a mistake ever again.

Safely try risky stuff that you'd never try otherwise.

Drive cultural change with irrefutable data.

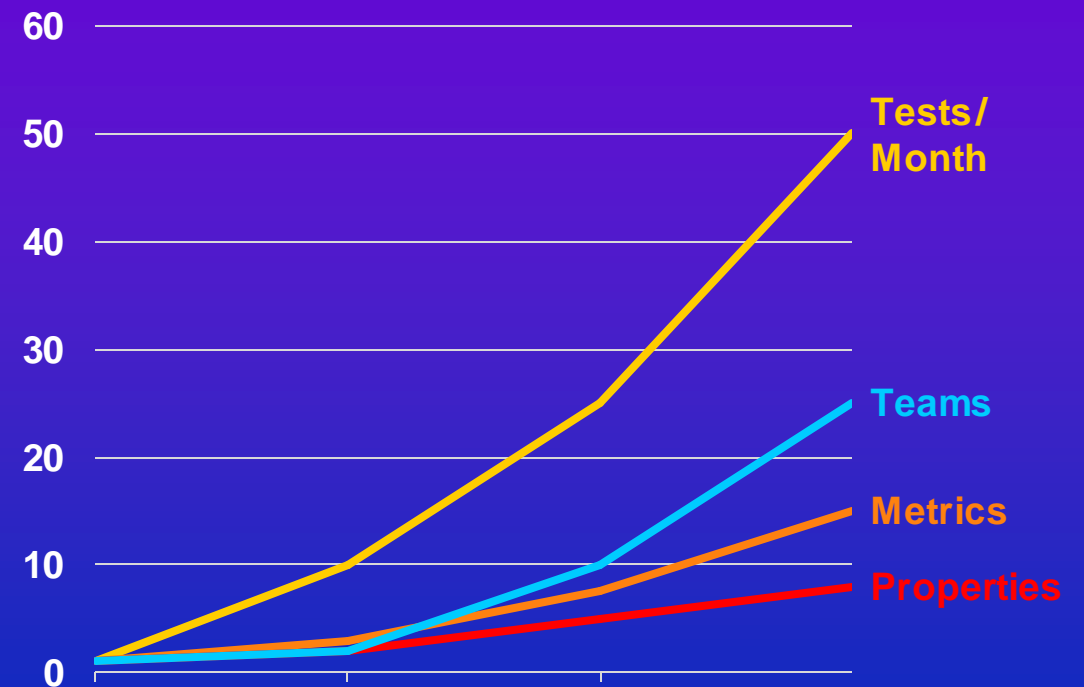
**Why Can It Be Complicated?**

# Experimentation needs thoughtful integration with existing teams, operations, and culture.

## Need thoughtful alignment:

Culture	Resources
Stakeholders	Operations
Org Structure	ROI Creation
ROI Communication	Technology

## While the right approach will change



Is It Worth It?

**HELL YES**

+ **2x+ subscription rate**  
across all channels

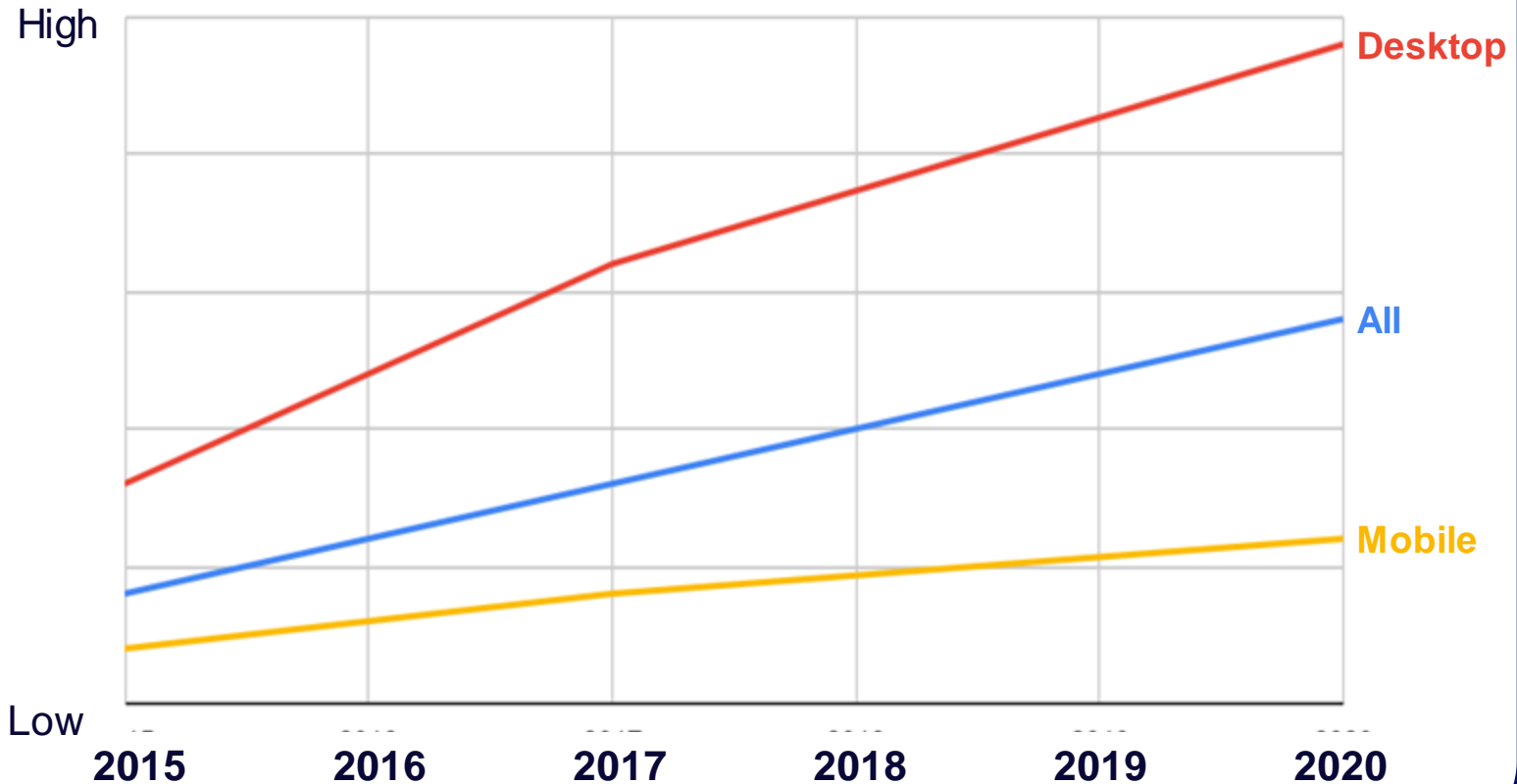
+ **+\$60.1M** of incremental  
revenue from 2017 – 2019,  
(proven via back-testing)

+ **Over 400% improvement**  
**in the Save Rate** for the  
digital cancellation flow

## Subscription Rate Over Time From “Shop Page” to Ordered

WSJ

Conversion rate



Continuous experimentation is not  
enough.

Use data to design growth system to  
maximize ROI.



# Building a Better Growth System



**Know  
Your  
Customer**



**Explore  
More  
Options**



**Take  
Bigger  
Risks**



**Personalize  
Your  
Approach**



**Build  
the Right  
Team**

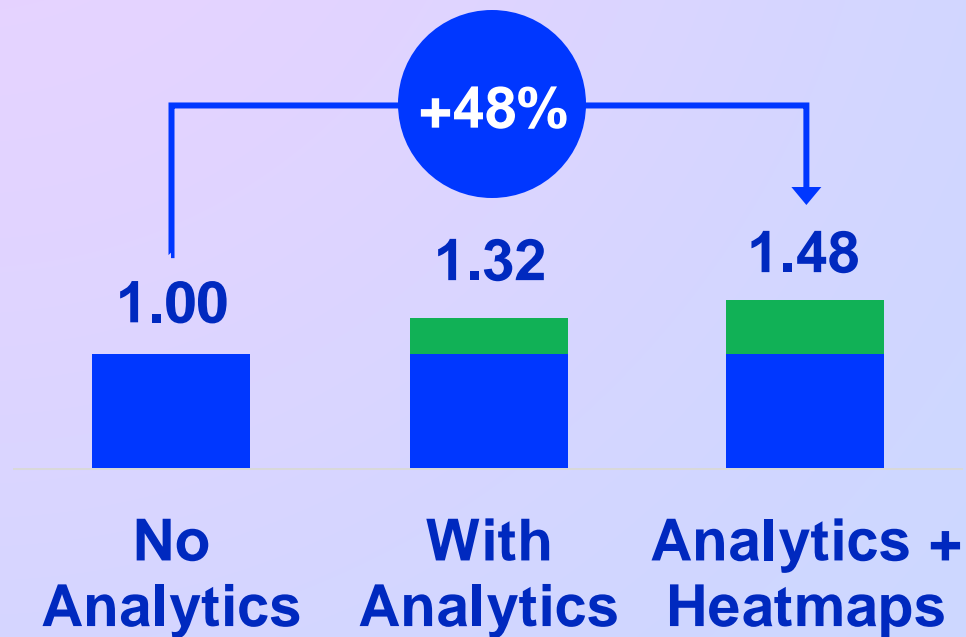
01

**Know Your  
Customers**

# Become data-driven

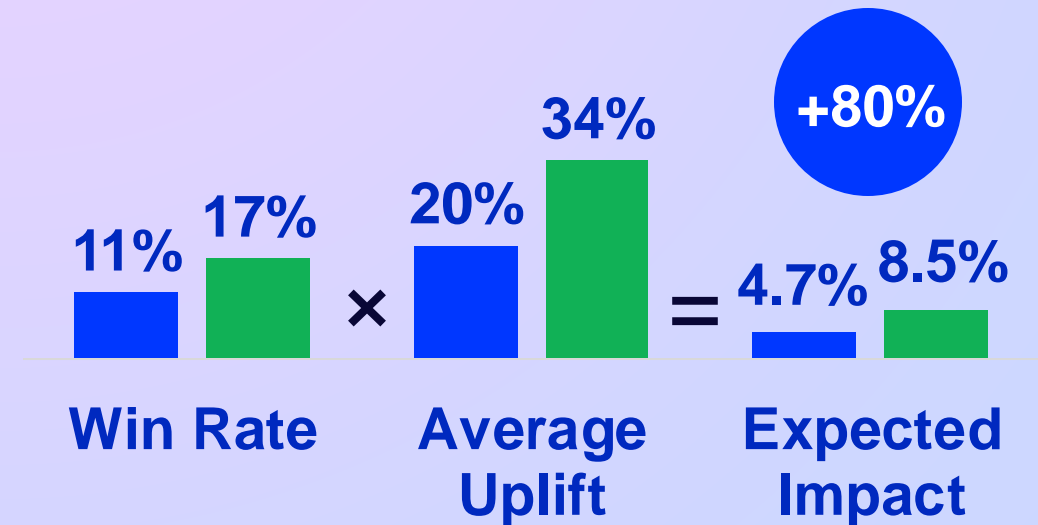
## Leveraging Analytics

Experiment Win Rates



## Integrating CDP's

Expected Impact



Source: Analytics (Optimizely 2017, n = 103K tests from 1.1K companies),  
CDP (Optimizely 2023, n = 127K tests from 1.1K companies), Expected Impact = Win Rate x Uplift

# **The Habit Project**

**The Work Before  
the Work**

Category	Habit	Scale	Retention Benefit
Platform Usage	Desktop Web	Medium	Medium
	Mobile App	Low	High
	Mobile Web	Low	Flat
	Event	Very Low	High
	Newsletter	High	Low
News Content Types	Sports	Medium	High
	Luxury Real Estate	Medium	High
	Crossword Puzzles	Low	High
	Opinion	High	High
	Exclusive Longform	Medium	High
	Cultural Reviews	Low	High

# The Habit Project: Crossword Adoption

## THE WALL STREET JOURNAL.

All The Right Angles

By Michael Lieberman/Edited by Mike Shenk

10:06



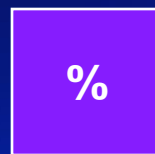
## Crossword Interventions:

- Added to most popular subs newsletter
- Follow alert created
- Follow alert added to new member onboarding
- Promoted on desktop homepage

Metric	2018	2023
New Sub Crossword Adoption	0.1%	7%
Retention Benefit	+24%	+24%

# Primary metrics

## Digital commerce

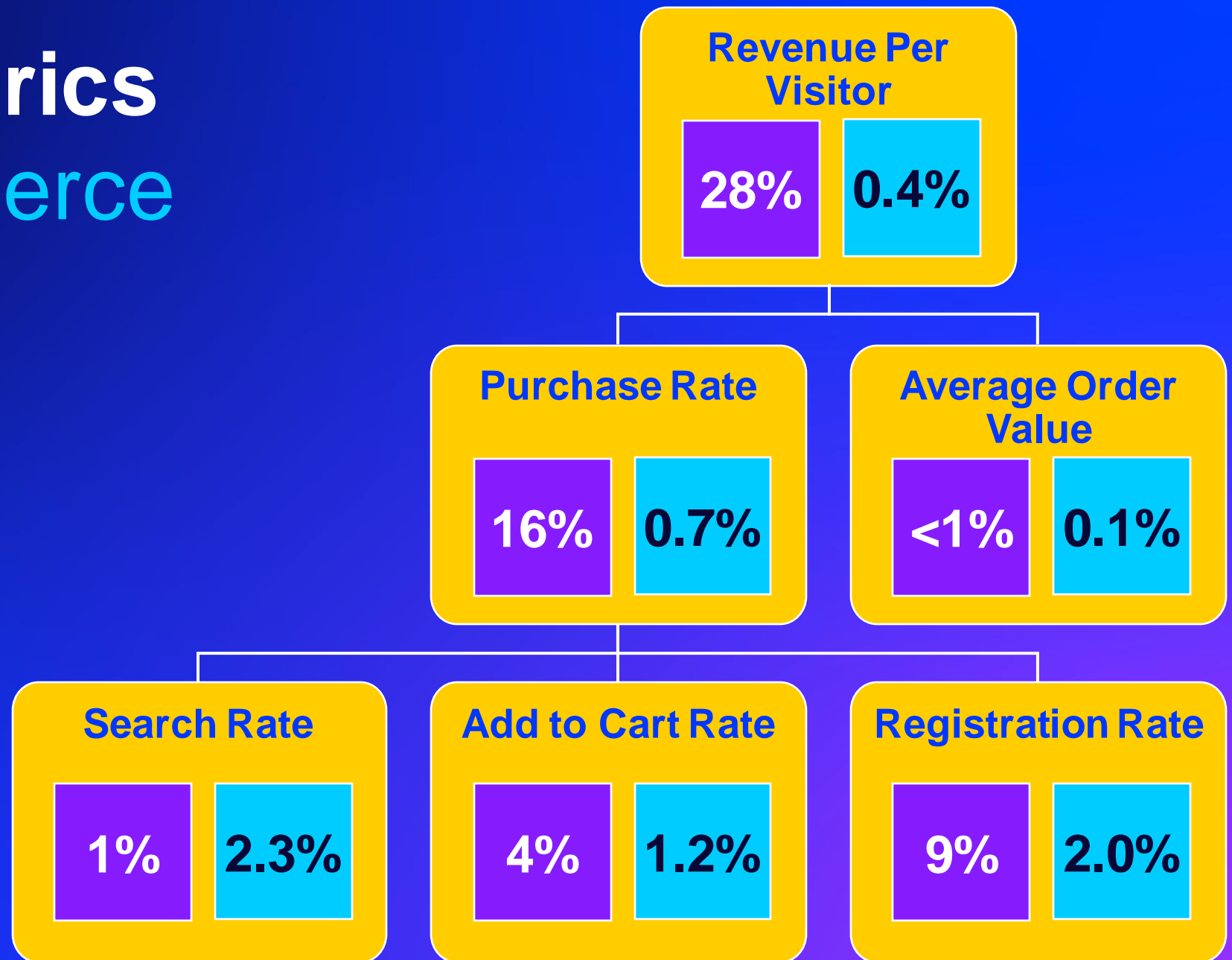


Where do we focus?



How much impact do we have?

Source: Optimizely Benchmark 2023,  
n = 127K True Experiments by 1.1K  
companies run from 2018 - 2023



## Scientific Study

# Harvard Business School Studies the Highest Value Experiments Run on Optimizely

+

Over 31K experiments analyzed over 3 years

+

Corrected for company characteristics, experiment metrics, and seasonality

Source: Ghosh, Sourobh. 2021. Experimentation Approaches to Strategy and Innovation. Doctoral dissertation, Harvard Business School

### Corrected For

Organization FE  
Month FE  
Metric FE

### Measured per test

Code Change<sup>‡</sup> Complex tests lead to more major wins (>99.9%)

Duration

Sample Size<sup>‡</sup>

Variant Count High variant tests lead to more major wins (>99.9%)

Metric Count

Development Time

Prior Experiments

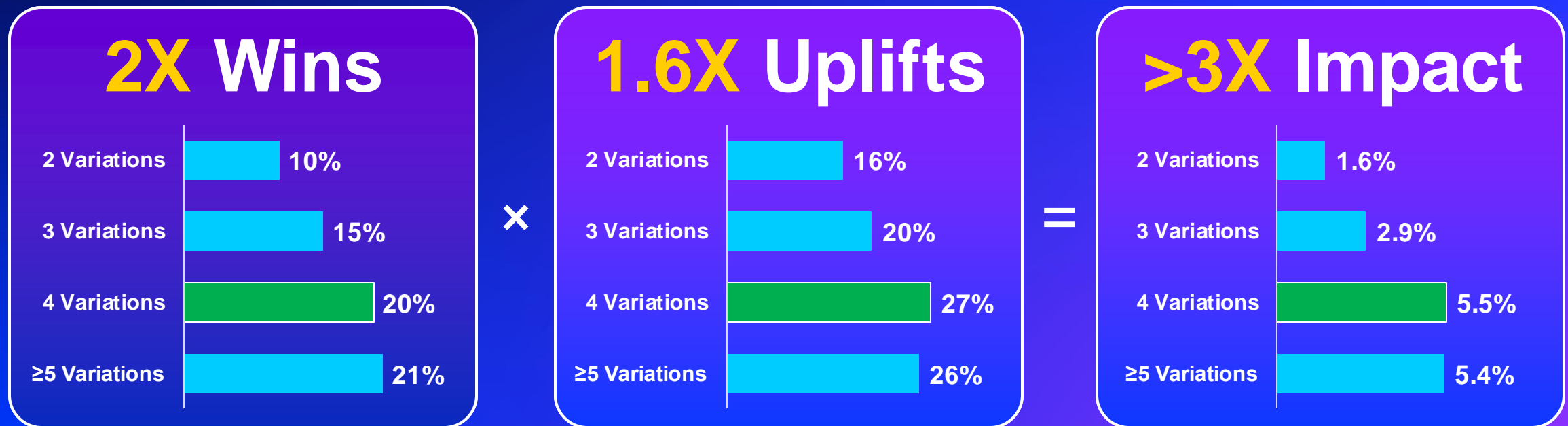


02

Explore More  
Options

# The effect of trying more variations

## Effect on primary metrics



Source: Optimizely Benchmark 2023, n = 127K True Experiments by 1.1K companies run from 2018 - 2023

# 5 Variations: What May Seem Obvious

**THE WALL STREET JOURNAL.**

New Politics. Know the Impact.



MEMORIAL DAY SALE  
**\$1 FOR 2 MONTHS**

**ACT NOW**

Five variations are listed to the right of the advertisement, connected by arrows:

- Voted the most trusted name in news by the Pew Research Center every year since 1985
- Winner of 35 Pulitzer Prizes
- Trusted by over 3 million members
- Continue reading your article with a WSJ membership

Voted the most trusted name in news by the Pew Research Center every year since 1985

Winner of 35 Pulitzer Prizes

Trusted by over 3 million members

Continue reading your article with a WSJ membership

**+37%**  
Orders

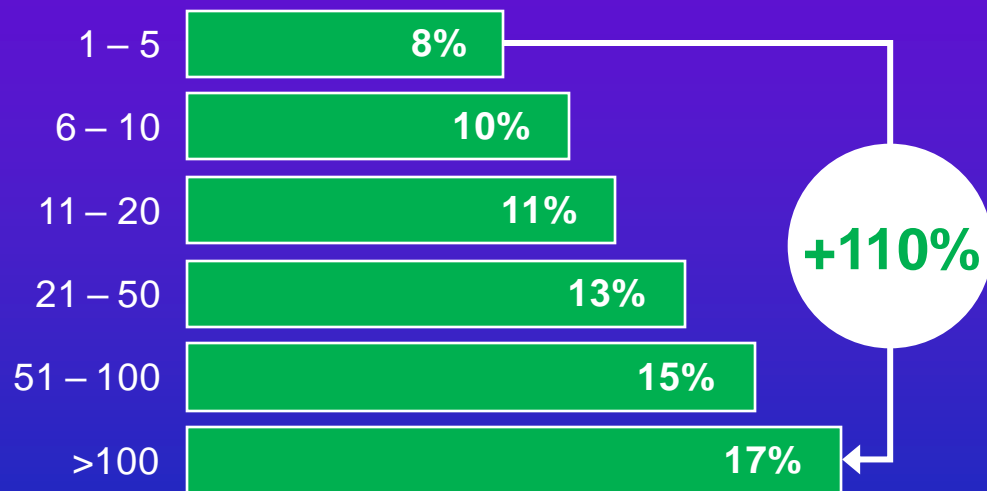
03

Take Bigger  
Risks

# Complex Variations Win More Often

## Lines of Code

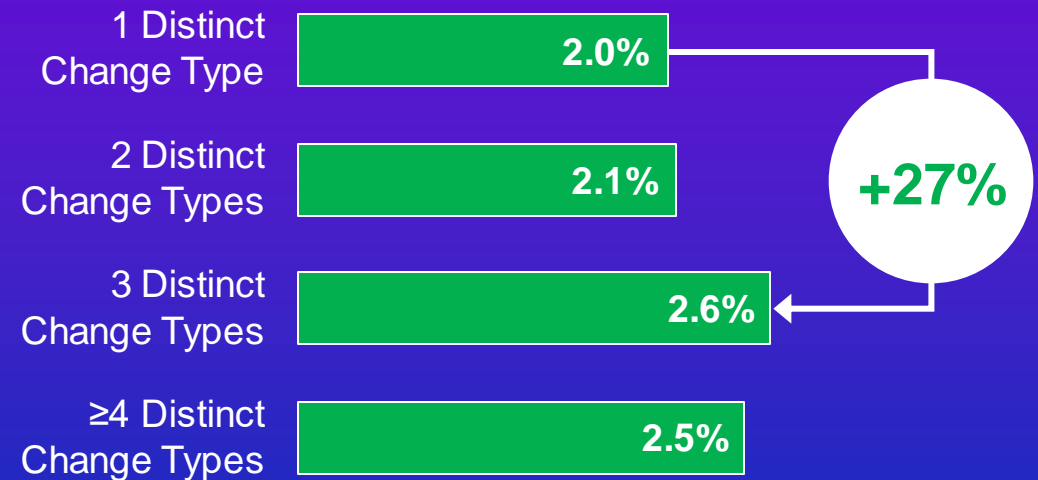
Variation Win Rates



Source: Optimizely 2017 (n = 250K True Experiment variations run on Optimizely Classic)

## Distinct Change Types

Variant Expected Impact (Win Rate x Uplift)



Source: Optimizely 2023 (n = 128K True Experiment variations run on Web Experimentation)

# Bold Leaps: Splitting the Onboarding Flow

## Original: Long Form

The screenshot shows a single, long vertical page. At the top, it says "Payment Successful!" with a checkmark icon. Below that, it says "All access granted." and "Go to the app." Then, it says "Stay mobile with the news you love" and "Power your news experience with WSJ apps. Optimized for iOS and Android, WSJ apps deliver all the breaking news, markets data and analysis you need on the go." There is a form to "Enter your cell number below and we'll text you a link to the WSJ app." with a "TEXT ME A LINK" button. Below that, it says "Make the most of your WSJ membership" and "Stay mobile with the news you love." Then, it says "Get instant alerts and industry-specific newsletters" and "Stay informed on your busiest days with targeted email alerts and newsletters that deliver only the news you need—straight to your inbox." There is a "VIEW ALL NEWSLETTERS" button. Below that, it says "Explore Exclusive Member Benefits" and "The story is just the start. We've taken what you love to read in the Journal and brought it to life. As a WSJ+ member, you can activate WSJ+ today for an exclusive range of offers, events, and experiences." There is an "ACTIVATE YOUR WSJ+" button. Below that, it says "Real time news on Facebook and Twitter" and "When every second counts, you can't afford to miss market-moving news. Follow WSJ on Facebook, Twitter, Instagram and Snapchat for breaking news delivered in real time." There are buttons for "FOLLOW US ON FACEBOOK", "FOLLOW US ON TWITTER", and "CONTINUE TO WSJ.COM".

## Variation: Four Steps

### Step 1

The screenshot shows the first step of the onboarding flow. It says "THE WALL STREET JOURNAL." and "Stay Mobile With The News You Love". It says "Power your news experience with WSJ apps. Optimized for iOS and Android, WSJ apps deliver all the breaking news, markets data and analysis you need on the go." There is a form to "Enter your cell number below and we'll text you a link to the WSJ app." with a "TEXT ME A LINK" button. Below that, it says "SKIP AND CONTINUE".

**+150%**  
Mobile App  
Downloads

### Step 2

The screenshot shows the second step of the onboarding flow. It says "THE WALL STREET JOURNAL." and "Get Instant Alerts and Industry-Specific Newsletters". It says "Stay informed on your busiest days with targeted email alerts and newsletters that deliver only the news you need—straight to your inbox." There is a "VIEW ALL NEWSLETTERS" button. Below that, it says "SKIP AND CONTINUE".

**+116%**  
Newsletter  
Signups

### Step 3

The screenshot shows the third step of the onboarding flow. It says "THE WALL STREET JOURNAL." and "Explore Exclusive Member Benefits". It says "The story is just the start. We've taken what you love to read in the Journal and brought it to life. As a WSJ+ member, you can activate WSJ+ today for an exclusive range of offers, events, and experiences." There is an "ACTIVATE YOUR WSJ+" button. Below that, it says "SKIP AND CONTINUE".

**+91%**  
WSJ+  
Sign-Ins

### Step 4

The screenshot shows the fourth step of the onboarding flow. It says "THE WALL STREET JOURNAL." and "Real time news on Facebook and Twitter". It says "When every second counts, you can't afford to miss market-moving news. Follow WSJ on Facebook, Twitter, Instagram and Snapchat for breaking news delivered in real time." There are buttons for "FOLLOW US ON FACEBOOK", "FOLLOW US ON TWITTER", and "CONTINUE TO WSJ.COM".

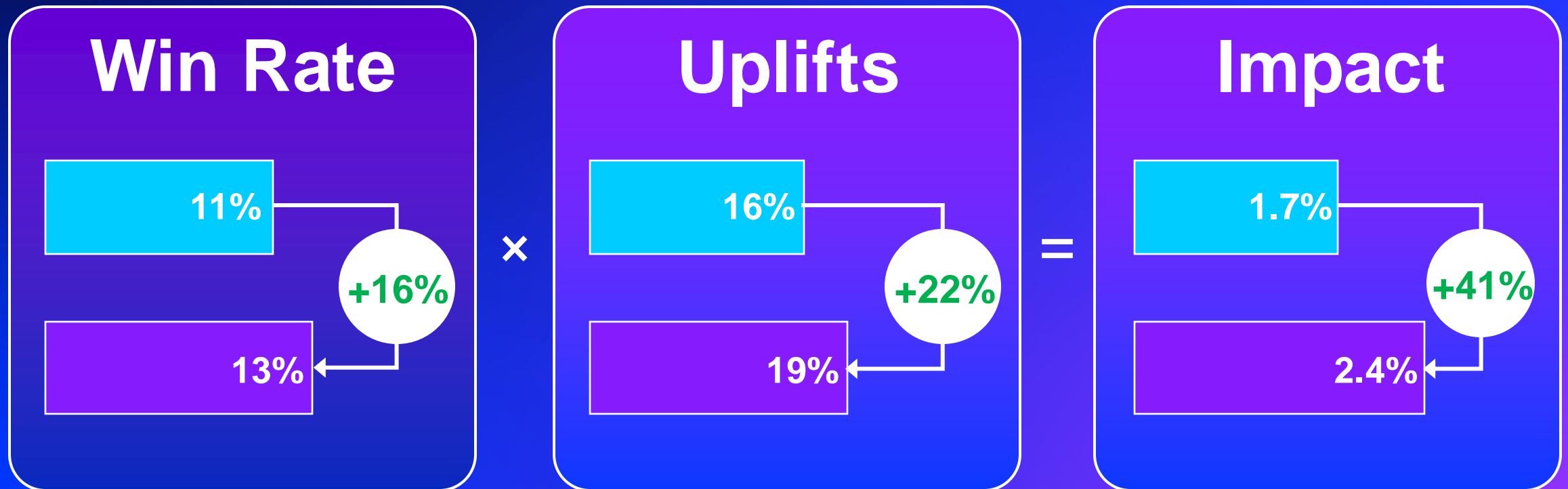
**+281%**  
Social  
Signups

04

**Personalize  
Your Message**

# The Power of Personalization

## Effect on primary metrics



Source: Optimizely Benchmark 2023, n = 127K True Experiments by 1.1K companies run from 2018 - 2023



# Personalization: Obama 2012 Donor Flow

OBAMA BIDEN

Log In

Contributor

\*First name

\*Last name

\*Address

\*City

\*State

\*Zip

\*Email address

\*Phone number

Select amount

☐ \$10

☐ \$25

☐ \$50

☐ \$100

☐ \$250


☐ \$500


☐ \$1,000

Other:  (USD)

Credit card

VISA





\*Card number


\*Expiration

Month

Year

☐ Make this a monthly recurring donation

Help build this campaign



What we do right now will determine the course of this election. It's that simple.

Make a donation today and build the grassroots organization it will take to win.

Employment

Federal law requires us to use our best efforts to collect and report the name, mailing address, occupation, and employer of individuals whose contributions exceed \$200 in an election cycle.

\*Employer

\*Occupation

+ DONATE NOW

By clicking on the "Donate now" button above you confirm that the following statements are true and accurate:

1. I am a United States citizen or a lawfully admitted permanent resident of the United States.

2. This contribution is not made from the general treasury funds of a corporation, labor organization or national bank.

3. This contribution is not made from the treasury of an entity or person who is a federal contractor.

4. This contribution is not made from the funds of a political action committee.

5. This contribution is not made from the funds of an individual registered as a federal lobbyist or a foreign agent, or an entity that is a federally registered lobbying firm or foreign agent.

6. I am not a minor under the age of 16.

7. The funds I am donating are not being provided to me by another person or entity for the purpose of making this contribution.

Already hit your limit? If you've given the maximum of \$2,500 for the primary and \$2,500 for the general election to Obama for America, you can still give to the Obama Victory Fund, our joint fundraising committee with the Democratic National Committee, by clicking here.

Donating offline: If you would prefer to contribute by mail, send a check to: Obama for America, P.O. Box 802798, Chicago, IL 60680.

Americans Abroad: Click here to make a donation.

Edit recurring: Already have an existing monthly contribution that you need to edit? Click here to do so.

Contributions or gifts to Obama for America are not tax deductible.

Obama for America can accept contributions from an individual of up to \$2,500 per federal election (the primary and general are separate elections). By submitting your contribution, you agree that the first \$2,500 of a contribution will be designated for the 2012 primary election, and any additional amount, up to \$2,500 will be designated for the 2012 general election.

OBAMA BIDEN

Employment

Federal law requires us to use our best efforts to collect and report the name, mailing address, occupation, and employer of individuals whose contributions exceed \$200 in an election cycle.

\*Employer

\*Occupation

+ DONATE NOW

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5. This contribution is not made from the funds of an individual registered as a federal lobbyist or a foreign agent, or an entity that is a federally registered lobbying firm or foreign agent.

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7. The funds I am donating are not being provided to me by another person or entity for the purpose of making this contribution.

# Personalization Simplified: Listening for Different Voices



05

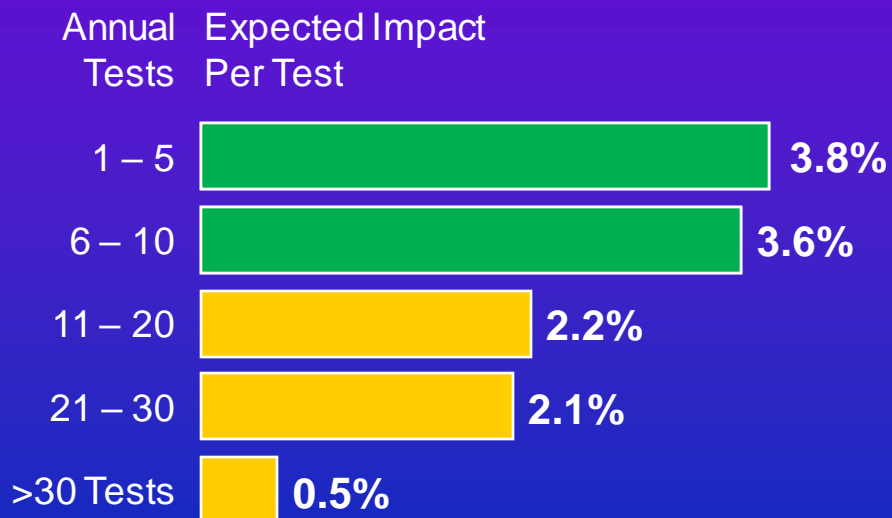
Build the  
Right Team

# Engineering productivity by workload

## True experiments per engineer per year

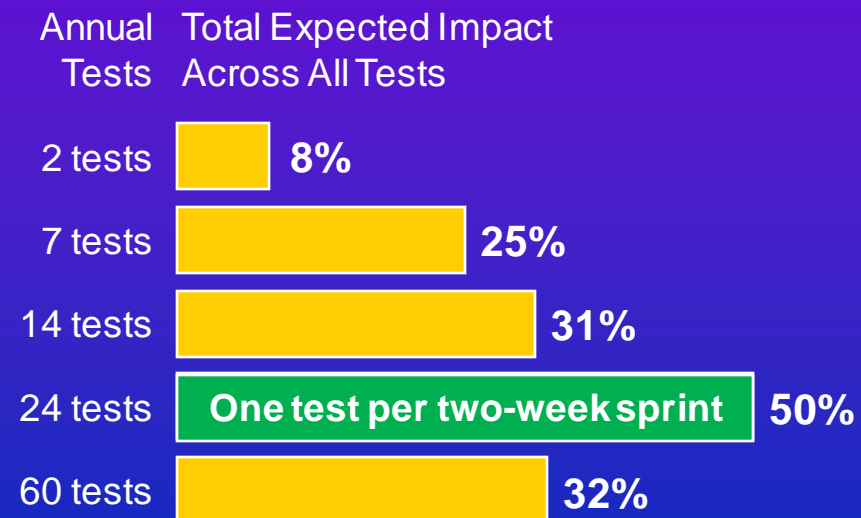
### Average Expected Impact

Expected Impact = Win Rate x Uplift



### Total Expected Impact

Total Impact = Tests x Expected Impact



## Resources and Scope Over Time

WSJ

	2016	2017	2018	2019	2020	2021	2022
Product Managers	1	3	5	8	8	8	8
Other Hires	0	0	0	2	8	15	17
External Resources	\$500K	\$1M	\$2M	\$2M	0	0	0
Web Scope	+ Acquisition		+ On-boarding + Home, articles + Content recs		+ Cancellation		
App Scope			+ Acquisition		+ Onboarding + Articles, home, recs + Cancellation		
Brand Scope	+ WSJ		+ Barron's		+ Marketwatch		

## Resources / Velocity WSJ Resourcing + Scope over time

+

Early: partners allow fractional FTEs and expertise

+

Mature: in-housed to support complex use cases and 2.0 cultural change

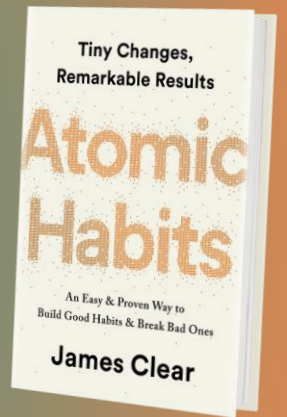
+

Expanded incrementally



“ You do not rise to the level of your goals.

You fall to the level of your systems.





# Building a Better Growth System



**Know  
Your  
Customer**



**Explore  
More  
Options**



**Take  
Bigger  
Risks**



**Personalize  
Your  
Approach**



**Build  
the Right  
Team**

# Thank you!



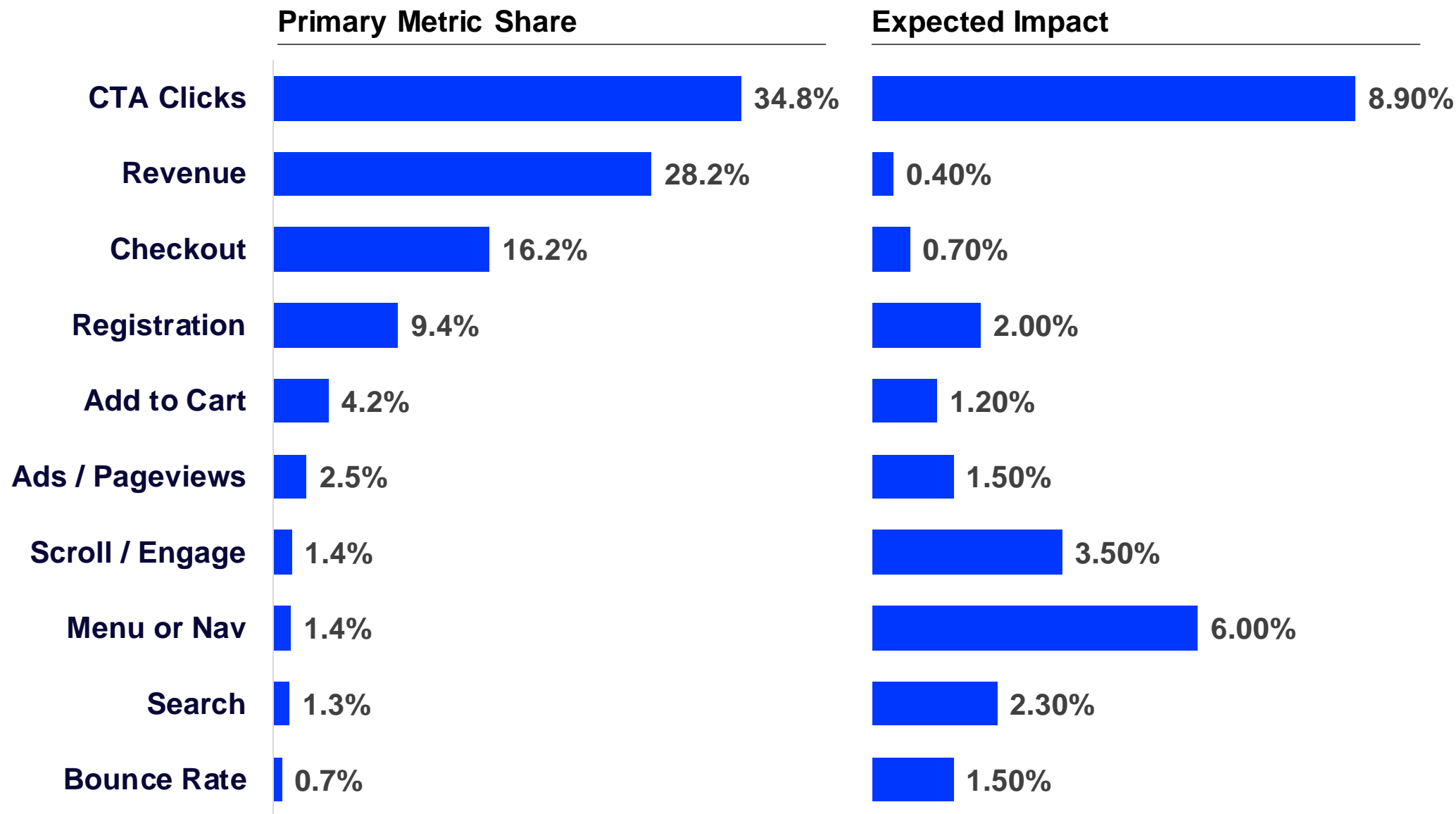
**Pete Gray**

Senior Vice President,  
Customer Growth Strategy



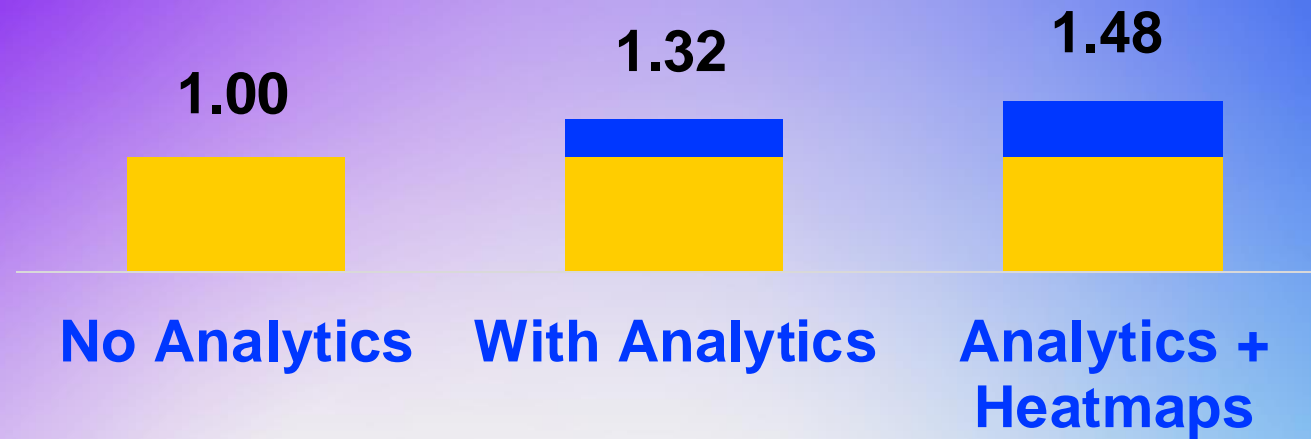
# Appendix

# How often primary metrics are selected versus expected impact



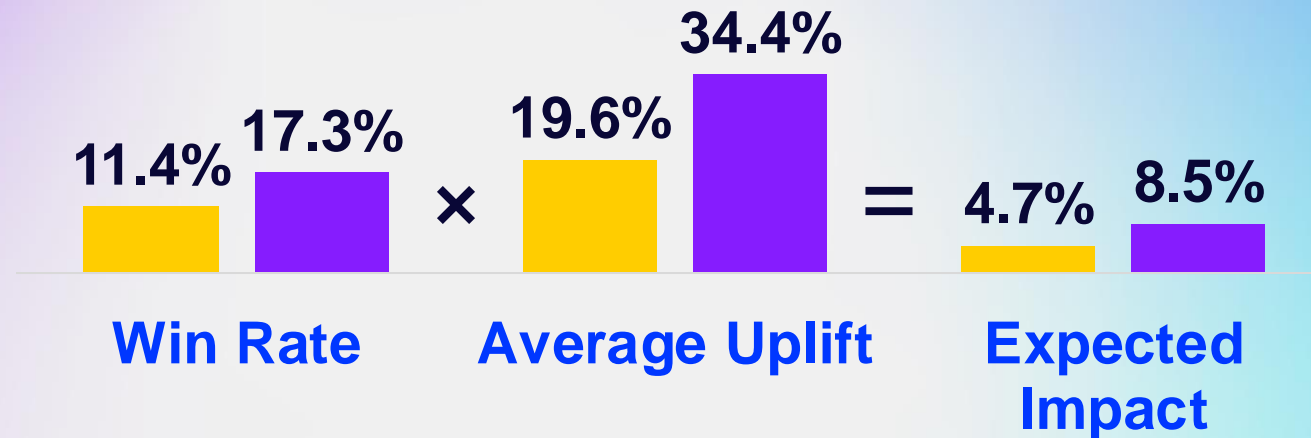
# Become data-driven

## Analytics



**+48% Wins**

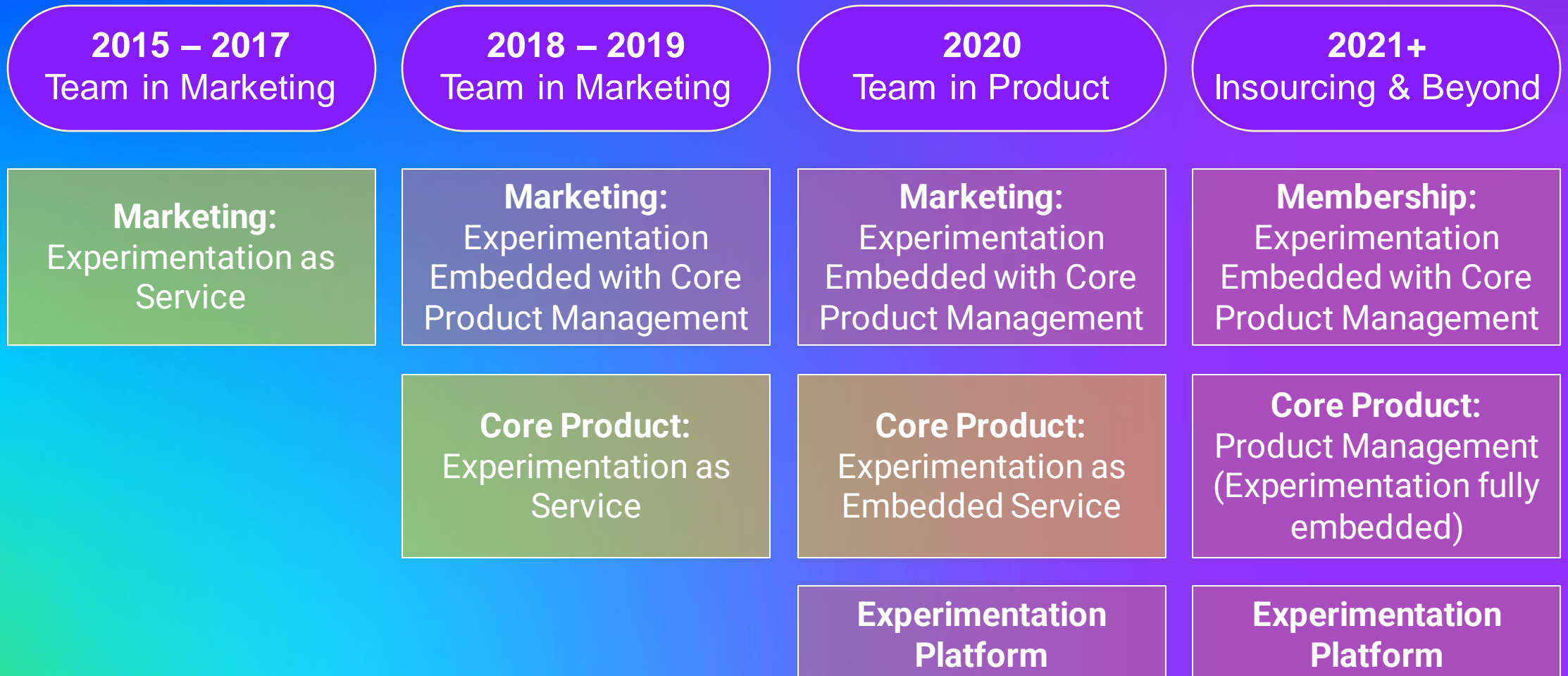
## CDP



**+80% Impact**

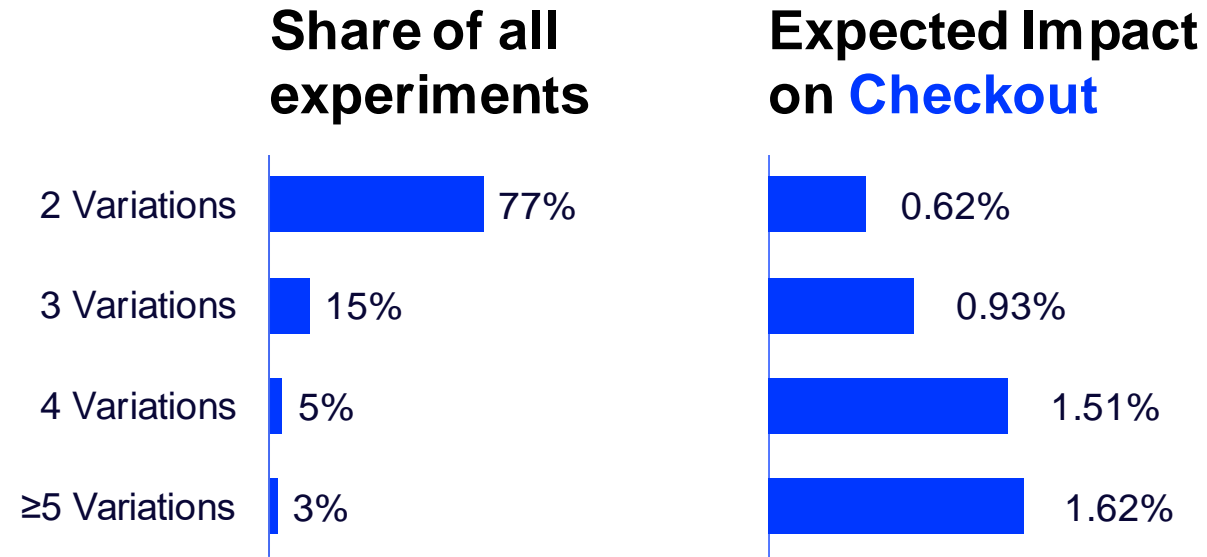
Source: Analytics - Optimizely 2017, n = 103K tests from 1.1K companies  
CDP - Optimizely 2023, n = 127K tests from 1.1K companies

# My Story at the Wall Street Journal



## Companies overwhelmingly test A versus B, when the highest value is for multiple variants

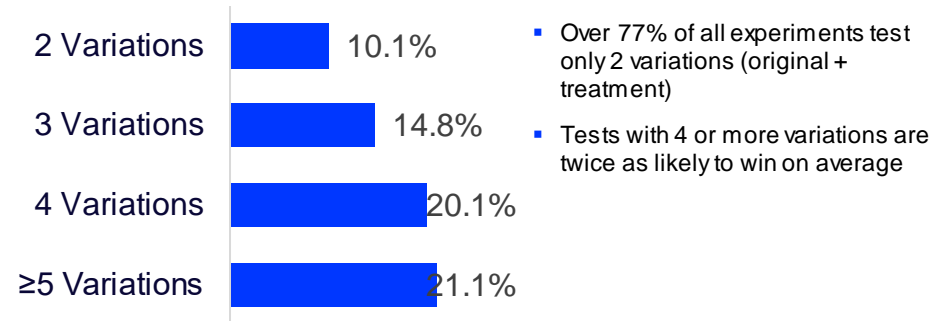
Experiments by variants versus expected impact on checkout  
n = 127K tests, variations includes original (2 Variations = Original + 1 Treatment)



## Across primary metrics, higher variants outperform AB

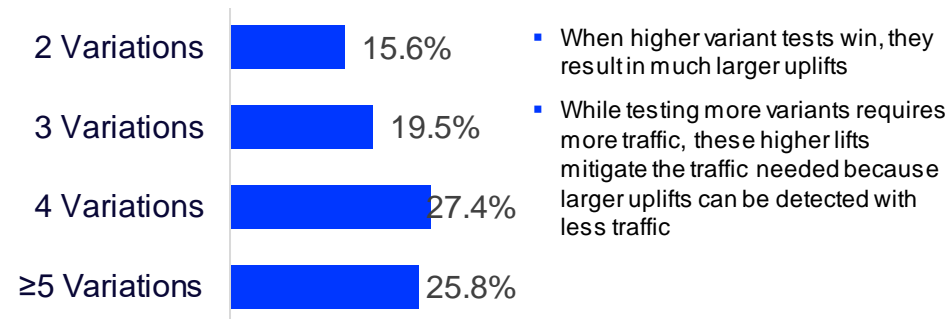
### Experiment **Win Rates** by number of variations (including baseline)

Win rate on the [primary metric](#) for true experiments, n = 127k tests



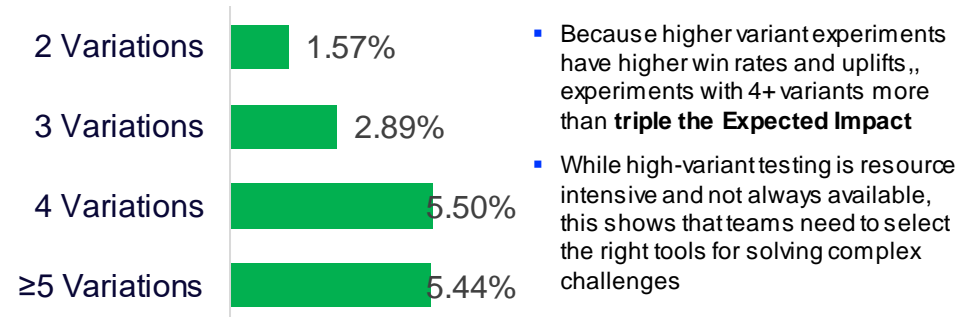
### **Average Uplift** for Winning Experiments by variations (including baseline)

Average winning uplift on the [primary metric](#) for true experiments, n = 127k tests



### **Expected Impact** by number of variations (including baseline)

Expected impact on the [primary metric](#) for true experiments, n = 127k tests



## Senior leaders associate with more winning ideas, yet junior teams associate with greater breakthroughs

**Scientific Study with Harvard Business School:** Higher levels of seniority on testing teams associate with more winning experiments, yet smaller uplifts

	$\ln(\text{Max Lift} + 1)$ (2-1)	Positive Statsig (2-2)
Max Seniority	-0.009** (0.004) [0.016]	0.010** (0.005) [0.047]
Duration	0.002 (0.001) [0.165]	0.005*** (0.001) [0.0002]
Traffic	0.00000 (0.00000) [0.364]	0.00003* (0.00002) [0.076]
Firm Age	0.0002* (0.0001) [0.068]	0.0005** (0.0002) [0.019]
Employee Count	0.00000 (0.00000) [0.236]	-0.00000 (0.00000) [0.506]
Technological Integrations	0.0004 (0.001) [0.634]	0.001 (0.001) [0.269]
Industry Fixed Effects	Yes	Yes
Week Fixed Effects	Yes	Yes
R <sup>2</sup>	0.0113	0.017
Observations	6375	6375

As the highest level of seniority found on a testing team rises...

- Experiments appear to win more often
- Yet experiment uplifts are smaller than those of more junior teams

This suggests that senior leaders have experience they can rely on to improve the status quote. However, their known experience may close them off to more modern methods that can result in larger breakthroughs. Junior teams appear to take more risk, with fewer wins but greater uplifts.

Source: Ghosh, Sourabh, Stefan Thomke, and Hazjier Pourkhalkhali. "The Effects of Hierarchy on Learning and Performance in Business Experimentation." *Harvard Business School Working Paper*, No. 20-081, February 2020.



### Prof. Stefan Thomke

William Clay Harding Professor of Business Administration at Harvard Business School and author of "Experimentation Works"

Great leaders balance exploitation and exploration.

They push teams to leverage and optimize business models that have worked in the past. But they also empower people to explore and discover new ways to create and capture value. Business experimentation is the engine that drives both endeavors.

PLEASE READ

# Instructions and resources

- Please hide slides 1, 2, and 3 for your final presentation.
- Stick to using the template slides as much as possible.
- Reference the example slides below for more detailed instructions on how to use each slide. Do not delete the example slides until your presentation is final so that you do not lose valuable instructions. We recommend duplicating the examples and adding in your content from there for ease of use.
- Ensure that your slides are readable from a distance: Refrain from creating text heavy slides and ensure your text is a minimum of 16pt.
- Speakers are limited to 20 slides max per presentation.
- Speakers may not alter the presentation theme.

## Ensure your text is visually accessible:





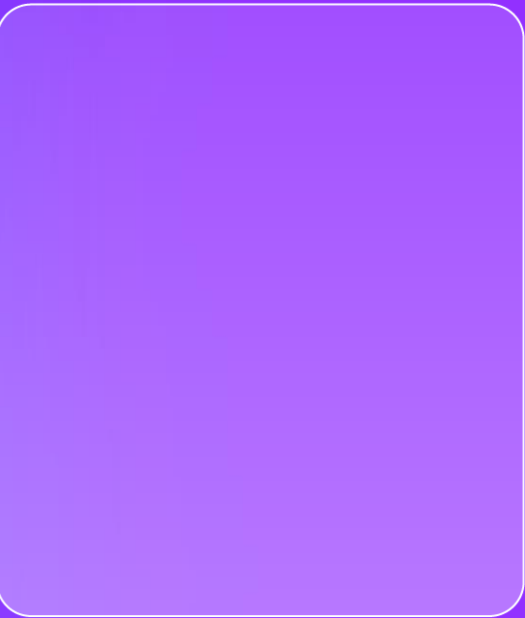
Numbers

01 02 03 04 05 06 07 08 09

Pills for sub-headers / flowcharts



Framing box



Arrows for Flow / Points



Quote marks



High-quality customer logos – scale as needed



# Agenda

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1. Introduction
2. Our mission
3. How it works
4. Success stories
5. Moving forward

# Short header or statement can go right here

**Optional sub header goes here: Arial bold 18pt**

Then go into your details below: arial regular 16pt.  
Because of the complex pattern below, use this slide for very short content. Bullet points or short body paragraphs are encouraged—breaking up your info will help your audience scan the content from a distance quickly.



# 01

Introduction

**Insert description:  
Arial 44pt. Three  
lines max.**

# Headline here: Arial bold 44pt

**Optional sub header goes here: arial bold 18pt**

Then go into your details below: arial regular 16pt. Bullet points or short body paragraphs are encouraged—breaking up your info will help your audience scan the content from a distance quickly.

Please be clear and straight to the point. Folks won't enjoy having to squint at the screen in order to read a super text-heavy slide. Three bullet points max. Or, alternatively, two short body paragraphs max.





# Important stats

## slide: Arial bold 44pt

**78%**

Supporting text right  
here: arial 16pt Lorem  
ipsum dolor sit amet,  
adipiscing elit.

**\$2.2M**

Supporting text right  
here: arial 16pt Lorem  
ipsum dolor sit amet,  
adipiscing elit.

**34%**

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Please be clear and straight to the point. Folks won't enjoy having to squint at the screen in order to read a super text-heavy slide. Three bullet points max. Or, alternatively, two short body paragraphs max.



# 02

Our mission

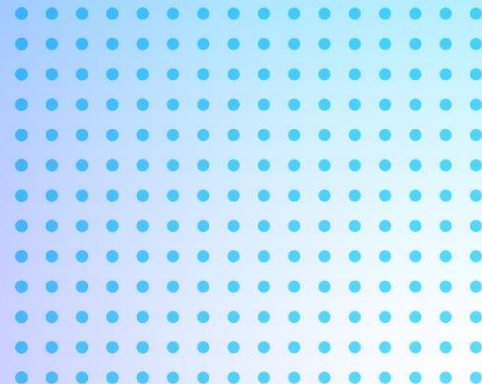
**Insert description:  
Arial 44pt. Three  
lines max.**



**Impactful quote here: Arial Bold 28pt. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet. Duis velit.**

**Full name: Arial bold 18pt**

Job title and place of work: Arial reg 16pt

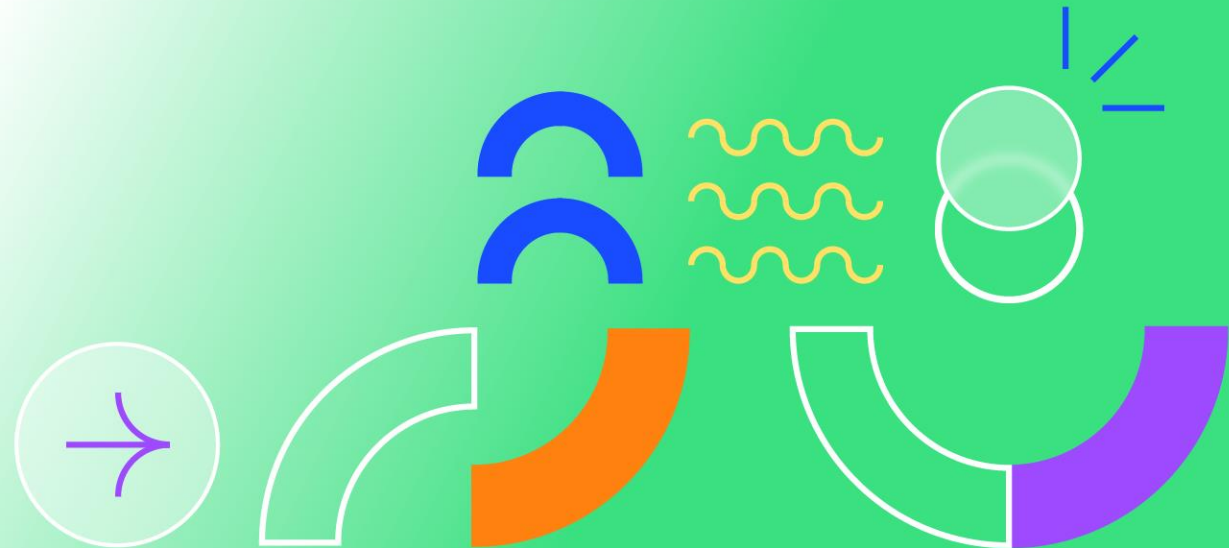


# Headline here: Arial bold 44pt

**Optional sub header here: Arial bold 18pt**

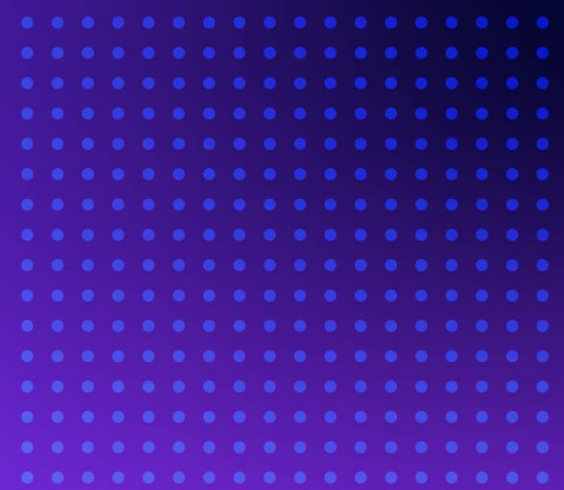
Then go into your details below: Arial regular 16pt.  
Bullet points or short body paragraphs are encouraged— breaking up your info will help your audience scan the content from a distance quickly.

Please be clear and straight to the point. Folks won't enjoy having to squint at the screen in order to read a super text-heavy slide. Three bullet points max. Or, alternatively, two short body paragraphs max.



# Two column slide:

## Arial bold 44pt



Then go into your details below: arial regular 16pt.  
Bullet points or short body paragraphs are encouraged— breaking up your info will help your audience scan the content from a distance quickly.

Please be clear and straight to the point. Only use this slide if you absolutely must show multiple body paragraphs. Lorem ipsum dolor consectetur adipiscing elit, sed do eiusmod tempor incididunt ut wed beat

Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est.

Placerat orci nulla pellentesque dignissim enim sit amet. Nibh venenatis cras sed felis eget velit aliquet sagittis id. A erat nam at lectus. Lorem ipsum dolor consectetur adipiscing elit, sed do eiusmod tempor.

# 03

How it works

**Insert description:  
Arial 44pt. Three  
lines max.**



# Step-by-step or key points slide



**First main point  
goes right here:  
Arial bold 18pt**

And optional  
supporting text: Arial  
reg 16pt



**Second main point  
goes right here:  
Arial bold 18pt**

And optional  
supporting text: Arial  
reg 16pt



**Third main point  
goes right here:  
Arial bold 18pt**

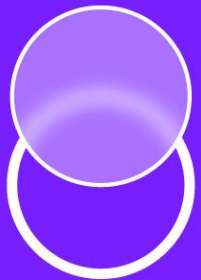
And optional  
supporting text: Arial  
reg 16pt



**Fourth main point  
goes right here:  
Arial bold 18pt**

And optional  
supporting text: Arial  
reg 16pt

# Thank you!



**Pete Gray**  
Senior Vice President,  
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