

Making Better, Faster Marketing Decisions With Control Groups

Commerce Signals
A TransUnion® Company

Table of Contents

The Importance of Control Groups in Advertising	3
People-Based Marketing and Digital Advertising	4
The Anatomy of an Effective Control Group	5
Check for Control and Exposed Fit, and Adjust Accordingly	7
Commerce Signals Can Help	8

The Importance of Control Groups in Advertising

Companies in nearly every industry seek to use data to make better decisions, though many struggle to drive improved business results despite their data-driven efforts. For marketers challenging to grow share in low-growth categories, better data holds the promise of providing a competitive edge. So it isn't surprising that better, faster decision-making is a priority for 79% of retail marketing leaders.¹



Faster decision-making is a priority for 79% of retail marketing leaders.

But the need for better data in decision-making is just half of the challenge for marketing leaders. After decisions are made, plans are executed, and hopefully revenue targets have been exceeded, marketers must also prove that revenue growth was directly the result of their marketing investments. The ability of chief marketing officers to connect their team's activities to revenue and profit growth is a driver of longer tenure.

Whether data is being used to make marketing decisions or justify budgets, a common realization is that it's easier said than done. The struggle to obtain useful data has led marketers to experiment with all kinds of testing methods. However, as this research from Kantar shows,² no methodology is fool-proof:

RESEARCH TOOLS USED VS. BIGGEST PERCEIVED GAPS FOR SENIOR MARKETING PROFESSIONALS WORLDWIDE, AUG 2018		
% of respondents		
	Tools used	Perceived gaps
Multitouch attribution	34%	54%
Conversion ROI	48%	52%
Marketing mix modeling	41%	46%
Brand effectiveness research	51%	41%
Media measurement studies	64%	39%
Sales lift studies	41%	34%

Several of these approaches use control groups to isolate marketing's impact. Versions of control groups were first used in science experiments in the 1920s.³ Today, control groups are used in a number of fields to help businesses and scientists measure the impact of a stimulus, whether it's a drug, an advertisement, or something else. As the only way to prove causality – and thus to measure incrementality – control groups are required by the FDA for pharmaceutical trials. Similarly, marketers use them to discover the causal impact of advertising campaigns.



People-Based Marketing and Digital Advertising

Good control groups ensure apples-to-apples comparisons, which can only be achieved if the people in your control group are as similar as possible to the people in your test (aka exposed group). Modern marketers have an easier time assembling these groups than their predecessors did, thanks to the growth of addressable marketing.

The term “people-based marketing” was first used by Facebook executives in 2014 to describe the company’s ability to target individual users with digital ads specific to the users’ interests. Its meaning has since expanded and now typically refers to any digital marketing technique that uses unique identifiers to serve ads to a user based on the characteristics of that user. This approach is a stark contrast from traditional mass marketing in which reach is prioritized via television, radio, billboards, newspapers, and anywhere else consumers would hear or see ads.



People-based marketing has made it possible to shift from test and control markets to test and control groups.

Historically, you simply couldn’t know who had seen your TV or magazine ad and who missed it. To test whether mass marketing was working, advertisers needed to isolate markets where the media was aired and then compare sales in these test markets to other control markets where the advertising wasn’t shown. Doing so provided a way to reduce risk, as results were statistically accurate and broadly trusted. The trade-off was that they’re slow, they’re expensive, and they expose your plans to the competition.

Digital marketing makes measurement much faster and less expensive by enabling you to isolate the people who saw your ad from those who did not in near-real time.

The Anatomy of an Effective Control Group

Ideally, there's no difference between a test and control group other than ad exposure, and the scientific method for achieving this state is to randomly choose, at the last possible moment, which consumers are served your ad. Every consumer in the potential audience should fit your target customer profile, and you're essentially flipping a coin to decide who is served your ad and who isn't. This approach is often called a hold-out group.

This random assignment is a good way to get accurate data, but it can be costly. You could be paying to advertise a public service announcement instead of your own brand. And then there are the potential sales missed by not advertising to a group of people who fit your target customer profile.

Observational control groups, on the other hand, are formed after the ads have been served to the test group. The key to forming a good observational control group is to match the people in that group as closely as possible to those in your exposed group. These are sometimes called lookalike groups. The nuance with this approach is in defining what makes two groups look alike. Marketers have long since moved past using only demos for targeting, yet some lookalike groups are only demo-focused.

Random assignment is the method of choice within the scientific community, but plenty of practitioners have discovered amazing and even life-saving insights⁴ by comparing like groups of people using observational control groups. Both approaches can yield valuable data if undertaken with care. For marketers looking to use observational groups, read on to learn some specific advice to ensure your research leads to sound conclusions.



The Anatomy of an Effective Control Group

If you advertise your Florida restaurant chain to local retirees, you obviously would not compare the sales for that group to a group of Millennials in California who didn't see your ad. You don't want just anyone who hasn't seen your ad in your control group; you want people who are nearly identical to your target audience. The two groups should share demographic, geographic, and psychographic characteristics, and the people in the control group should be as likely to purchase from you as those in the exposed group.

While this is self-explanatory at a high level, there is no industry standard for the list of characteristics one must compare to yield a good observational control group. You must use business logic to decide whether you are comparing customers in a way that yields a group of people as likely to buy from you as your exposed group.

Despite solid lookalike group logic, you could still end up with a control group that, for one reason or another, has a different purchase frequency or average transaction value than your exposed group — even before your advertising campaign has started. There's a critical next step that many measurement approaches miss.

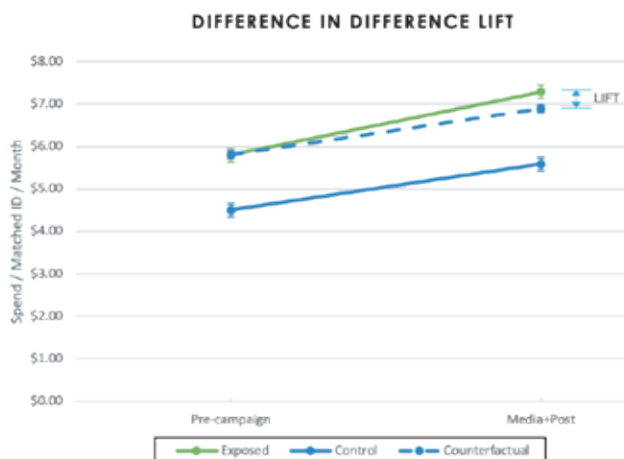
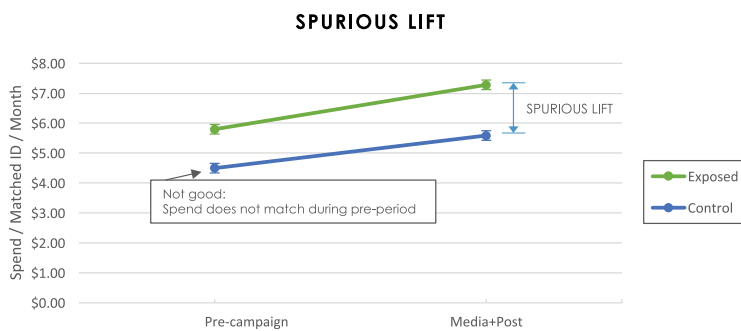
Check for Control and Exposed Fit, and Adjust Accordingly

It's common for non-random observational control groups to accidentally introduce differences between members of that group and the exposed group. For example, you could end up with more people in your control group who prefer another brand.

You must check your control group for fit with your exposed group and adjust accordingly. Here's how:

Step 1: Compare the spend of your exposed group and your control group before the media campaign began. It only makes sense to attribute the difference in spend during the media and post periods to the advertisement if the control group and exposed group spend were nearly equal during the period before the ad was shown.

Step 2: If spending was similar but not equal during the pre-media period, you need to compare the change in exposed group spend to the change in control group spend to correctly measure the lift driven by the advertising.



At Commerce Signals, we use the term “difference in differences” (DiD) to describe this approach. Some call it pre-post net of control (PPNOC). By accounting for and subtracting this mismatch, we can calculate lift as if spending had been equal during the pre-campaign period. It's worth noting here that this is not a substitute for starting with logically similar exposed and control groups comparison.

As with any form of market research, when it comes to measuring statistical significance, it really helps to have large sample sizes. The bigger your exposed and control groups are, the more likely it is that you'll be able to measure the real impact of your marketing. Having more data from a larger group will also give you the opportunity to identify and evaluate more granular data cuts so you can see how lift is impacted by creative, by promotion, or by your choice of digital partners.

Commerce Signals Can Help

Any time you create observational control groups (lookalikes) or work with a measurement partner that does, make sure the logic used to create the control group makes sense for your business. The goal is to strive for as few differences as possible between control and exposed groups. Demand transparency into pre-campaign spend or visitation differences to ensure fit. Understand what adjustments are made to the raw data collected.

Within the Commerce Signals measurement platform, you can graphically view the pre-post differences between exposed and control groups to compare fit. Switching the calculations to adjust for pre-campaign differences is done instantly with the click of a button.

To learn more about Commerce Signals' processes, [visit our website](#) and [follow us on LinkedIn](#). Or [contact us](#) with any questions you have about how Commerce Signals can help your business.

Commerce Signals
A TransUnion® Company

Sources:

1. Harvard Business Review, "An Inflection Point for the Data-Driven Enterprise," Dec. 2018, <https://hbr.org/sponsored/2018/11/an-inflection-point-for-the-data-driven-enterprise>.
2. Kantar, "Getting Media Right 2018: Extraordinary Marketing Through Integrated, Holistic Advertising," Oct. 9, 2018, <https://www.millwardbrown.com/gettingmediaright/2018>.
3. Trudy Dehue, "History of the Control Group," 2005, <https://www.rug.nl/staff/g.c.g.dehue/1%20control%20group.pdf>.
4. Dr. Howard Markel, PBS Newshour, "In 1850, Ignaz Semmelweis saved lives with three words: wash your hands," <https://www.pbs.org/newshour/health/ignaz-semmelweis-doctor-prescribed-hand-washing>.