

# Unlock Business Growth with Incrementality Measurement

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## Contributors

**Stephan McBride, Netflix**  
Director of Advertising Science

**Matthew Gerrie, Booking.com**  
Director of Marketing Science

**Tony Flanery-Rye, eBay**  
Senior Director of Global Growth Analytics

**Alok Gupta, Airbnb**  
Director of Data Science

**Maggie Burke, Facebook**  
Measurement Council Lead

**Jonathan Lewis, Facebook**  
Product Lead Measurement

**Jesse Goranson, Facebook**  
Director of Measurement

**Abbey Koslow, Facebook**  
Marketing Science Lead

**Alex Esber, Facebook**  
Product Marketing Lead Measurement

**Brad Smallwood, Facebook**  
VP of Marketing Science

**Chao Chen, Facebook**  
Data Scientist, Analytics

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# Introduction

Advertising is one of the most important drivers of success for marketers. It is also intimately woven into consumers' lives around the world bringing color, excitement and discovery as well as irritation and unwelcome noise. As consumers shift their attention to new platforms and the availability of new data and new technology expands, an old practice generally considered as the gold standard of science is coming to the fore. Randomized control tests, a concept at the foundation of the scientific method, is now at the center of how some advertisers are looking to gain a competitive advantage. New research also has shown that using randomized control tests can help marketers make better decisions about a quarter to fifty percent of the time.

In today's increasingly fragmented digital landscape, marketing is getting harder. Marketers not only have to figure out where to put their money across more marketing channels, they have to make sure that creative, audience and increasingly complex buying methods are optimized within each channel. In this whitepaper, we will explain why we think marketers should consider moving to random control tests or other similar types of incrementality measurement, and provide clear examples from four major brands that have benefited considerably from this shift.

# Why Incrementality Matters

Over the past few decades, measurement tools like media mix models and last-click attribution have guided many marketers' decision making. These have always required analytical skills and teams. However, advertising technology and data availability have exponentially increased, both changing the applicability and interpretation of existing analytical methods and allowing for new approaches. Leading marketers recognize that this requires not just a change in the math they are using to make decisions, but a change in the technology used and a shift in the skills being hired within marketing organizations. The very best online technology companies have had a test and learn mindset from the beginning, leveraging A/B testing almost exclusively to make decisions about features on their platforms. This approach has already proven valuable for making product decisions, and it can be extended in the form of random control tests or other incrementality measurement tools for helping to determine the best use of marketing spend.

Incrementality measurement is at the core of what advertisers need to know to justify their investments – how much business do I get when I spend money on advertising relative to how much business do I get when I don't spend money on advertising. For example, a retailer would rightfully justify their end of year advertising budget based on the number of incremental sales driven by their holiday campaign – as long as these incremental sales are on top of sales that would have occurred without advertising.

Incrementality measurement can take many forms depending on the technology and platform, but the goal remains the same: to calculate a lift in ad performance by comparing differences in outcomes between a group of people shown advertising and a comparable control group that wasn't shown the ad, also known as a counterfactual, with the only variation being the differences in ad impressions shown. Randomized control tests are considered the gold standard for determining if something is incremental and can be used to evaluate anything from a small campaign test to an entire media channel when systems and data allow.

Incrementality is arguably the best signal for ROI, and most C-Suite executives recognize the opportunity they have to base more of their decisions on data they compile and use it to analyze and measure what works and what doesn't. "All sides of the C-Suite want to be data driven, and budgets can be reallocated to the right areas when incrementality shows that particular channels or groups are more effective," says Stephan McBride, Director of Advertising Science at Netflix. "This dynamic presents a great opportunity to match your organization's investment in advertising against the actual effect of the media."

## Thesis: Follow This Four-Step Process

Science and experimentation are what guides market advantage and proven results. Choosing the right vendor and tool is important, but gaining a competitive edge and growth for the business is often driven by a company's collective determination to test and learn at a quick cadence.

Incrementality measurement is unlocking new business opportunities at organizations like Airbnb, Booking.com, eBay and Netflix, and the opportunity is well within reach for companies of all sizes and interests. A culture that embraces rigorous and data-driven decision-making will elevate a business on multiple levels to get results for what is at the heart of every primary business objective: growth.

**Businesses need to follow a four-step process to empower their organization to effectively apply experimentation and learning in marketing.**



**STEP 1**

Embrace a test-and-learn culture with engaged leadership.



**STEP 2**

Prioritize data-driven decision-making and elevate its importance throughout your business.



**STEP 3**

Start running tests to generate data, learnings and achieve better outcomes.



**STEP 4**

Hire talented people who can lead with a focus on innovation and data in all aspects of marketing.

## Overcome the Business Challenge with Better Analysis

Understanding the strong connection between marketing and business outcomes is a core challenge for most marketers today. These challenges are greatly diminished thanks to

advancements in measurement and technology, but to benefit, companies must commit to getting started by adopting more accurate systems throughout their organization. Marketing goals are business goals, and the questions that businesses need to address through testing can be answered with good measurement.

The ability to measure incrementality is the key to gaining confidence in marketing and the related metrics upon which many decisions are based. Many companies recognize that a meticulous approach to marketing measurement leads to better decisions and value. Industries like travel are at the forefront of this approach, but businesses in all verticals can gain from use of this methodology to help them navigate a clearer path to growth.

## The Measurement Council Deepens the Conversation

The Measurement Council, formed by Facebook and its partners in November 2016, is deepening the conversation around the challenges and opportunities in digital advertising. This group of global industry leaders, top brands and measurement specialists is working to inform how the industry defines true business value both in the short and long term and to encourage the adoption of measurement practices that lead to improved marketing outcomes.

“Internet measurement systems were built for a world dominated by desktop computers,” says Jesse Goranson, Director of Measurement for Facebook. “Many companies are working to evolve a system initially built for a cookie-based world to something that works for mobile.”

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– **JESSE GORANSON, DIRECTOR OF MEASUREMENT FOR FACEBOOK**

Goranson adds: “A big part of that is moving from valuing only the last click to a full view of the customer purchase journey. Advertisers want to understand and value all the touchpoints that may have influenced a purchase decision versus those that were on that path but didn’t really drive any incremental value to the advertiser.”

After comprehensive research and review, the Measurement Council has determined that incrementality measurement is not only viable and significantly important to businesses of all types but also widely available to marketers who seek these systems out. The common frameworks and standards for marketing metrics have proven to be less effective than an experimental or test-and-learn approach, according to the council.

It all begins with data. There are still issues with respect to the transparency of available data and the granularity of the most relevant information for the purposes of marketing measurement. While large agencies and consumer packaged goods companies focus on scalability to achieve competitive advantage, some of the companies represented in the Measurement Council are most interested in directly evaluating ROI.

Standardization does help some businesses drive scale, but industry standards are secondary among these members of the council. Organizations are likely better served by going deep with each marketing channel and gaining the transparency that’s required to leverage large-scale behavior-based data.

## Leading Marketers POV

Facebook’s partners recognize that good measurement systems are already in place and readily available. Much of the industry is committed to making further improvements as well. Long-term investments are being made to enhance and develop better systems to capture granular data for decision-making purposes.

Leading marketers like Airbnb, Booking.com, eBay and Netflix have a clear mission to adopt rigorous practices throughout their organizations, and this mindset influences their approach to advertising. All four of these organizations have decided to prioritize measurement and infrastructure to focus on publishers that empower clients to reach accurate conclusions based on strict data measurement practices. Good measurement is central to these organizations and reinforced through all levels of their respective businesses.

While the industry must continue pushing for better ways to acquire and validate data, the core infrastructure of incrementality measurement is established and paying dividends for many businesses today. Airbnb, Booking.com, eBay and Netflix each have a unique story to tell about the importance and application of incrementality measurement at their respective companies. The fruits of which have led to material and often dramatic shifts in their internal strategies.

## Airbnb Uses Incrementality to Measure ROI

Airbnb, the world's largest community-driven hospitality company, relies on performance advertising to achieve growth goals for the business. Like most businesses, it has a finite budget from which to pursue those goals, so maximizing the ROI on its marketing spend is a top priority and measurement plays a key role.

"Measurement is critical for two things," says Alok Gupta, Director of Data Science at Airbnb. "One is to understand the ROI we are getting and correctly account for the source of that growth. And secondly to enable optimization across our different paid channels so we can decide where our next dollar of marketing budget should be spent."

Airbnb allocates many resources to optimize its marketing spend. "The organization's ROI in marketing depends on optimization, which directly follows measurement," according to Gupta. There can't be one without the other. "Once the marginal efficiency of each channel is measured, we can understand the historical efficiency of each channel and the global portfolio and optimize."

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– ALOK GUPTA, DIRECTOR OF DATA SCIENCE AT AIRBNB

While measurement methodologies aren't debated during budgeting conversations, Gupta's team is trusted to use the best methods available and report when they lack serious confidence in measurement on a particular channel. "The marketing team is autonomous and empowered to make decisions about the allocation of marketing spend across channels or campaigns," Gupta says.

"Everyone on the team across all business functions is aware that we're trying to optimize return from a fixed budget and the way we measure return is through long term value calculations and incrementality," Gupta says. "The concept of incrementality is something that everyone is aware of and knows is very important." In fact, to reinforce Airbnb's commitment to measurement and optimization, its marketing data science team has grown tenfold in the last 18 months.

Most of Airbnb's high-impact work in marketing this year has resulted from experiments that measure incrementality and estimate the marginal efficiency of its channels. The company has undergone a very meaningful shift in investment as a result of these experiments. The allocation of spend across channels has fundamentally changed as well. Airbnb's experimentation and conversion lift tests have led to some important breakthroughs in paid search, which has been a fierce battle ground in the travel industry. The company is unlocking higher returns than before on paid display and paid social channels as a result of what it learned through incrementality.

"In an ideal world, incrementality would be the difference in identical worlds of spending an extra dollar on advertising in 'Well A' versus 'Well B' and how much extra revenue we earn through that experiment," Gupta says. "In reality, we don't have identical worlds so we try to divide our present world into identical systems to measure the differences accordingly."

## Booking.com Likens Incrementality to Data-Driven Experimentation

“Booking.com has always been a data-driven company since day one,” says Matthew Gerrie, Director of Marketing Science at Booking.com. “Many companies pay lip service to being data driven. At Booking, I’ve never really experienced a company like it, almost every decision or change must be either run through an A/B test or have some kind of data to back it up for it to be true.”

From the earliest days of the company right up to now, absolutely no changes are made to the website until a test is run to determine the conversion rates of different options or design choices. When Booking.com started investing in marketing, it adopted the same experimental, data-reliant approach, according to Gerrie.

“At Booking.com there is onus put on marketers to prove through A/B testing (or some other incrementality testing) that we are actually contributing incrementally to the business,” Gerrie says. The mindset runs so deep at the company that no one in the business will accept or certify a result unless its measured through incrementality testing or some generally accepted measurement methodology within the company, according to Gerrie.

“The greatest thing for us is to determine what role each level of the funnel should play and which channel should play in each level of the funnel to deliver the most effective advertising possible,” Gerrie says. “We avoid spending any money on a channel in which we cannot prove a return through incrementality testing, either immediately, or soon after exposure to advertising.”

Similar to other companies that were born online and then moved into TV advertising, Booking.com is applying the same test-and-learn approach to television. Instead of managing a separate team that focuses on TV development with traditional relationships across various creative and media agencies, Booking.com has brought the worlds of marketing science and traditional TV advertising together, according to Gerrie. Media is a data-driven decision today, so there’s no reason to separate the upper and lower funnel when analysts in old media and new can leverage their skills for all marketing endeavors.

Incrementality plays a leading role in how Booking.com characterizes the effectiveness of its advertising today, but it wasn’t always that way. In years past, the business gave prominence to advertising channels that resulted in immediate bookings in session. “You had an in-session ROI or not, that was the only way to measure success,” Gerrie explains. That philosophy was eventually thrown up for debate, and some experimental tests quickly proved that online advertising is rarely so cut and dried.

“As everyone in the world now knows there is some incremental value that comes from a display impression or an online video impression that does not lead to an immediate booking. This is not rocket science, but showing this incremental value to the business was a pivotal moment and a change in thinking,” Gerrie says.

“We measure everything as exposed and unexposed and look for an uplift in different key performance indicators (KPIs) depending on the layer of the funnel that we’re looking at. They all should ultimately come back to an uplift or increased conversions in bookings.”

## eBay Fosters Rigorous Measurement

“Measurement is the lifeblood of eBay,” says Tony Flanery-Rye, Senior Director of Global Growth Analytics at the e-commerce pioneer. “When you start to think of the infrastructure required to support more than 12,600 employees and selling millions of items around the globe, the rounding and decimal points matter.”

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– TONY FLANERY-RYE, SENIOR DIRECTOR OF  
GLOBAL GROWTH ANALYTICS AT EBAY

It's no wonder a measurement rigor runs deep throughout the company. “We go to great lengths to make sure that we have as pure of a comparison on an A-B test as possible,” Flanery-Rye says. The company tests pre equivalency and post equivalency to measure how long a behavior or action continues following an impression. “It's an amazing amount of focus on getting to a very specific number that can definitely hold its weight in a critical review.”

The process to get the best test possible is the norm at eBay because attribution is the best rendition of what the company's incrementality tests uncover, according to Flanery-Rye.

“There's always going to be a bridge between what you see from incrementality and what flows through in all of your attribution rules,” he says. eBay bridges those gaps in attribution via rigorous testing that helps the organization identify instances of inaccurate or unproven assumptions as it relates to attribution decisions.

“We have an amazing layer of complexity that allows for some great analytics to happen, and as a result we have insights that we can transform into operations.

## Netflix Empowers Decisions Via Incrementality

Stephan McBride, Director of Advertising Science at Netflix, says incrementality helps the entertainment company understand the effects of actions it takes in marketing to improve business operations and achieve its primary goal of growth. “Incrementality is one form of measurement that ensures that we actually understand what our actions are, and because we know what our actions are we can affect our actions to improve our business,” he says.

Netflix's product experience is guided and consistently improved through internal tests and learning, according to McBride. Experiments are at the heart and soul of the company. There's an inherent culture and recognition at Netflix that randomization and the counterfactual control groups are required to determine if a particular product feature, design choice or advertising objective is more effective at reaching the company's core objectives: delighting its members and attracting new people to join.

Science is a central tenet from which Netflix's organization flows, and experiments are routinely undertaken in product development, recommendation testing and content delivery algorithms to elevate scientific discovery and insights throughout the company, according to McBride. Netflix is widely recognized for its successful product development cycle, and it is replicating that level of success in advertising measurement methodologies.

"Several years ago we had a desire to better understand the incremental effects of our advertising spend and improve it," McBride says. "In our culture when we see opportunities for substantial business impact, our leaders are eager to embrace that."

Netflix empowers various employees in different teams to regularly provide feedback and access memos and research from the data science team. "There is a high base of interest and passion around methods and data and we have many opportunities to engage and push each other to hone our thinking on measurement methodology," McBride says.

"I think that our culture at Netflix focuses on evaluating our hypotheses, so there are no sacred cows. There's a recognition that any of us could be right or any of us could be wrong, and ultimately it is our objective to affirm or validate those hypotheses," he says. "Our view is that we should evaluate that hypothesis and determine if it does in fact make us better. At some point we want data to confirm or evaluate that hypothesis."

## Facebook Research Solidifies the Power of Incrementality Measurement

To help understand how incrementality measurement changes the decisions you make relative to other measurement approaches, Facebook evaluated the 580 A-B tests run by advertisers through its incrementality measurement platform, Conversion Lift, between February 2015 and September 2017 that reached statistical significance.<sup>1</sup>

These tests compared different marketing tactics, like creative strategies or placement, to understand which tactics were better at driving growth for their respective business objectives.

The results of the A-B tests were evaluated using two different measurement systems: 1. Incrementality Measurement and 2. One-Day Click Attribution (where credit is assigned to the ad receiving a click within one day of the conversion event). Facebook found that among the tests measured, overall the two measurement systems disagreed on average 23 percent of the time on which tactic was most effective for their business. What's more, when they disagreed advertisers missed out on a potential 64 percent average improvement in cost per conversion (CPA) if they picked the wrong test cell.

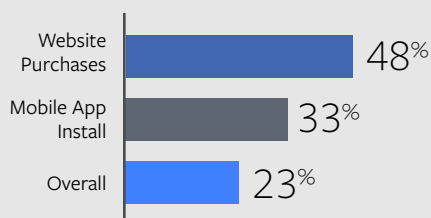
This difference was more pronounced for website purchases where the approaches disagreed 48 percent of the time, with a 79 percent average CPA difference when they disagree.

"The classical way direct-response advertisers measure is using a click-based attribution model," says Jonathan Lewis, Facebook's lead on experimentation products. "We looked at which of the A-B test tactics a one-day click attribution model picked as the best performing and compared that to which of the tactics the incrementality measurement picked based on the CPA for the stated KPI of the test. With incrementality widely viewed as the best source of truth for valuing impact, it's concerning that tests based on one-day click attribution pick a different winner than what a true test vs. control test would do. It means that one-day click attribution does not always provide you the best guidance on where to spend your money. Considering the scale of the mismatch tells you whether an investment in incrementality measurement is worth it."

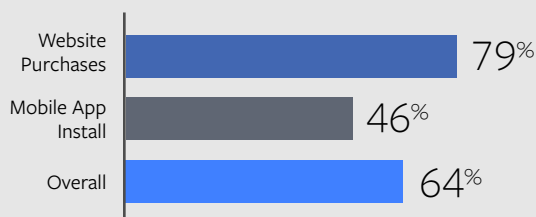
<sup>1</sup>Facebook Analysis of 580 Conversion Lift A/B tests run Feb 2015 – Sep 2017. Percentages quoted represent aggregate overall average among all tests analyzed (statistically significant result @ 90% CI); Oct 2017.

The research shows that incrementality measurement is valuable and can inform or lead you to decisions that help improve the efficiency of your marketing spend. The more important the decision you are making, the more important incrementality measurement may be for you.

### Rate Found at Which Click Attribution Winner Differs from Incrementality



### Difference in CPA when Click Attribution and Incrementality Disagree on Winner



*Facebook Analysis of 580 Conversion Lift A/B tests. Percentages quoted represent aggregate overall average among all tests (statistically significant result @ 90% CI); Oct 2017.*

## How to Get Started in Four Steps

Adopting a new approach to measurement isn't always easy, but the results could dramatically improve your organization's ability to achieve business outcomes. Companies that prioritize experimentation and apply a test-and-learn approach to operations are well-positioned to get started, but every marketer should consider how it can innovate by incorporating incrementality into marketing decisions.

**Organizations that follow these four steps stand to gain a tremendous perspective and detailed insights into their advertising methodology.**



#### STEP 1

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## Practical Advice for All Marketers

Gupta of Airbnb offers some of his own advice for marketers who want to empower their business through incrementality. "Firstly, make sure you are fully aligned on the optimization objective function," e.g., "Maximize your ROI for a given fixed budget," he says. "Then make sure you are fully aware that, generally speaking, there are diminishing returns on every channel, that the next dollar you spend is always going to have lower incrementality than the previous dollar spent. Therefore, the challenge is to unlock new channels that can deliver higher ROI."

Businesses should start down the path of incrementality by following the dollars, according to Flanery-Rye of eBay. “Find where you’re spending the most and start there. Once you’ve identified that, the second step is start small and iterate as you learn from there. Set up an experiment and see where the results lead you,” he says. “The best lessons that humans learn and actually the best lessons that machines learn are fed by making mistakes, and you can learn and address from there.”

Lewis notes that this disciplined practice is “quite a stark contrast with some of the largest advertisers in the world who never run tests. They set up a campaign, they don’t change anything, and then they evaluate 8-12 weeks after the campaign has completed, whether it worked or not.” This is why it’s imperative for organizations to hire and empower talented people who know how to test, measure and learn.

Organizations should also have executive-level discussions about the scale of investment and the level of rigor it can feasibly adopt and adhere to, according to Flanery-Rye. Those decisions will help guide the number of people, partnerships and technical investments required to achieve success. “If you’re going to be making a lot of decisions very quickly, it’s hard to recommend that you’d want a huge apparatus that takes three weeks to run an A-B test,” he says. “You want your rigor to match your decision cadence.”

## Embrace Modern Measurement Tools for Growth

While there are many systems for measurement and attribution, the hard truth is that consumer behavior has turned digital marketing on its head. Consumer attention is increasingly fragmented across various devices and channels. As such, some of the methods that dominate the digital landscape today sometimes lack the clarity and foresight that businesses need to make the right decisions about marketing spend.

The good news is that technology is rapidly improving and unlocking measurement solutions, like incrementality, that make it easier for businesses to connect the dots between interactions and sales. By developing a more sophisticated and rigorous approach to measurement, every type of business has the potential to lift their ROI on advertising and direct their resources and spending in a more informed and effective manner.