

MEASURING FACEBOOK ACCURATELY IN  
**MARKETING  
MIX MODELS**



facebook IQ

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## Introduction

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**Understand how to account for the role of Facebook in models by exploring which time frames, variables, experiments and data to incorporate.**

Marketing mix modeling (MMM) has long been used by advertisers to attribute incremental sales to marketing and non marketing activities. This cross-channel measurement technique has stood the test of time and has proven to be consistently effective in producing accurate insights based on historical data.

And therein lies a challenge for today's marketers. The statistical method underlying MMM works on assumptions that strongly favor years of stable inputs, but data is increasingly becoming more complex and less consistent as digital platforms evolve quickly to keep pace with rapidly shifting consumer behavior.

## **Understanding the challenges of the model**

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Facebook and other digital media have dynamic, nuanced auction-based ad delivery systems and audience targeting possibilities. Not surprisingly, advertisers are finding it difficult to include the changing nature of these in their models.

“The absence of detail and a failure to account for the latest developments and trends mean that conservative approaches to MMM produce lopsided results that fail to give businesses a true picture of the impact of media. This is especially true of digital media.”<sup>1</sup>

—ACCENTURE, 2018

Facebook’s platforms and ad placements are ever-evolving. We’re building for different consumption behaviors, such as people using our products on the go as well as at home, enhancing advertising placements in areas such as Stories and Messenger, innovating formats for Facebook Feed and Instagram Feed, investing in content experiences such as in-stream Watch and Watch parties and constantly improving our ranking and auction algorithms.

How can advertisers account for these shifts in their marketing mix models? In working with partners, we’ve found that accurate Facebook MMM measurement involves re-evaluating time frames, focusing on the correct data and contextualizing it, calibrating with experiments and asking the right questions.

Source:

1. Accenture Digital, Mar 2018: [Exploring Granular Data in MMM](#)



# Adjusting time frames and variables to measure Facebook

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Typical MMM is an analysis of historical activity, usually requiring weekly observations for 3 to 5 years and representing each marketing channel through a single variable. As you can imagine, over such a long period plenty of changes occur on Facebook's platforms. Given the fast pace of innovation and the shifting nature of impressions, today looks much different from a year ago, let alone 3 to 5 years ago.

To account for this, it helps to shorten the length of time examined. Based on feedback from MMM partners, **we find that the optimal time frame to look at is somewhere between 6 to 12 months.**

However, reducing the time frame poses a challenge to the statistical power of the model because with no further interventions, the amount of data isn't sufficient to get robust results. This can be solved by running regional (e.g., Designated Marketing Area (DMA) or similar) level models to segment across geographies by developing dynamic models with varying time parameters to capture the changes over time directly, and by increasing the granularity of the inputs to make up for the shorter time frames.



## **Enabling better, faster analysis with granular data**

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While digital platforms such as Facebook present new MMM challenges, they also present new opportunities. For example, advertisers now have access to much more granular data than in the past, which can yield richer, faster analysis.

“Models that are constructed at a granular level, such as a DMA or similar, should be considered the new standard for analyzing and improving marketing strategies.”<sup>1</sup>

—ACCENTURE, 2018

“Working together with Facebook gives us quick access to granular data, speeding up the project process, resulting in both smoother and improved delivery for the client.”<sup>2</sup>

—NEPA, 2018

Which types of Facebook data should be included in an analysis? Keep in mind that in marketing mix models, independent variables should be comparable, and while engagement metrics such as likes, comments and reactions may be tempting to utilize, they are limited to social platforms. Moreover, variables should be actionable, purchasable and predictable in forward-looking simulations, which limits the use of viral impressions.

Source:

1. Accenture Digital, Mar 2018: [Exploring Granular Data in MMM](#)
2. Napa, Sep 2018: [Marketing Mix Modeling With Facebook](#)

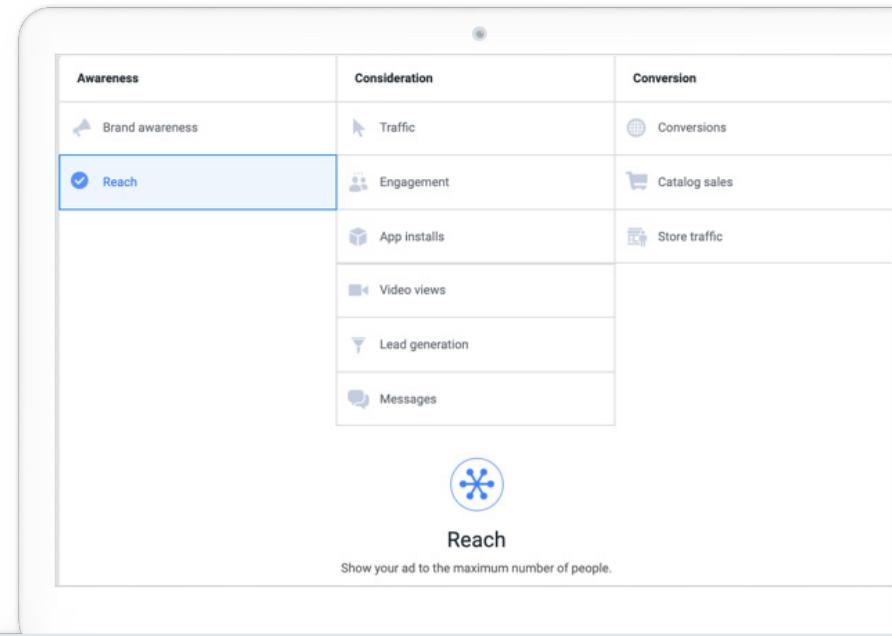
To that effect, we recommend using paid impressions split in meaningful ways to follow strategy changes. For example, if a Facebook campaign was optimized midstream to increase video views, then separating those impression variables to account for the shift would make sense.

Taking this approach can reveal whether inaccurate data or variables are producing misleading results and insights.

“Only looking at click-outs, half of the Facebook effect went unnoticed, and Facebook was undervalued. Using a proper MMM analysis revealed Facebook’s actual impact. In conclusion, our MMM analysis revealed Facebook to be much more effective than previously measured using click-outs.”<sup>3</sup>

—OBJECTIVE PARTNERS, 2019  
“IMPACT OF FACEBOOK”

Another challenge is accounting for and representing media and creative quality. There are various ways to accomplish this from existing data sets and standard reporting, but doing so requires the knowledge and motivation of analysts. The key is to be able to explain and contextualize adherence to creative and media best practices in marketing mix models when interpreting the Facebook variable.



“Capture potential for increased efficiency of media spend by addressing ad quality and content in the regression models. There is lost potential in the form of Facebook investment that could have been achieved if the advertiser invested more efficiently and according to best practices.”<sup>4</sup>

—NEPA, 2019

Source:

3. Objective Partners, The Impact of Facebook Advertising: [Measuring Facebook with Media Mix Modeling Guidelines and Industry Learnings](#)
4. Nepa, Sep 2018: [Marketing Mix Modeling With Facebook](#)

# Calibrating MMM with experiments

An important aspect of modern marketing mix modeling is to undertake model validation and calibration with experiments. Validation is the process of checking a model against ground truth, while calibration is the process of selecting or tuning a model to better match ground truth. Running experiments alongside MMM has two important benefits:

1. It informs the hypotheses the modeler has about the performance of ads
2. It enables calibration across measurement efforts

“We have found that it is very important to perform checks when validating the model, because two models with similar back test results may have very different average incremental cost estimates, and without having ground truth experimental results, it is unclear which model is better reflecting reality.”<sup>5</sup>

—THIRDLove, 2019

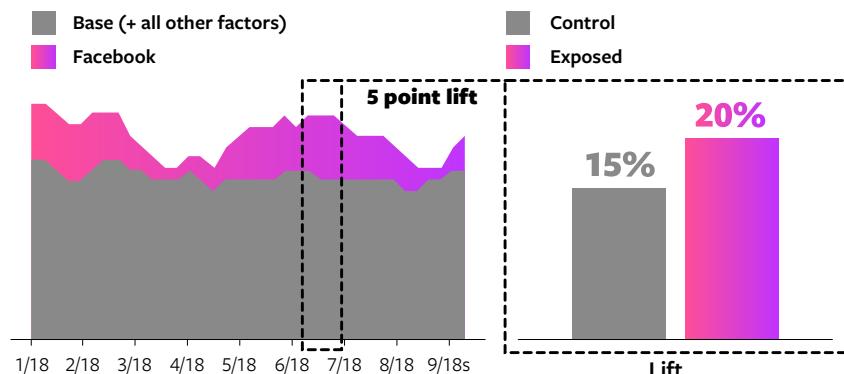
In the case of Facebook, randomized control trials represented as conversion lift<sup>6</sup> are the gold standard. The robust underlying methodology of these studies measures the true incremental causal uplift caused by Facebook exposures only.

An additional approach based on experimental design that can work in conjunction with MMM to deliver more effective results is a geo-experiment.

“The MMM results indicate that a geo-experiment is a good way to measure the impact of Facebook advertising and get us as close as possible to a lift. The combination of both methodologies—geo-experiment and MMM—bolsters the confidence in both outputs and adds credibility to the effectiveness results.”<sup>7</sup>

—ANNALECT, 2019

## Conversions



Source:

5. Erica Mason, ThirdLove, 2019: [Building and Validating Media Mix Models](#)

6. Facebook: Conversion Lift

7. Annalect Netherlands MMM Geo-test Case study: [McDonald's Netherlands](#)

# Asking the right questions of your partners

Measuring Facebook accurately in marketing mix models begins with asking your MMM provider or in-house team the right questions. These include:

1. Have we adopted Facebook's official MMM data feed, which contains the right data in the right granularity for MMM models?
2. How is Facebook represented in our MMM? Are media and creative best practices contextualized and explained in the results?
3. Is Facebook modeled as a separate variable, and are impressions split in meaningful ways (campaign objective, DMA, regions, etc.)?
4. Are we running a form of lift (conversion lift or a geo-test) experiment to calibrate and validate our MMM models?



## What it means for marketers

### Adjust your time frames

- Checkmark icon: Look at shorter time frames when accounting for channels such as Facebook.

### Use the right insights

- Checkmark icon: Utilize inputs such as paid impressions that enable effective comparisons.

### Contextualize performance

- Checkmark icon: Account for differences in media and creative quality in your models.

### Calibrate and test

- Checkmark icon: Run experiments to check assumptions and optimize your models.