cuebiq

A Causal Framework for Measuring Campaign Impact

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Executive Summary

In today's complex media landscape, knowing whether your ads are actually driving real-world behavior is harder than ever. Traditional attribution models can't distinguish between organic visits and those influenced by media, leaving marketers with inflated metrics and unclear ROI.

Cuebiq solves this with **Incrementality Measurement**: a causal, privacy-first approach that quantifies campaign-driven lift with statistical precision.

By measuring the consumer journey at the device level, we help marketers optimize media spend, refine targeting strategies, and confidently attribute in-store visits to specific ad exposures. Built on first-party, consented location data, Cuebiq's methodology ensures both privacy compliance and data integrity.

Stop guessing. Start measuring what truly drives visits.

Francesco Guglielmino, CEO of Cuebiq, **brings more than a decade of experience in location technology, martech, and advertising**. A founding member of the team, he helped build the core product that evolved into Cuebiq while leading global operations at Beintoo.

Francesco later served as Head of Operations and Strategy and then Chief Product Officer, where he shaped Cuebiq's product roadmap and growth. Now as CEO, he combines deep product expertise with entrepreneurial execution to tackle complex measurement challenges with clarity, transparency, and a privacy-first mindset.

Francesco Guglielmino
CEO

Why Visit Incrementality Matters

Measuring incremental visits is essential for understanding the real impact of advertising. It allows marketers to **isolate the lift caused by a campaign** from visits that would have occurred anyway.

Cuebiq delivers this clarity at the device level—helping marketers quantify true campaign-driven visits, calculate cost per incremental visit (CPIV), and optimize campaigns in real time. Our method distinguishes between natural behavior and media-driven behavior using causal machine learning, avoiding the overestimation common in traditional attribution models.

Unlike total uplift metrics that blend organic and campaign-driven visits, Cuebiq's approach uses causal machine learning to **estimate visits that would have happened in the absence of the campaign.** By distinguishing natural visitation patterns from those driven by media, we help marketers avoid the overestimation that plagues traditional attribution models.

Cuebiq is committed to democratizing incrementality by giving marketers an evidence-based way to understand what's actually driving store visits and campaign outcomes.

Simply put: incrementality is the difference between *guessing* and *knowing* what's driving visits.

Cuebiq's Approach to Causal Attribution

How do you attribute a store visit to an ad someone saw as part of a multi-channel campaign?

Which ad—if any—drove them there?

Would they have visited regardless?

The most reliable way to answer questions like these is with a **randomized control trial** (RCT), or A/B test.

Ideally, individuals would be randomly assigned to either a control group, which doesn't see the ad, or an exposed group, which does. If both groups are otherwise identical, then any difference in behavior can be attributed directly to the ad.

But in real-world media, especially OOH, CTV, and programmatic, randomization is nearly impossible.

Brands can't fully control exposure, and platforms often don't support randomized holdouts.

Cuebiq solves this with **causal machine learning**. Using advanced neural networks and behavioral matching, we simulate random assignment to recreate the rigor of an RCT in real-world conditions.

This enables us to measure campaign impact at the individual device level with accuracy and scale.

A well-matched control group acts as a counterfactual, estimating how exposed users would have visited without the campaign. This isolates **ad-driven visitation from baseline** activity with statistical confidence.
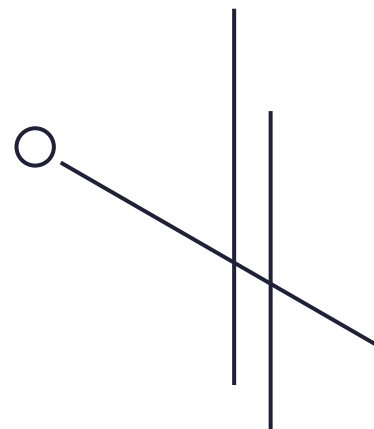
Why True Randomization Is Impossible in Omnichannel Advertising

In today's landscape, most campaigns are run without randomized exposure. This creates a fundamental problem for measurement: **bias.**

Without a control group, it's nearly impossible to tell whether a campaign truly influenced behavior or if those outcomes would have happened anyway. Two key challenges prevent true randomization:

1. Media Constraints

Broadcast TV, radio, and print expose everyone in the region. Even in digital, platforms often don't offer the granular controls needed to exclude users from exposure.

2. Industry Incentives

Marketers and platforms are under pressure to maximize impressions and minimize perceived waste. Holding back control groups is seen as inefficient when success is measured by volume delivered—so they're often sacrificed for reach.

Large platforms like Meta and Google are exceptions—they control the full ad stack and can assign exposed/control groups upfront.

But across most of the industry, **indiscriminate exposure is the norm.**

That's why Cuebiq's simulated randomization is critical for causal attribution.
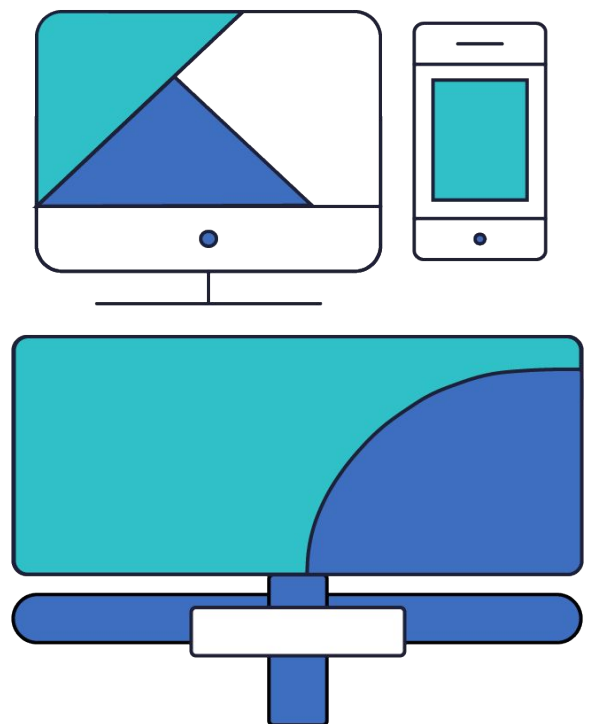
Cuebiq's Measurement Methodology

To approximate the rigor of randomized testing, Cuebiq applies machine learning to simulate balance between exposed and control groups.

Developed in collaboration with Cornell Tech's Causal Machine Learning Lab, our methodology **blends academic rigor** with **real-world applicability.**

At the core is the Treatment-Agnostic Representation Network (TARNet), a specialized neural network that estimates Conditional Average Treatment Effect (CATE) at the device level. This allows us to **predict how each exposed device would have behaved** if it hadn't seen the campaign.

Cuebiq's model includes standard features like OS type and media channel, plus two proprietary signals:

Fine-Grained Geographical Information

County-level location signatures capture how geography influences exposure and conversion behavior.
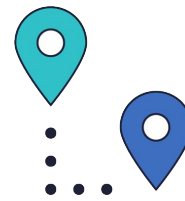
User Co-Visitation Patterns

Pre-campaign visits to points of interest reveal affinities, habits, and intent signals that strengthen model accuracy and inform future audience strategies.
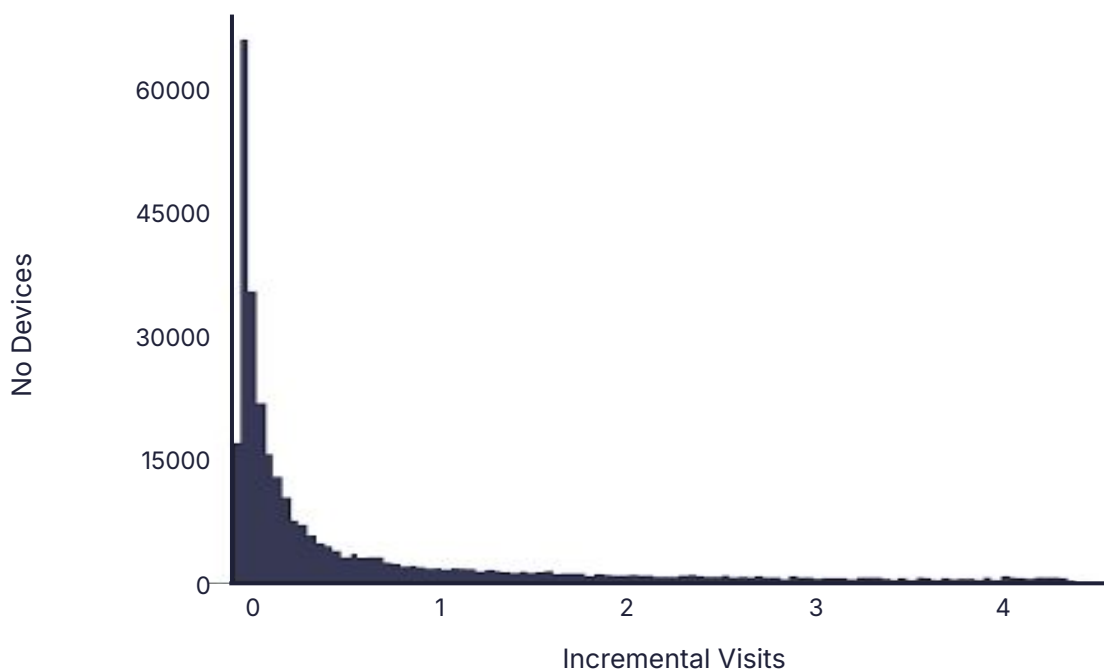
Measurement in Action ①

For any given campaign, Cuebiq's model **estimates the number of incremental visits** for each device. Consider the following example:

	Total Visits	Incremental Visits	Organic Visits
Device 1	6	**3.2**	2.8
Device 2	3	**1.1**	1.9

Table 1: *Output for a 2019 campaign, showing the breakdown of observed visits into the estimated incremental and corresponding organic components.*

For every device in the exposed group, we calculate incremental visits using our causal machine learning model. Since we also know the total visits, we can decompose each device's behavior into incremental (campaign-driven) and organic (baseline) visits.

Because these values are estimates rather than direct observations, they may appear as decimals. By aggregating the estimates across all devices, we can **visualize the distribution of incremental impact** across the population.

The x-axis represents the number of incremental visits attributed to the campaign per device. The y-axis reflects the number of devices at each incrementality level. For example, a value of 15,000 on the y-axis indicates that 15,000 devices were assigned the corresponding number of incremental visits on the x-axis.

These values represent a population-level projection. Cuebiq starts with a matched sample—devices from our ecosystem that were successfully linked to client impression logs—and scales the results to reflect the broader population. For instance, if 300 matched devices register one incremental visit, that might project to 4,000 devices at scale.

As expected, the distribution is **left-skewed**: most devices show modest lift, while a smaller portion exhibit a stronger response. This pattern reflects how **most users are lightly influenced by advertising**, while a select group responds more significantly.
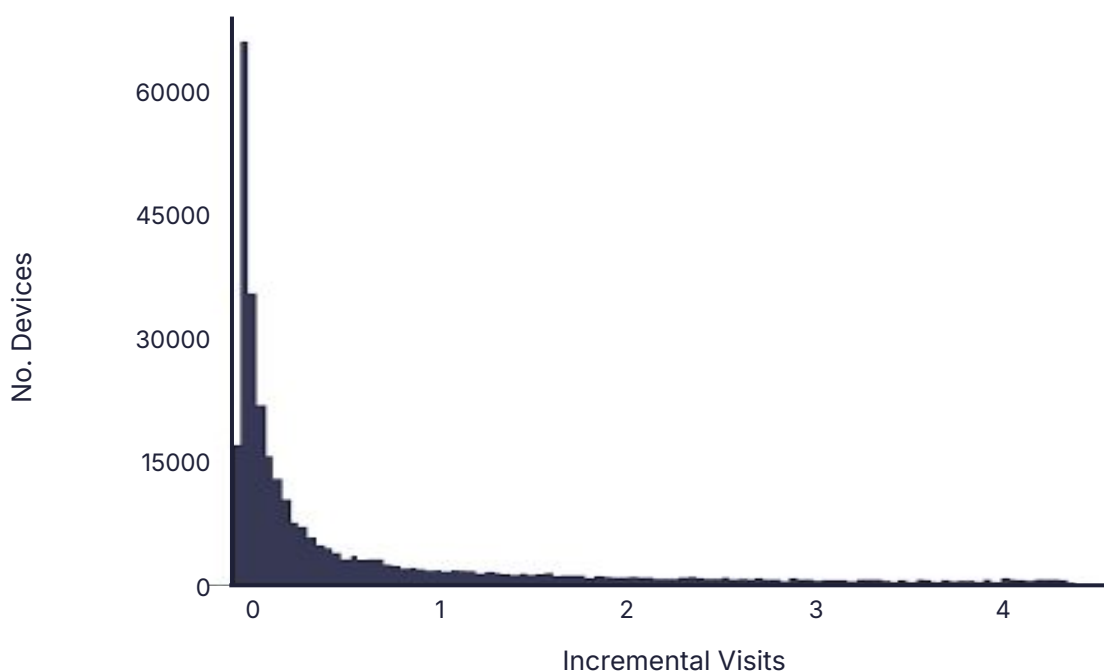
Activating Insights

Cuebiq's device-level estimates allow marketers to **segment audiences by responsiveness**—low, medium, or high—and identify which groups delivered the most value. Additionally, **Cuebiq distinguishes between new and returning visitors**, helping marketers determine whether a campaign drove new customers, repeat foot traffic, or both, and understand how each segment contributed to overall lift.

Cuebiq also supports in-flight optimization. Clients can receive incrementality reports daily, weekly, or biweekly, based on campaign cadence and goals. The platform adapts accordingly, providing flexible, timely insights through a redesigned UI.

Bottom line: Stop guessing whether your campaigns actually drive incremental visits.

Cuebiq's causal machine learning approach delivers the scientific rigor and measurement accuracy needed to prove true campaign impact, maximize every media dollar, and dominate in today's advertising landscape.

Key Takeaways

Cuebiq's Incrementality Measurement enables brands and agencies to:

- Measure the true behavioral lift driven by advertising
- Quantify incremental visits at the device level across channels
- Identify high-response audience segments for future targeting
- Reduce cost per incremental visit (CPIV) and improve efficiency
- Optimize strategy in real time based on live reporting
- Maximize return on ad spend (ROAS) across activations

Privacy Compliance for Brand Safety

At Cuebiq, privacy is foundational. We adhere to four core commitments:

CONSENT	CONTROL
All data comes from users who have explicitly opted in. We never collect personally identifiable information (PII).	Users can opt out anytime via app settings, device settings, or the Cuebiq app.

ACCOUNTABILITY	TRANSPARENCY
We're certified by NAI, TAG, TrustArc, and Privacy Shield.	We clearly disclose how data is collected, used, and shared.

Our dedicated privacy team continuously monitors and ensures compliance with evolving global regulations like GDPR and CCPA. When you work with Cuebiq, you're choosing a partner built for responsible, scalable data use.

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Ready to see how Cuebiq's incrementality measurement can elevate your campaign strategy?

Let's talk. Visit www.cuebiq.com/contact
to schedule a demo and connect
with our team.