MSI at the ARF

How Good Is Your Firm at Measuring Advertising ROI

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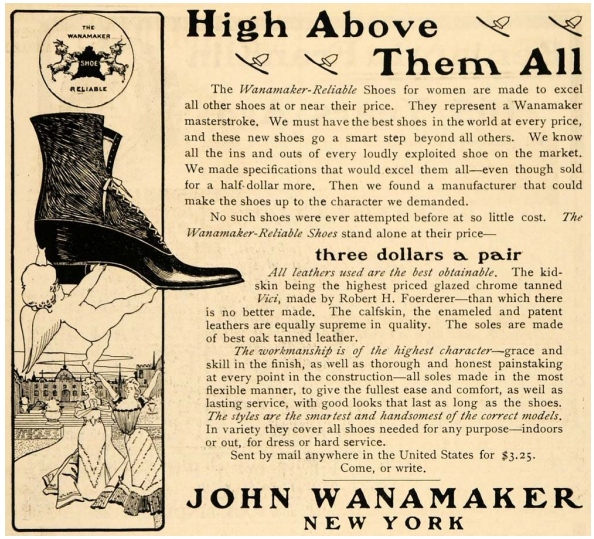
How good is your firm at measuring advertising ROI?

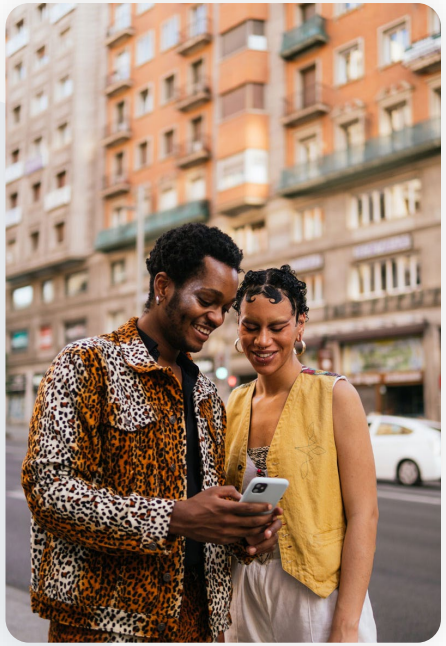
Meta

ADVERTISING EFFECTS
HAVE ALWAYS BEEN HARD TO MEASURE

“Half the money I spend on advertising is wasted; the trouble is I don’t know which half.”

— John Wanamaker (1838 - 1922) Department Store Merchant





How data fuels advertising is changing

Policies are giving people more options to limit how their data is shared with businesses

EXAMPLE

Regulatory policies, such as GDPR, CCPA, and LGPD

People are choosing to opt-out of receiving ads on websites

EXAMPLE

Evolving technologies, such as ad blockers

Platforms are removing identity and grouping the data shared with businesses

EXAMPLE

Platform solutions for new data policies, such as Apple's SKAdNetwork for iOS's ATT and Google's Privacy Sandbox Initiative

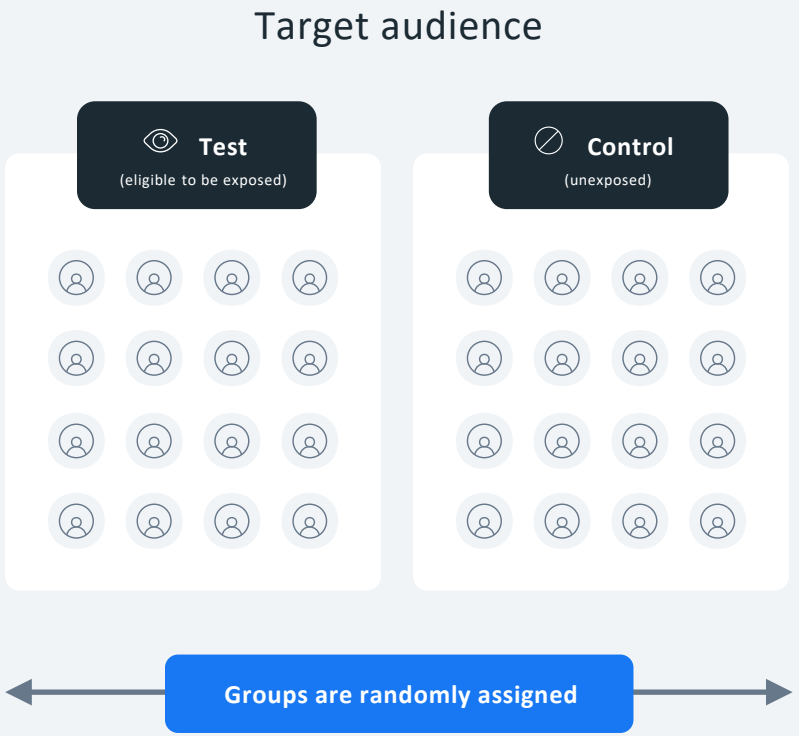
Good measurement is increasingly difficult to achieve, yet essential to marketing success

Companies advertise to influence more people to buy their products and increase brand preference.

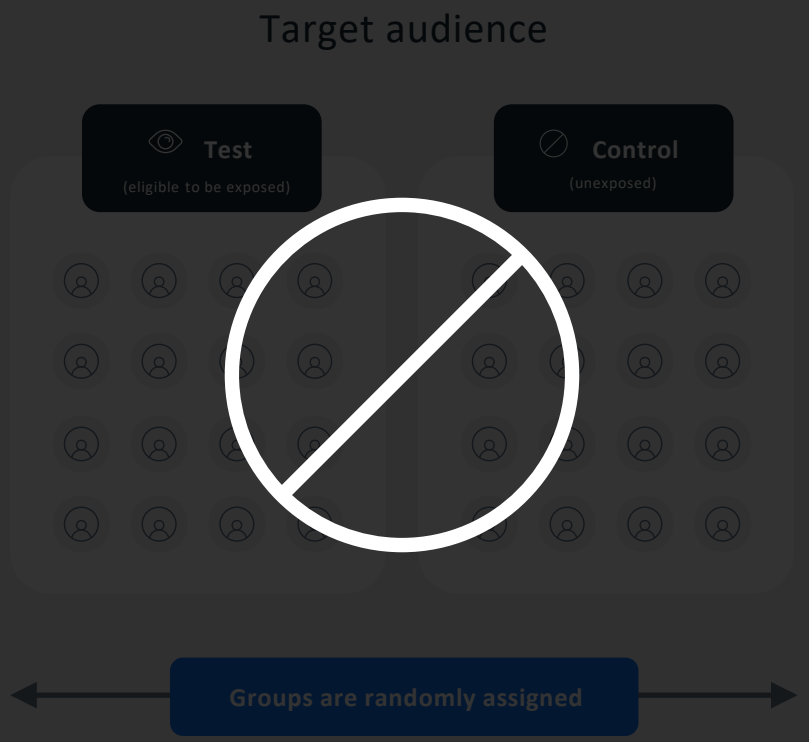
But when measuring the impact of ads, it’s import to remember that correlation does not imply causation.

The ladder of incrementality

Randomized control trials (RCTs) are recognized as the “gold standard” to measure incremental effects

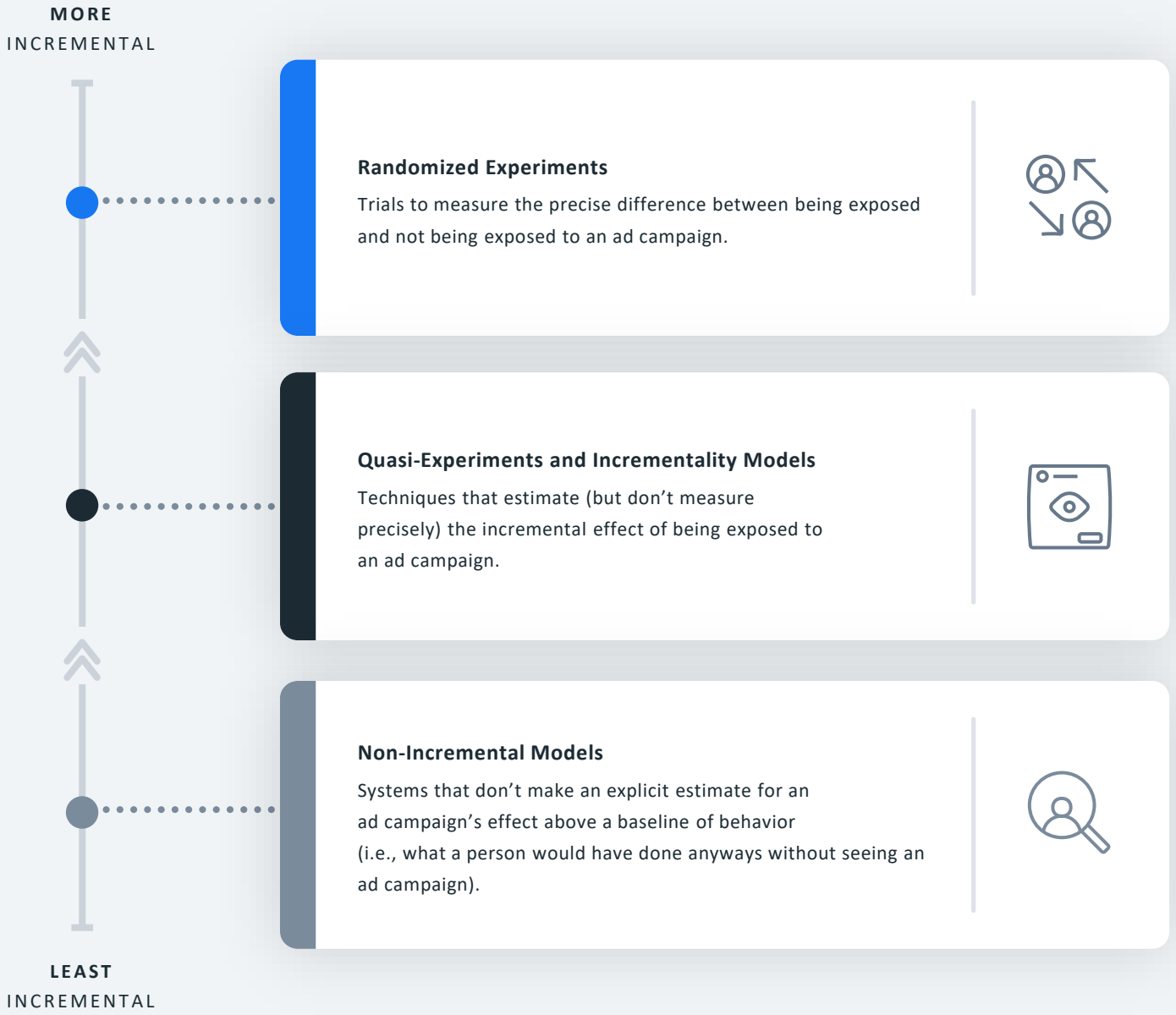


But what if you can’t run an RCT?



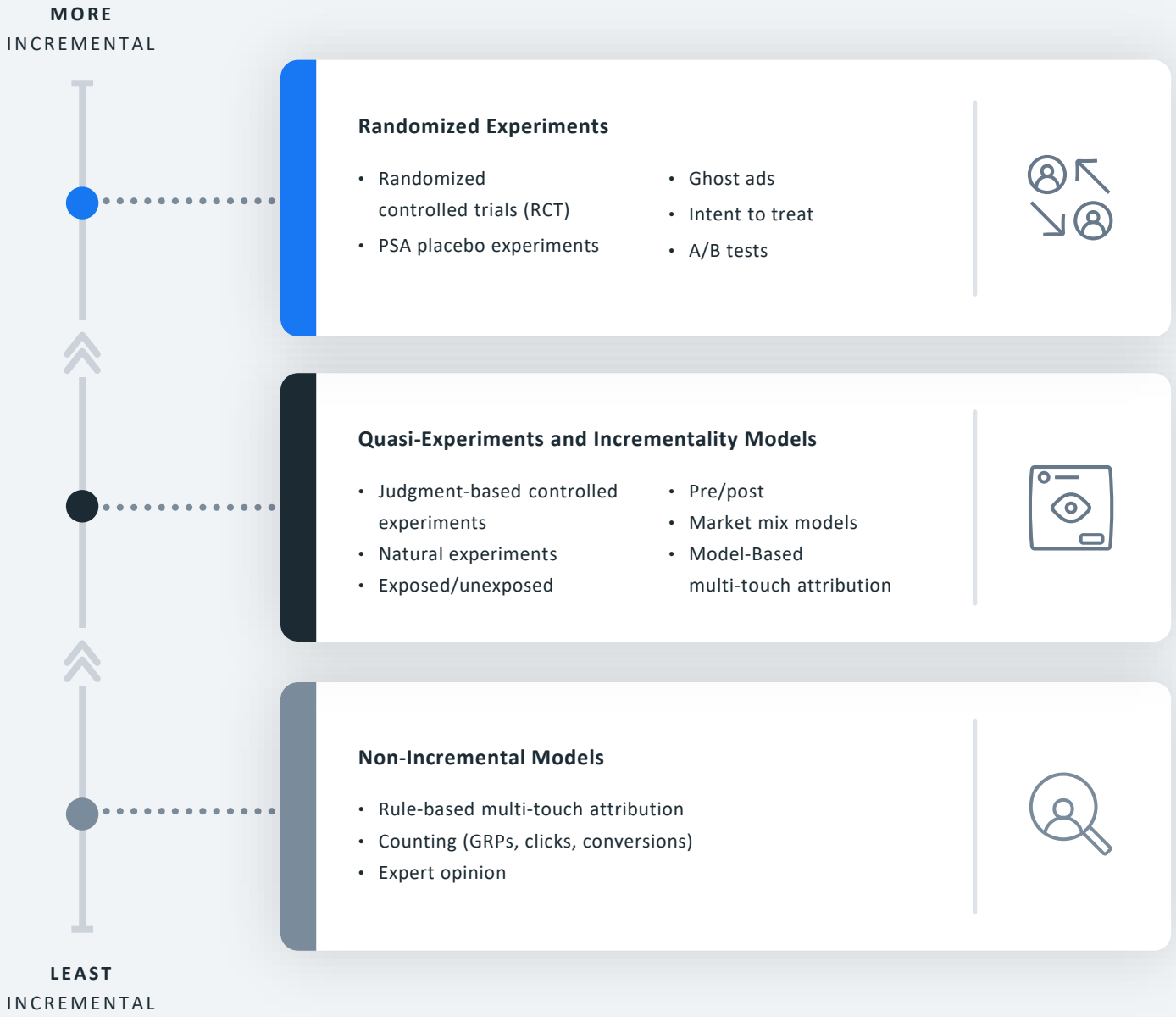
THE LADDER OF INCREMENTALITY

You can think of incrementality as a ladder of options that get closer to measuring true business value as you climb



THE LADDER OF INCREMENTALITY

Many different techniques fall into each rung



Can good data and robust models help improve the incrementality of non-experimental observational measurement methods, reducing the need for RCTs?

Meta teamed up with Northwestern's Kellogg School of Management to answer this question

1,673

RCTs from Facebook's Conversion Lift[1] platform with outcomes measured using conversion pixels

5,000+

user-level characteristics to aid model adjustment

Selected to be representative of tests run between 11/1/19 and 3/1/20 with 1M+ de-identified users in the US

Median test had **7.4M** users, **22M** impressions → **38B** impressions in all

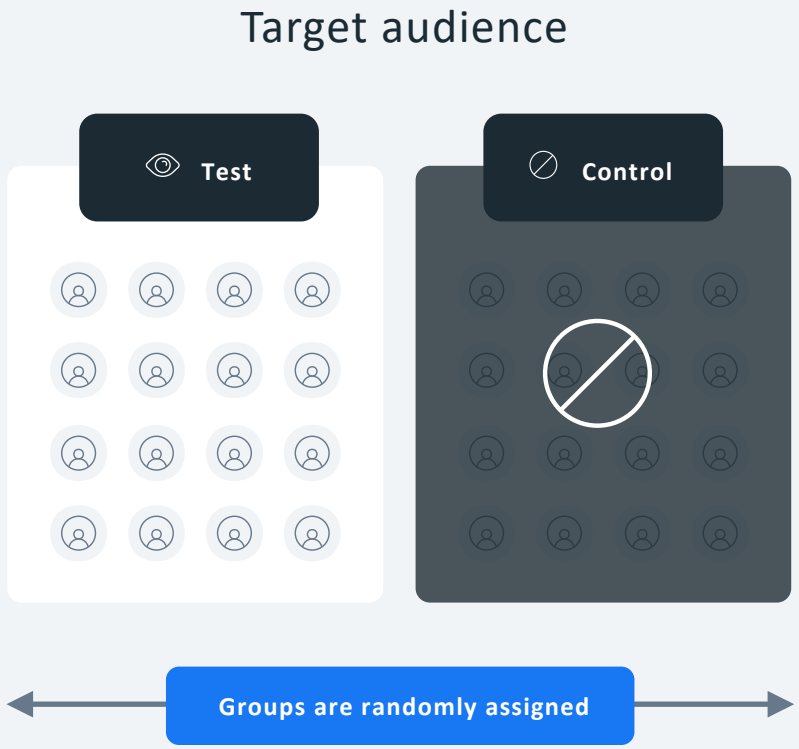
Hypothetical

If an advertiser had not implemented a campaign as an RCT, i.e., without a randomized control group, what ad effect would they have estimated using an observational method?

1. https://pubsonline.informs.org/doi/abs/10.1287/mksc.2022.1413

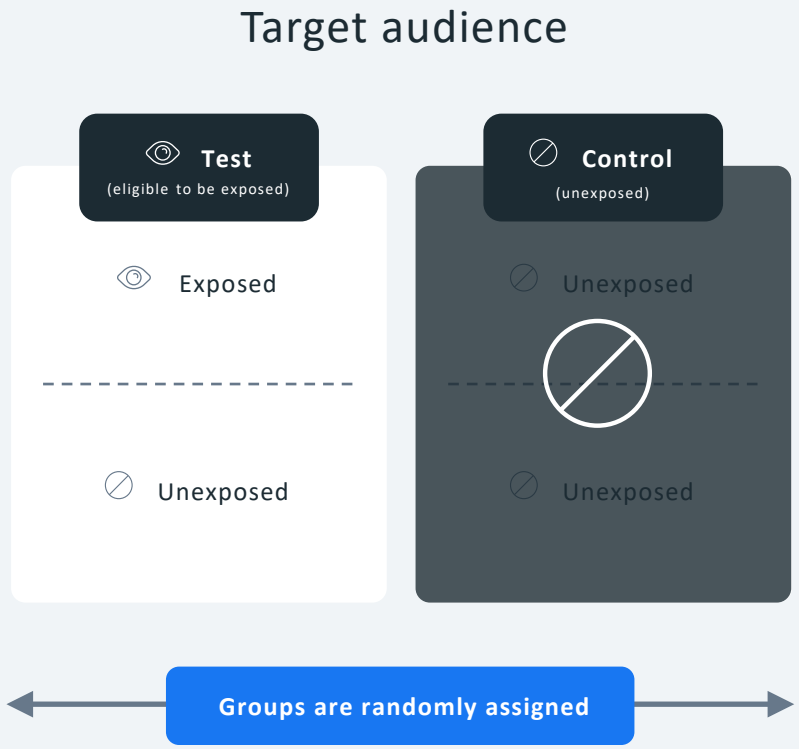
Continue that hypothetical,

Imagine we don't have an RCT…

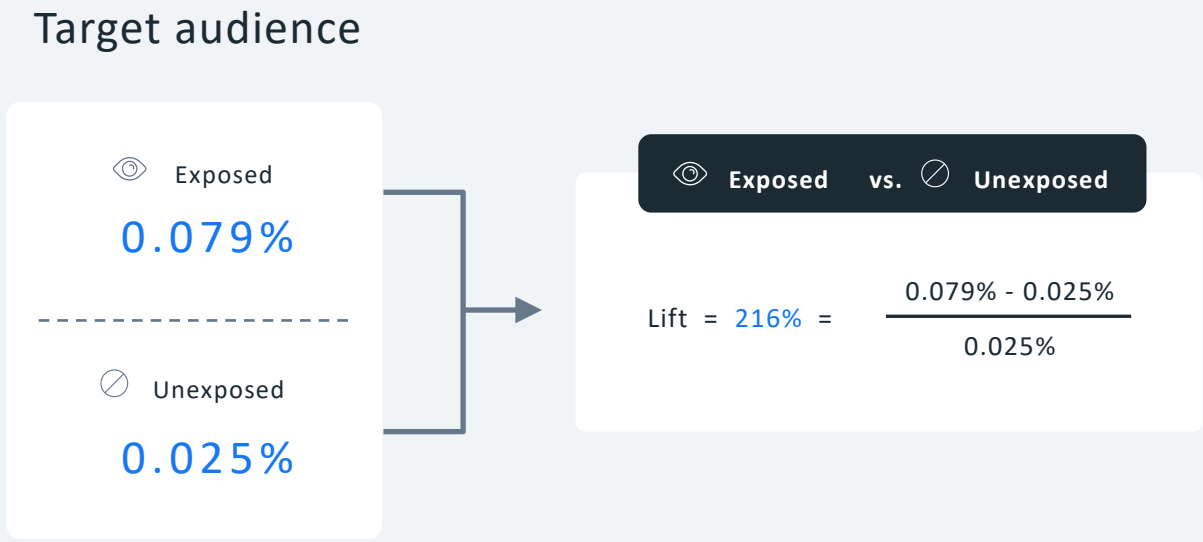


Users in test are eligible for ads

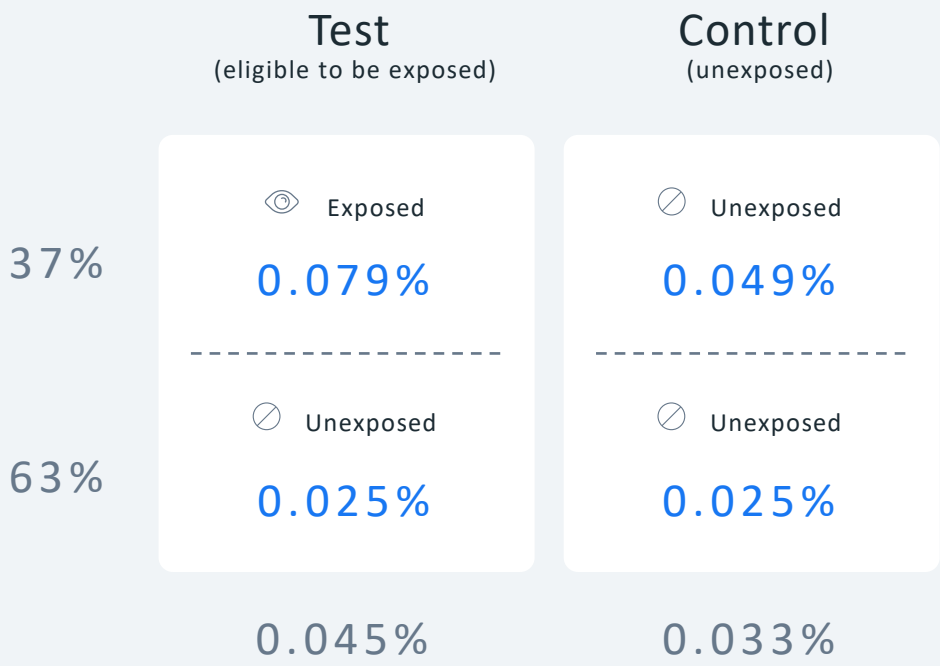
But we don’t have a control without the RCT



So, simply compare outcomes between people **who saw** versus did **not see** the ad campaign

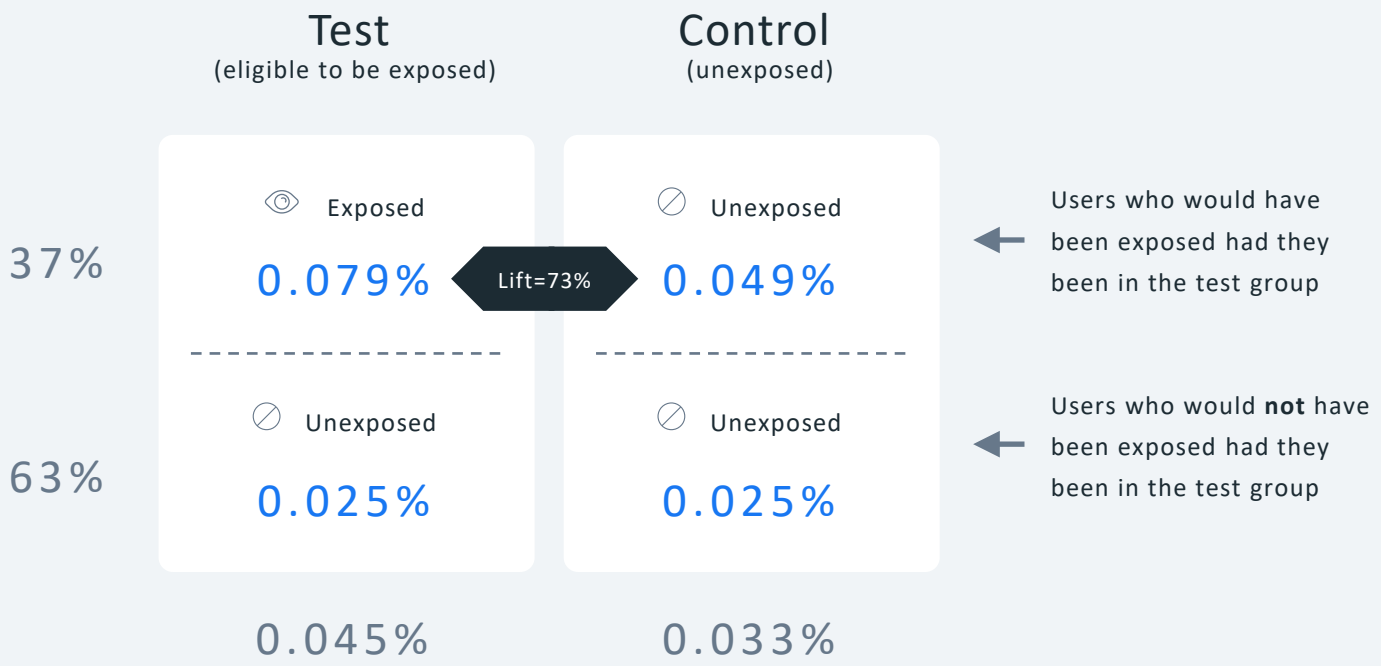


In reality, we did run an RCT and can obtain an estimate using the Test *and* Control

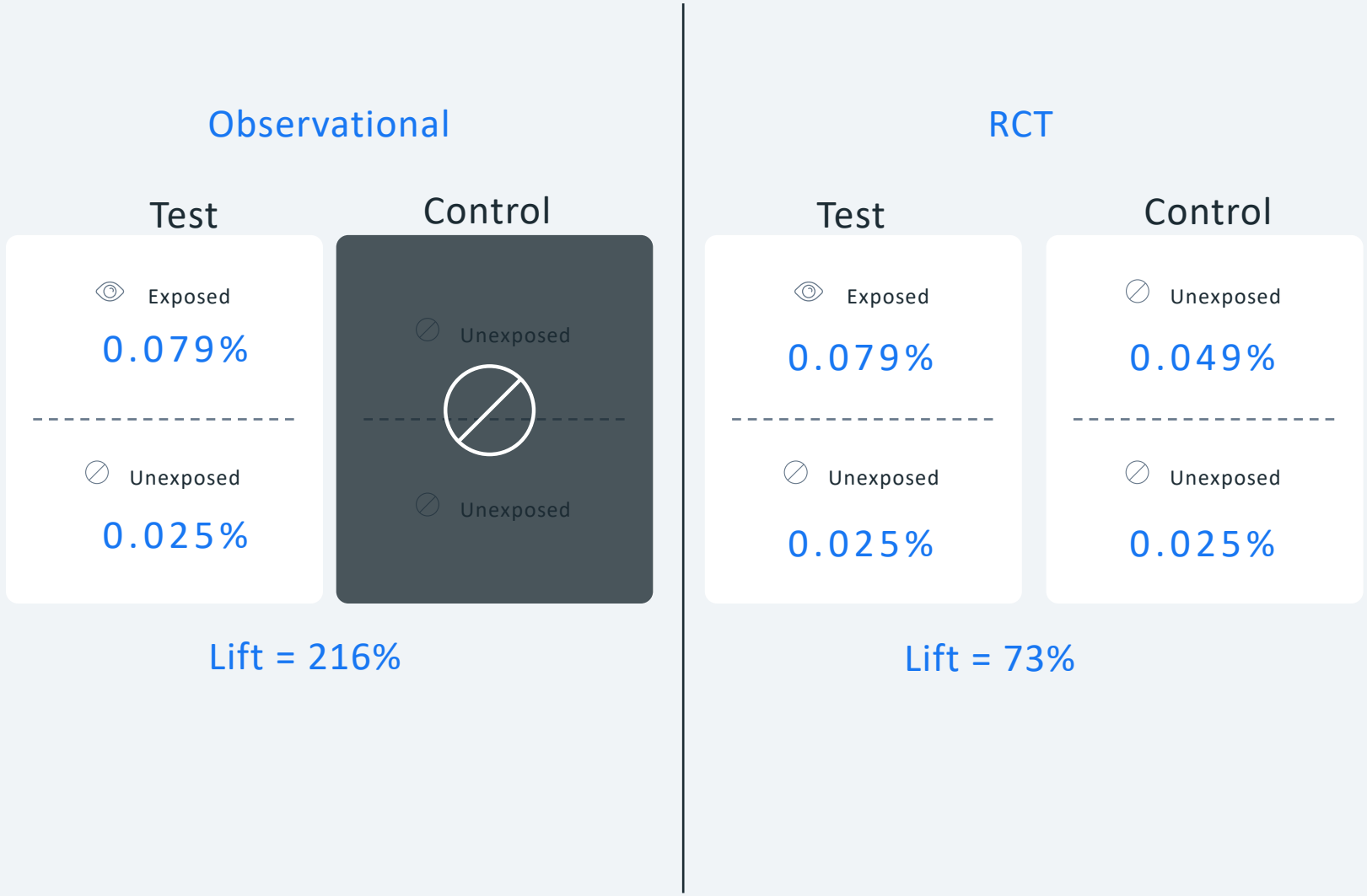


73%

The estimate measured by the RCT



How does the observational estimate compare to the RCT?

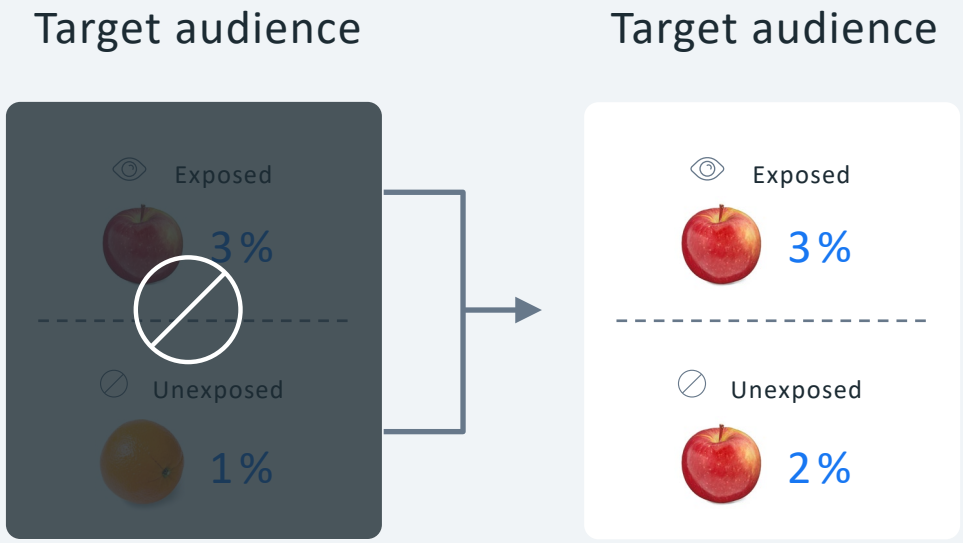


Is this a good idea?

Exposed users usually differ from unexposed users

Advanced observational models attempt to correct for this

Goal:
Given characteristics **X** about each user, use a model to adjust for differences between exposed and unexposed users.



We use a significant number of user-level features and different observational models and compare observational results to RCTS

User-level features

1. Prior campaign outcomes
2. Estimated action rates
3. Dense features
4. Sparse features

Observational models

Stratified Propensity Score Model (SPSM)

(Rosenbaum & Rubin, 1983; Imbens & Rubin, 2015)

Double/Debiased Machine Learning (DML)

(Chernozhukov et al., 2018)

Summary of results

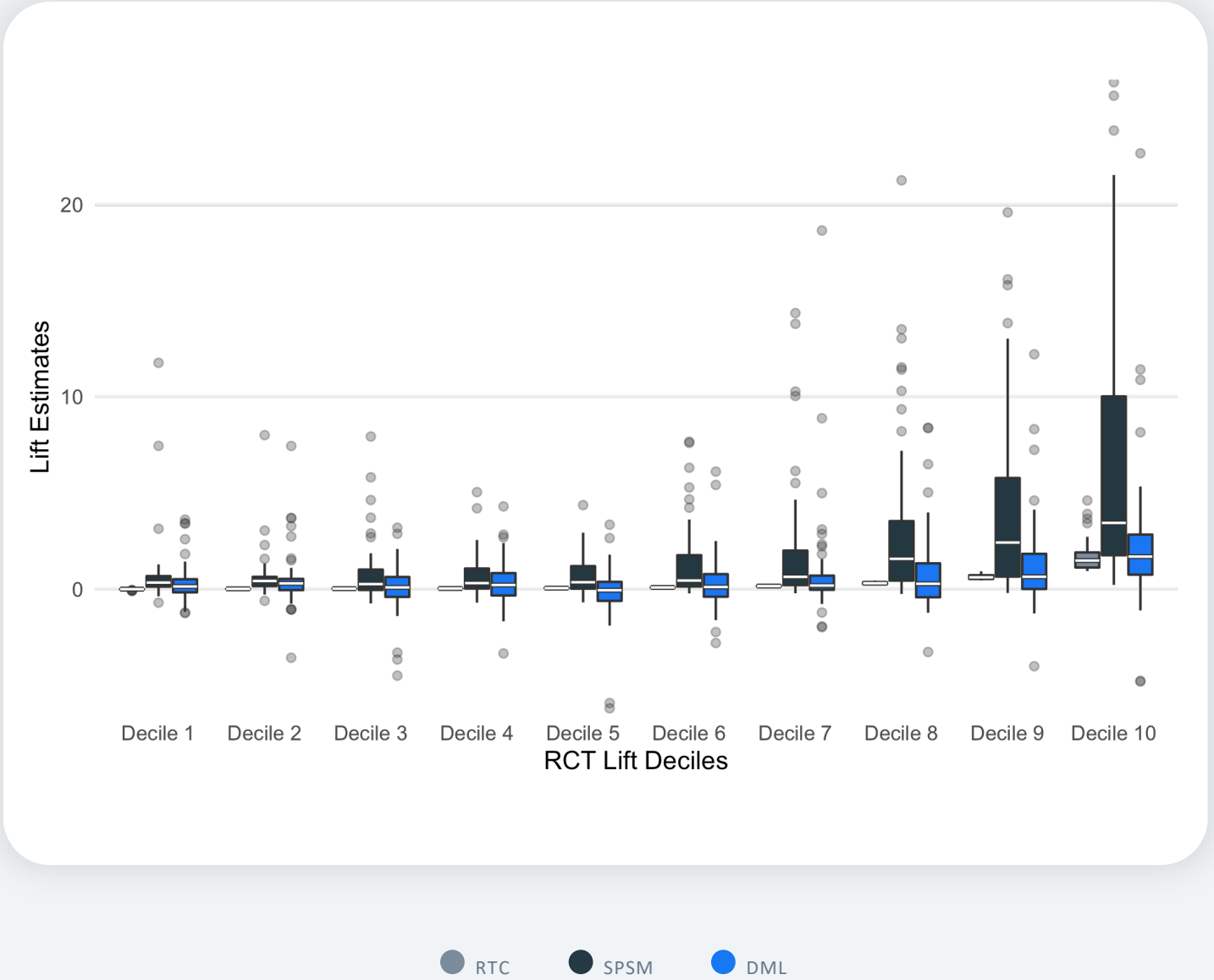
The lift estimates for RCT and DML, our best method, are statistically different in 1258 / 1673 =

75%

of the experiments

Funnel	RCT Median Lift	DML Median Lift	Relative Error
Upper	28%	143%	5.1x
Mid	19%	126%	6.6x
Lower	6%	68%	11.3x

Lower funnel outcomes



Conclusions

Given the data available, DML generally fails to measure the true effect of advertising accurately

To improve on this, ad platforms would probably need to log data at an extremely granular level (e.g., bid-user)

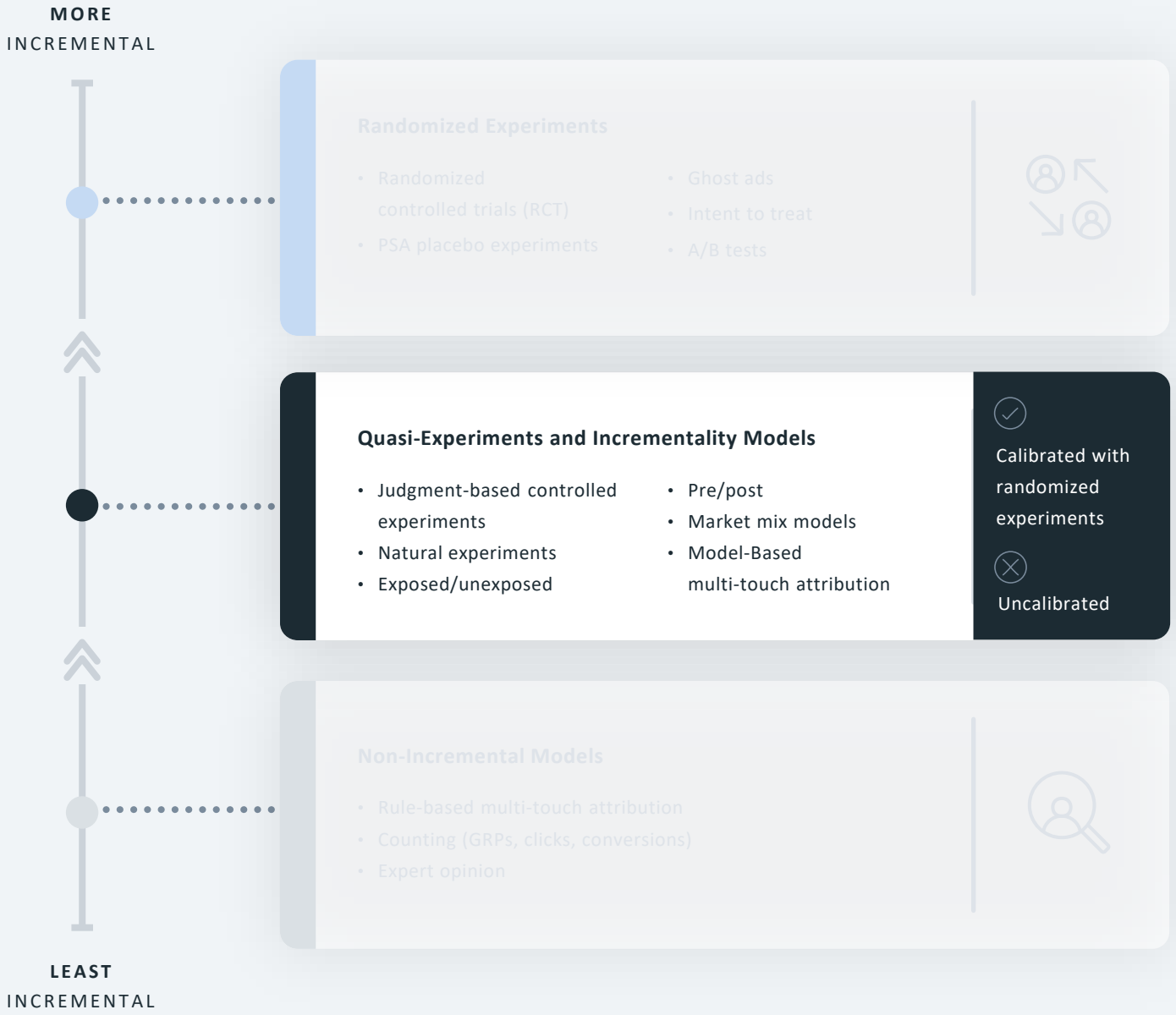
DML does relatively better for prospecting campaigns and those with low baseline conversion rates—but still not accurate

But this is costly and experimental solutions are already available

However, this doesn’t mean non-experimental observational methods aren’t useful.

THE LADDER OF INCREMENTALITY

Techniques in the middle of the ladder can be improved upon through calibration with experiments



By calibrating and moving up the ladder, businesses can better identify ROI

Increasingly, businesses are calibrating MTA or MMM with experiments to evaluate performance.

While not as rigorous as randomized experiments, calibration allows advertisers to advance up the ladder without abandoning the measurement they already use.

2 in 3

of analyzed MMM studies significantly changed Meta ROI results after calibration

25%

Average variation in ROI results after calibration

Source: “MMM calibration project” by Analytic Edge (Meta commissioned meta-analysis covering 15 MMM studies and 195 conversion lift studies across 9 regions). May 2022

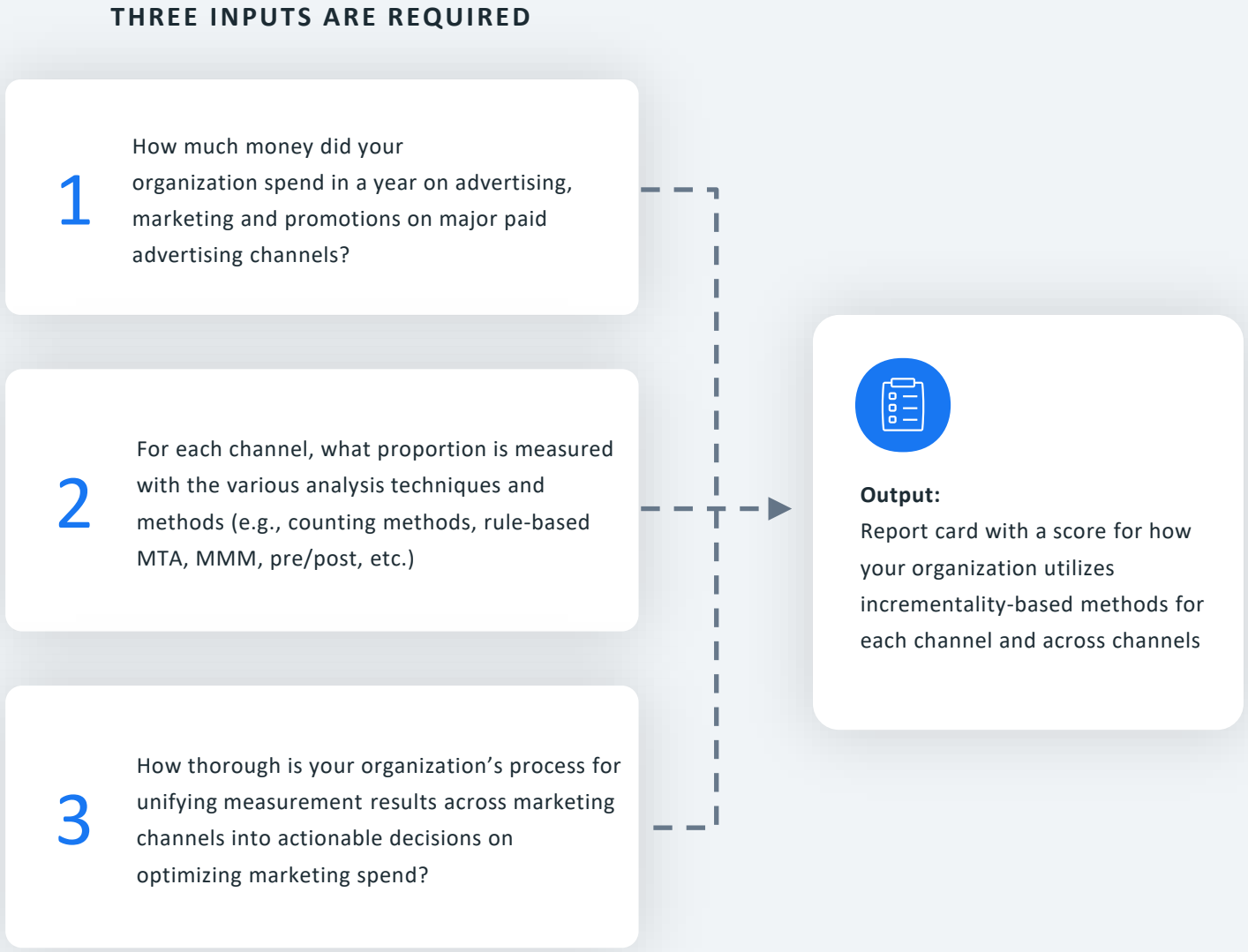
Group discussion

GROUP DISCUSSION

We built a tool to help assess your measurement systems

The self-assessment calculator provides score cards by channel.

Scores often vary by channel and can help you to explore avenues for improvement.



Group thought starters

1. Based on the data Joe collected and his colleague's report, what is the company doing well? What are some areas where improvements could be made? What improvements should he prioritize?

2. What are some blockers that may make it difficult for Joe to change or improve how his company measures success? How can Joe make a compelling case at his organization to drive this change?

3. What types of benchmarks and industry information should Joe take into consideration as he plans to improve measurement at his organization?

GROUP DISCUSSION

In practice, climbing the ladder requires investment at both the individual and organizational level

Your organization must be bought-in order to execute across these five best practices, especially when it comes to building culture and taking action

Nurture an Incrementality Culture

Use Observational Methods to Complement Experiments

Validate the Quality of Your Experiments

ABT: Always Be Testing

Take Actions on Causal Measurement Conclusions

GROUP DISCUSSION

For more information on how to climb the ladder of incrementality, check out these resources

The What and Why of Incrementality

Introduces the concept of incrementality and explains why adopting this approach can improve marketing programs

The Ladder of Incrementality

Describes and orders different measurement techniques by how rigorous and accurate they are

Climbing the Ladder of Incrementality

Provides actionable recommendations to improve the accuracy of measurement

fburl.com/incrementality-ladder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