

# Lost in Translation: The Challenges of Media Mix Modeling in Gauging Affiliate Success



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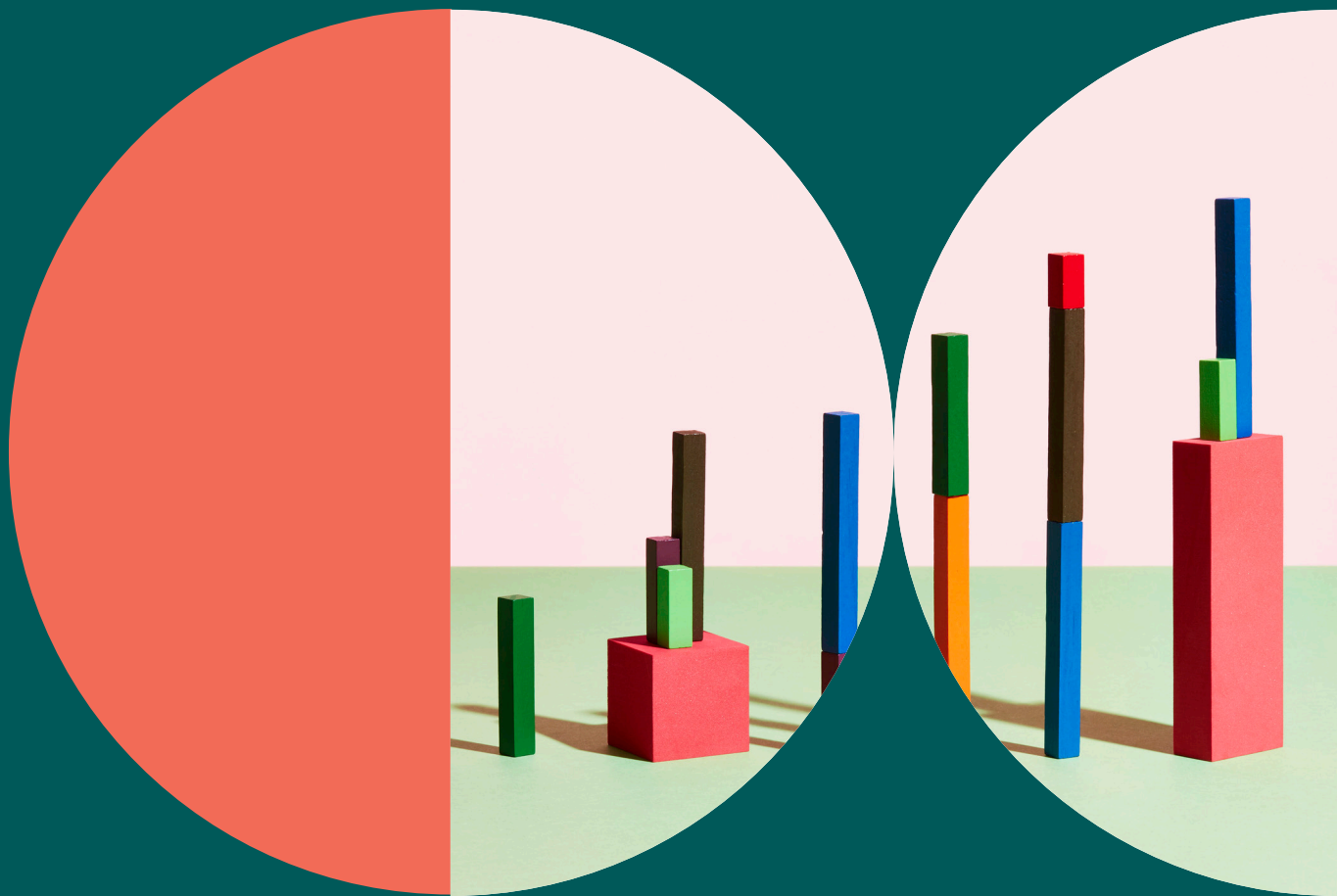
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# Introduction



**“Half of my marketing is working. The trouble is, I don’t know which half.”**

– John Wanamaker (1838-1922)

Founder, Wanamaker Department Stores

Measuring the effectiveness of marketing investments has always been a challenge for businesses, dating back to the early days of advertising. John Wanamaker, a pioneer in department stores, famously lamented, “Half the money I spend on advertising is wasted; the trouble is I don’t know which half.”

Understanding the true business value of initiatives is crucial to optimizing budgets and [Media Mix Modeling \(MMM\)](#) is an increasingly popular approach for holistic marketing measurement. It strives to analyze historical data on marketing spend

and sales to identify correlations and recommend optimal budget allocation across different marketing channels. However, MMM has limitations, particularly with affiliate marketing.

CJ recognizes the specific challenge of Media Mix Models measuring affiliate marketing alongside other marketing channels. To address this need, we’ve developed this comprehensive guide and FAQs. We believe this information will empower your company to make data-driven decisions and optimize your marketing investments.



## Introduction continued

### Abstract

This guide explores the limitations of Media Mix Modeling in accurately measuring the value of affiliate marketing programs. While MMM offers a valuable approach to holistic marketing measurement, its reliance on correlation analysis can underestimate the impact of channels with relatively smaller budgets and steady spending patterns, like affiliate marketing.

We have detailed the challenges MMM presents for affiliate marketing measurement: its comparatively lower data volume, “always-on” activity, and limited segmentation. These limitations can lead to a higher P-value (less statistically significant) for affiliate marketing, potentially misleading companies to believe its impact is lower than reality.

To address this challenge, CJ suggests marketers:

- Understand the limitations of MMM and advocate for a nuanced interpretation of its results.
- Employ supplemental measurement techniques, like multi-channel customer journey analysis, to explore affiliate’s contributions alongside MMM data.
- Emphasize the unique strengths of affiliate marketing, such as its performance-based model, media diversification, and strong ROI.

# Media Mix Modeling Explained

MMM is a statistical analysis tool used to optimize advertising strategies. It analyzes data from various marketing channels (e.g., TV, radio, print, online ads, and affiliate marketing) to understand their **relative influence** on sales.

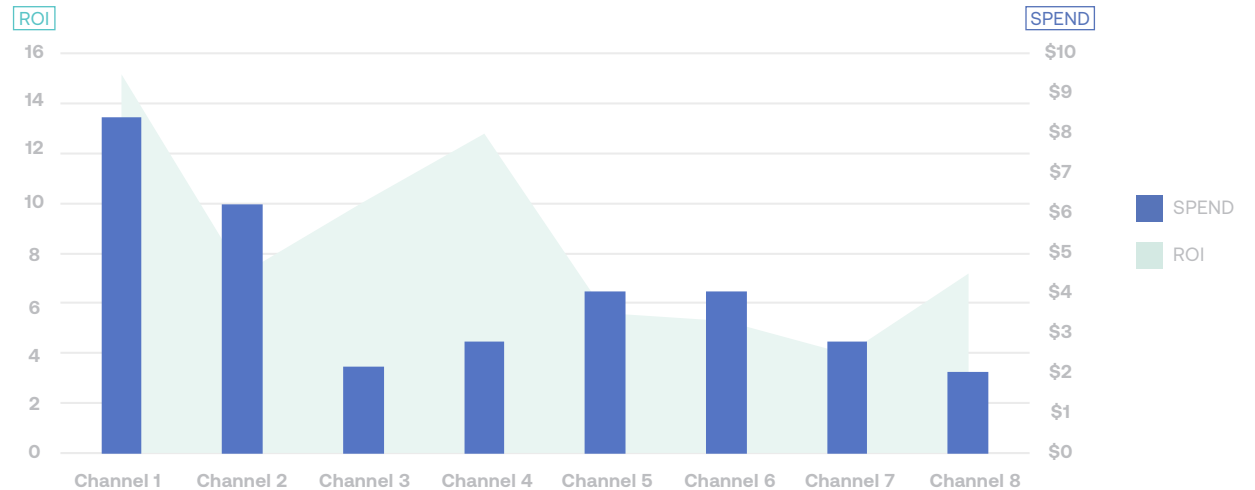
**How it Works:** MMM analyzes historical data on marketing spend and sales across different channels. By looking for **correlations** (relationships) between spending and results, it estimates the **statistical effect** of each channel on overall sales.

**MMM provides a statistical estimate of how effectively each channel contributes to achieving business goals.**

MMM is designed to help marketers allocate their advertising budgets more efficiently by identifying the most cost-effective combination of media channels to achieve their objectives. Its intent is to enable informed decision-making and maximize ROI.

## An Example of Media Mix Modeling Results

Source: CJ



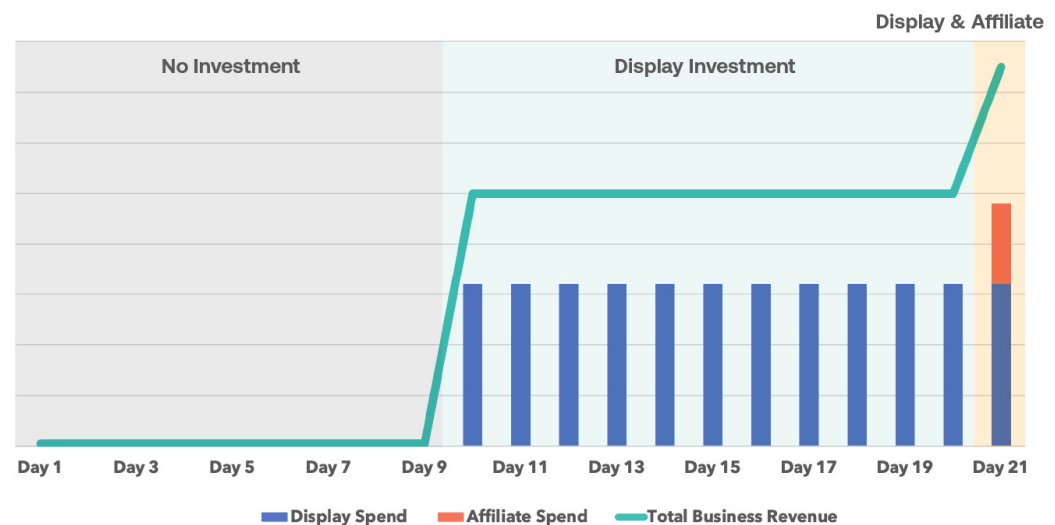


## Media Mix Modeling Explained continued

### MMM in Action: A Simple Scenario

Imagine launching a brand-new website with no initial sales:

- After 10 days, you invest \$100 in display advertising and see a sudden surge in revenue to \$1,000.
- In this simple scenario, it's reasonable to assume that the investment in display ads created the sales increase, resulting in a return on ad spend (ROAS) of 10:1.
- Similarly, if you spend an additional \$50 on affiliate marketing a few days later and experience another \$1,000 jump in sales, you might attribute that new growth to the affiliate channel, with a ROAS of 20:1.



Scenarios like this one form the foundation of Media Mix Modeling's basic principle: correlation.

**MMM aims to determine the correlation between marketing channel inputs, (e.g. advertising spend) and overall business outputs (e.g. total revenue) to assess the impact of each channel.** In practice there are countless variables that can influence a consumer's likelihood to purchase, ranging from obvious influences (stock availability, product pricing) to not so obvious influences (weather patterns, the economy). MMM attempts to account for all of these external factors and normalize for each of their effects, to isolate the impact of channel investment on total revenue.



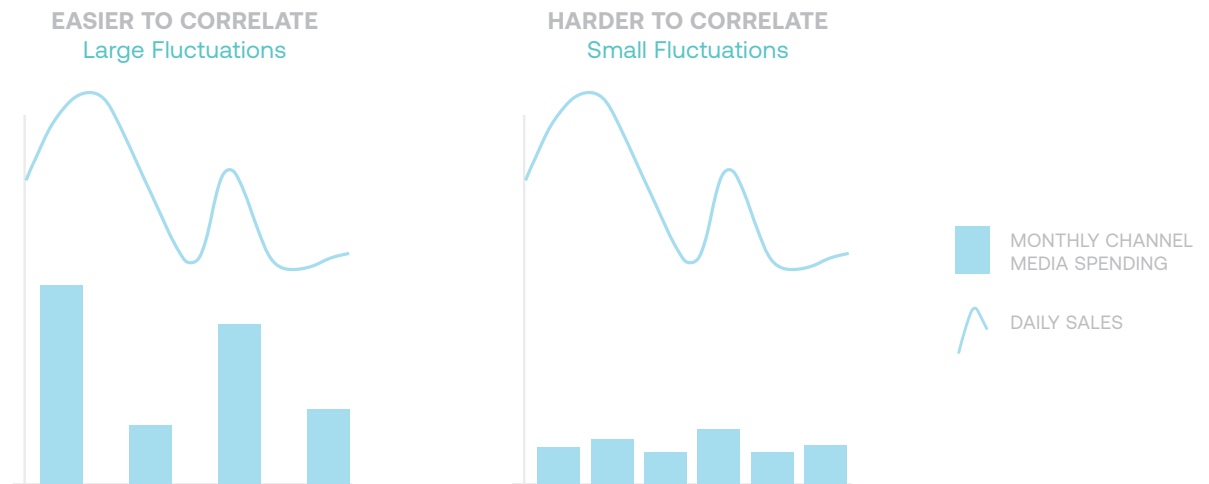
# Correlation Analysis Explained

## Correlation Analysis Explained

Imagine that whenever you increase your media activity in a channel (impressions, clicks, etc.), you also see a similar increase or decrease in sales. This indicates a **strong correlation**. Conversely, if sales fluctuate significantly regardless of your channel spending, there's a **weak correlation**.

The charts below illustrate these concepts:

- **Left Chart:** Shows changes in monthly media spending accompanied by similar changes in sales (upward or downward trends). This suggests a strong correlation.
- **Right Chart:** Shows sales fluctuating independently of a relatively steady spending rate. This indicates a weak correlation.





## Correlation Analysis Explained continued

### The Probability Challenge

Correlation analysis in MMM is like trying to hear a single instrument in an orchestra. Many factors influence sales, such as other marketing efforts, seasonality, and economic trends. This “noise” in the data can make it difficult to isolate the true impact of each marketing channel.

In MMM, correlation analysis is usually easiest for channels with the largest investment, channels that vary spending significantly throughout the year, and channels that can segment marketing efforts to measure specific outcomes in a region.

The more data points and spending variations a media mix model has to work with, the clearer the picture becomes. This is reflected in the **P-value**, the probability of a statistical measure of significance. A lower P-value (typically below 0.05) indicates more reliable findings.

Here's where things get tricky for MMM:

- **Smaller budgets, steadier spending:** Relatively smaller budget channels with steadier spending patterns may not have enough variation in data points for a statistically significant correlation. This makes it harder to detect a correlation with sales.

- **Limited segmentation:** If a channel lacks clear segmentation (e.g., by region or audience), it's difficult to isolate its impact within the overall data because the marketing effort is compared to total outcomes vs segmented outcomes. (For example, it is more difficult to measure a response on a national campaign vs. a regional campaign.)

**MMM struggles to accurately measure channels with steady spending, relatively smaller budgets and minimal segmentation. These channels, such as content marketing or content syndication, often have high P-values, making the results less statistically significant.**



Correlation  
Analysis Explained  
continued

### Same Data, Different Outcomes

MMM designers must make assumptions about the data and the model, which can lead to vastly different outcomes even when using the same data and methodology (see figure 1). These differing assumptions can be technical (e.g using different modeling approaches and control variables), or more operational (e.g. the number of days that a transaction can occur after spend).

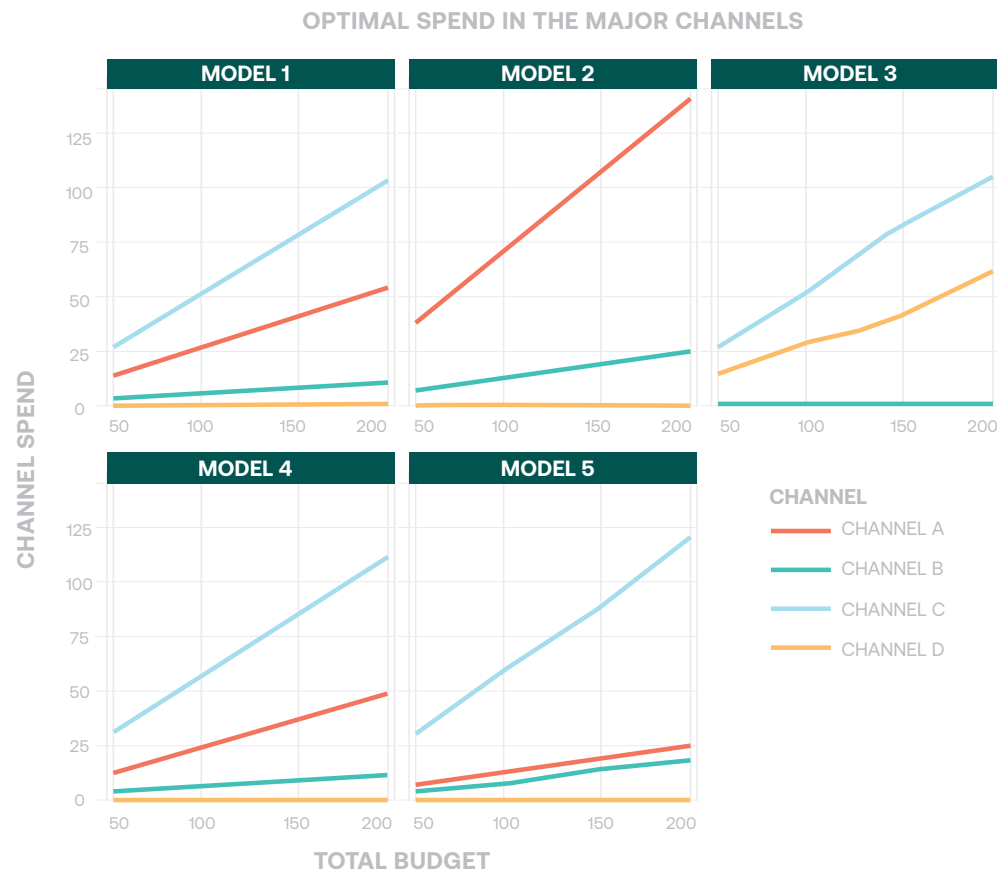


Fig. 1. The same overall model with the same data but different analyst assumptions can lead to vastly different outcomes, and different spend recommendations, despite the data within the model remaining constant. Even with variations, models can exhibit a high level of precision and statistical significance. This doesn't mean the results are incorrect, but rather that they're based on different sets of assumptions. Source: [Google Research](#)

# Why Marketing Leaders Are Embracing MMM

Marketing leaders are drawn to MMM because it offers a **centralized approach** to measuring the effectiveness of various marketing channels. By analyzing historical data on marketing spend and sales across different channels, MMM can identify correlations and recommend optimal budget allocation.

**MMM provides a powerful tool for understanding the impact of traditionally hard-to-measure channels, like broadcast and cable TV, on overall sales. But MMM is not always objective, infallible measures of channel value.**

However, it's important to understand the limitations of MMM:

- **Accuracy for Specific Channels:** While MMM companies often claim high overall accuracy (e.g., 95%), this might not hold true for every channel represented in the model. Relatively smaller budget channels with steadier spending patterns may not have enough variation in data points for a statistically significant correlation.

- **Wide Variation in Results:** In working with clients on attribution, we have seen dramatic changes in outcomes when companies move from one measurement vendor to another due to different assumptions in the models. Models with similar data can produce different outcomes (as shown in fig. 1). This further underscores the need to leverage MMM analyses with a degree of caution—MMM is not always objective, infallible measures of channel value.



# Why Affiliate Marketing Is Often Under-Measured in MMM Analysis

Affiliate marketing often gets shortchanged in MMM analysis. Here's why, and how to ensure affiliate's contributions are recognized.

## Correlation Challenges for Affiliate

MMM relies on correlation analysis to identify relationships between marketing spend and sales. However, several factors make it difficult to accurately assess affiliate marketing's impact:

### 01

#### Lower Data Volume

Affiliate programs with smaller budgets compared to other channels, such as display or paid search, could result in comparatively lower data volume for analysis, making it harder to isolate affiliate's contribution to sales within the overall "noise" of the data.

- In marketing programs where affiliate captures a relatively smaller share of total marketing spend, assessing spend correlation with sales is more challenging.

### 02

#### Always-On Activity

Unlike channels with scheduled campaigns (e.g., TV ads), affiliate programs are generally "always on" due to the evergreen nature of the content created by affiliate partners. Content longevity and consistency can make it challenging to pinpoint correlations with sales fluctuations.

- While there may be fluctuations in affiliate activity for promotions, the changes tend to be small relative to total brand marketing investment, making it more challenging to isolate their impact on sales.

### 03

#### Limited Segmentation

Many affiliate programs operate on a national level, due to the openly accessible nature of publisher sites. Segmentation, when it does occur, is often behind a user log in or achieved via targeted email campaigns.

- The commercial structure of affiliate partners' segmentation makes it harder for MMM to associate affiliate with changes in sales performance in one segment or region.

## Why Affiliate Marketing Is Often Under-Measured in MMM Analysis

continued

These conditions, often unknowingly or unintentionally, lead to a higher P-value (less statistically significant) for affiliate marketing in MMM. The MMM methodologies and results struggle to pinpoint the full value of affiliate marketing and brands may be misled to believe affiliate marketing has a lower impact than it truly does. Again, knowing the P-value an MMM provider has assigned a channel is a critical piece of information when reviewing custom MMM results.

**MMM methodologies and results struggle to pinpoint the full value of affiliate marketing, potentially misleading brands into believing the channel has a lower impact than it truly does.**

**CJ clients leverage the CJ Universal Tag to gain deeper insights into their data and affiliate marketing performance. This tag goes beyond basic metrics, revealing how affiliate marketing influences other channels within the marketing mix. The comprehensive data provided by the Universal Tag empowers data-driven decision making, allowing clients to optimize their overall marketing strategy.**



## Beyond MMM: Advocating for Affiliate

By understanding the limitations of MMM and effectively communicating the unique value proposition of affiliate marketing, companies can make more informed budget allocation decisions.

**Educate Marketing Leaders:** Advocate for a nuanced understanding of MMM's strengths and weaknesses. MMM's apples to apples view is ideal for CMOs, but there are shortcomings to having one tool that measures all channels. Relatively smaller, always-on channels like affiliate deserve additional examination beyond MMM.

If MMM is not measuring your affiliate performance well, a multi-touch attribution model could be used to supplement MMM findings. In addition, CJ has many robust measurement tools, including [Cross Channel Customer Journey](#) reporting.

Importantly, CJ clients can access additional data via the CJ Universal Tag, which gives them deeper insights into their data and affiliate marketing performance. This tag goes beyond basic metrics, revealing how affiliate marketing influences other channels within the marketing mix. The comprehensive data of Universal Tag empowers data-driven decision making, allowing clients to optimize their overall marketing strategy.



## Beyond MMM: Advocating for Affiliate continued

### Highlight Affiliate's Advantages:

Emphasize the benefits of affiliate marketing, many of which are highly valued by organizations, yet not viewed via these measurement models:



#### Quality Traffic

Affiliate partners deliver transparent performance with verified clicks, visits, and purchases and attract audiences with desirable demographics.

- Affiliate offers a direct link between the cost of reaching an individual and the business value of that touch. Further, many industry studies show that audiences reached through affiliate tend to have above-average household incomes and shopping frequency.



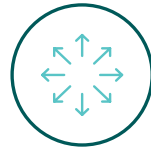
#### Performance-Based Model

Affiliate marketing aligns perfectly with the growing focus on performance marketing, as it directly links costs to business value.

- In challenging economic times, most companies want to increase investment in performance marketing channels to ensure revenue certainty. Affiliate fits the bill. Most big-budget channels cannot tie every dollar of spending to an outcome. Affiliate's methodology, buying model, and measurement demonstrate a direct relationship between activity and sales.

## Beyond MMM: Advocating for Affiliate continued

### Highlight Affiliate's Advantages cont.



#### Media Diversification

Investing in affiliate marketing helps reduce dependence on large media platforms, mitigating risks associated with concentrated spending.

- Google, Meta, and Amazon now capture 65.1% of total media spending. Many brand leaders are concerned about this concentration of money and power. In a [recent Forrester study](#), 47% of senior marketers said media diversification is a “critical priority” in 2024.

# 65.1%

Total Media Spending Captured by Google,  
Meta, Amazon



#### Scalability

Affiliate programs can reach vast audiences comparable to mainstream publishers and television programs.

- With affiliate, brands can move more dollars into performance-buying models while reaching the *same-sized* audiences as their CPM-based display campaigns. Working with the channel's diverse mix of publisher models can help brands reach global audience segments and unlock a unique audience layer.

## Beyond MMM: Advocating for Affiliate continued

### Highlight Affiliate's Advantages cont.



#### Strong ROI/ROAS

Numerous studies show affiliate marketing drives transactions efficiently, often at a lower cost than top digital channels like search and social, where media costs are rising.

- One of the reasons affiliate investment has grown so quickly over the last several years is because it drives sales at a cost well below the top digital channels like search and paid social, where media costs have risen dramatically. A 2022 [PwC/Performance Marketing Association Study](#) of more than 10,000 brands' aggregated performance data found an average ROAS of \$12:1.

**10K+**  
Brands

**\$12:1**  
Average ROAS



#### Amplification Effect

Data analysis shows that affiliate touchpoints within a customer journey can significantly enhance the effectiveness of other marketing channels, even if those channels ultimately receive credit for the sale.

- CJ has extensively researched the value of affiliate touchpoints in a [customer journey study](#) that spanned 400M shoppers and found:

**92%**

Higher Shopper-to-Buyer Conversion

**36%**

Higher Spend per Customer

**153%**

Higher Revenue per Shopper





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## Beyond MMM: Advocating for Affiliate continued

### Taking Action

#### Know the P-Value for Affiliate in MMM

Check the P-value (statistical significance) of affiliate data in your MMM model.

- P-values **below 0.05** indicate statistically significant data.
- Values **above 0.05** likely reflect the limitations described in this guide and require a deeper dive into affiliate data:
  1. Investigate for anomalies or explore segmentation possibilities to unearth stronger correlations.
  2. Consider employing supplemental measurement techniques like multi-touch attribution or multi-channel customer journey analysis to explore affiliate's contributions alongside MMM data.
  3. Remember that a high P-value shouldn't overshadow the value proposition of affiliate marketing. Contextualize the MMM findings by presenting them alongside other relevant affiliate metrics.

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#### Strategic Communication about Affiliate's Strengths

Communicate the unique strengths of affiliate marketing that MMM might not fully capture:

- Direct measurement of sales
  - Pay-for-performance model
  - Proven ROI (return on investment)
  - Hedge against rising costs in dominant digital advertising platforms
-

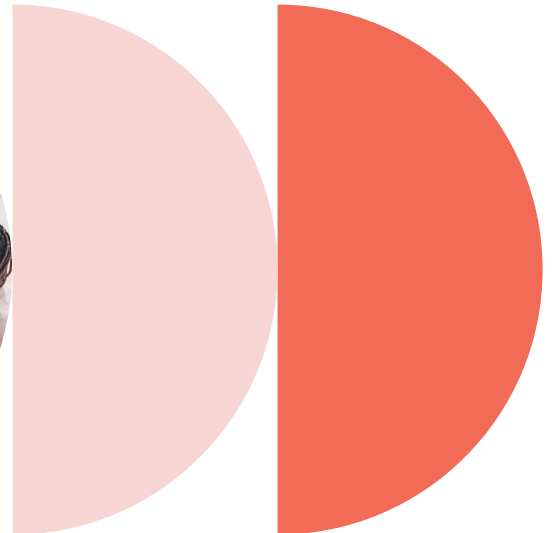
## Beyond MMM: Advocating for Affiliate continued

### Correlation Challenges for Affiliate cont.

#### Lean on Your Affiliate Program Experts at CJ

CJ clients can gain a deeper understanding of MMM's effectiveness by engaging with their client support team.

- Your CJ team is here to be a sounding board. They can answer your MMM questions, facilitate conversations with the provider, and explore all the options for assessing affiliate performance within the model.
- Partnering with CJ to address MMM's effectiveness ensures you get the most out of your MMM efforts and can make data-driven decisions with confidence.



# Conclusion

Media Mix Modeling has limitations in accurately measuring the impact of affiliate marketing. This can lead to under-allocation of resources to a channel that delivers significant value.

When affiliate programs have relatively smaller budgets, it's harder to isolate their contribution. And unlike channels with scheduled campaigns, affiliate programs are constantly active, making it difficult to pinpoint correlations with sales fluctuations. These limitations can lead to a misleading undervaluing of affiliate marketing's true contribution. Overcoming these challenges requires advocating for a nuanced understanding of MMM results. Relatively smaller, always-on channels, like affiliate, deserve additional examination beyond MMM data.

Affiliate has many unique benefits that shouldn't get lost in a move towards holistic measurement models. By understanding the limitations of MMM and effectively communicating the value proposition of affiliate marketing, companies can make more informed budget allocation decisions and leverage the full potential of this powerful marketing channel.

We hope you will leverage this guide and its information to:

- ✓ **Spark Dialogue about MMM & Affiliate:** Initiate discussions within your marketing organization about the limitations of MMM for affiliate and other affected channels.
- ✓ **Affect Strategic Investments:** Gain deeper insights to justify maintaining or even increasing investment in affiliate marketing channels.
- ✓ **Achieve Holistic Budgeting:** Enhance the overall budgeting process with a more strategic rationale for affiliate marketing spend.



# FAQs: Understanding Affiliate Marketing and MMM

This FAQ addresses common questions about the challenges of measuring affiliate marketing within Media Mix Modeling (MMM) and provides insights to ensure your affiliate efforts are well-supported.

## 01 What is MMM and how does it work?

MMM is a statistical technique used to analyze the impact of various marketing channels (e.g., TV, radio, digital ads, affiliate programs) on sales or other business goals. It examines past marketing activity and sales data to identify correlations between channel efforts and sales performance. By comparing changes in marketing activity to fluctuations in sales over time, MMM estimates each channel's contribution to the overall business.

## 02 What is correlation analysis?

Imagine you track four things for a group of people:

- Exercise time per week
- Cigarettes smoked per week
- Frequency of saying “elephant”
- Overall health

Correlation analysis helps determine if any of these factors are related.

- **Positive correlation:** More exercise = better health (generally)
- **Negative correlation:** More smoking = worse health
- **No correlation:** Saying “elephant” doesn't impact health

FAQs:  
Understanding  
Affiliate Marketing  
and MMM  
continued

### 03 MMM vs. Multi-Touch Attribution (MTA): What's the difference?

- **MMM** is a “top-down” approach analyzing the overall effectiveness of various channels on sales. It’s designed for channels like TV or print ads, where individual customer tracking is difficult. MMM uses historical data to estimate the collective impact of all channel activity.
  - **MTA** is a “bottom-up” approach that tracks individual user journeys, attributing credit to each touchpoint (e.g., ad view, website visit, affiliate click) that leads to a purchase. This provides a more precise view of digital marketing effectiveness.
- ☑ **Which is better, MMM or MTA?** While there are dozens of attribution methods to view channel effectiveness (i.e., linear, last click, first click), marketers using MMM will often consider an MTA. There are similarities between MMM and MTA, but they serve different purposes:
- **MMM:** Offers a view of the overall impact of marketing spend based on probable interactions across different channels.
  - **MTA:** Offers a view of the overall impact of marketing spend based on actual observed interactions across different channels.
- ☑ **Can MMM measure some channels better than others?** Yes. Correlation analysis (MMM’s core) works best with:
- **High Data Availability:** Channels with larger budgets generate more data points for analysis, making it easier to model their impact.
  - **Spending Variability:** Channels with fluctuating spending patterns offer more data points to examine correlations with sales changes.
  - **Ability to Segment:** Channels that can be segmented geographically (e.g., running different TV ads in different regions) provide additional data points for analysis.
-

FAQs:  
Understanding  
Affiliate Marketing  
and MMM  
continued

## 04 Should we use MMM at all then?

Yes, in the right context.

MMM is valuable. It helps measure the relative impact of channels and offers insights into “analog” media channels (e.g., TV, print) that are harder to track with precise methods like MTA. Use MMM as one of many tools. Don’t rely solely on it for budget allocation.

## 05 Why is affiliate marketing often under-measured in MMM?

Here’s why MMM might underestimate affiliate marketing’s impact:

- **Smaller Budgets, Steadier Spending:** Affiliate budgets can represent a relatively modest portion of overall marketing spend, especially when compared to large SEM budgets, leading to lower data volume for analysis in MMM models.
- **Always-On Nature:** Affiliate programs usually run continuously, making it harder to isolate their impact on specific periods compared to channels with “burst” campaigns.

Due to these factors, the P-value (a measure of statistical validity) for affiliate marketing in MMM models often falls outside the standard for significance, suggesting the findings might not be reliable.





FAQs:  
Understanding  
Affiliate Marketing  
and MMM  
continued

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## 06 How do I know if affiliate marketing is under-measured in our MMM?

Ask your MMM provider if the affiliate results are statistically significant.

- A P-value below 0.05 indicates statistical significance, meaning the results are highly unlikely to have occurred randomly. A lower P-value suggests that there's a real effect, or relationship, in the data being studied.
- A P-value above 0.05 indicates the findings are not statistically significant at the 95% confidence level (the recommended standard).

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## 07 Are other channels affected by these issues?

Yes. Any channel with relatively low data volume, "always-on" presence, and limited segmentation can be under-represented in MMM analysis.

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## 08 Why should I trust CJ on this?

CJ isn't trying to discredit MMM. We want brands to understand the full value of affiliate marketing. MMM is a powerful tool, but it has limitations. By understanding them, you can make informed decisions about resource allocation for your marketing mix.

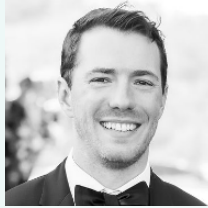
We encourage brands to analyze P-values and consider the unique advantages of affiliate marketing to ensure it receives the investment it deserves.

# About the Authors



## Josh Peterson

Josh Peterson is Vice President of Data Science & Analytics at CJ. He leads a team that provides advanced quantitative insights, including customer journey analysis, incrementality measurement, and opportunity sizing, to both clients and partners. With over a decade at CJ, Josh has built extensive experience collaborating with clients. His focus is on uncovering unique and innovative insights that drive better results and a deeper understanding of customers.



## Colin Johnson

Colin Johnson is Director of Data Science & Client Analytics at CJ. He leads a team that provides tailored data solutions and consultations, leveraging customer journey analysis, incrementality testing, and opportunity identification to empower client success. With nine years at CJ, Colin has honed his expertise in performance marketing and analytical techniques. He fosters collaboration with clients, tackling business challenges through data-driven solutions.



## Camelia Gehrke

Camelia Gehrke is Vice President of Corporate Development at CJ, where she works with brands and agencies to ensure they are taking advantage of CJ's advancements in product and analytics to yield greater insight, performance, and control. With a tenure of over 9 years at CJ, she started out on the Client Development side, leading CJ's San Francisco office, and working with clients across a number of different verticals to drive growth for their programs. She has extensive experience in strategy development, execution and helping brands overcome business challenges and achieve their goals.



## Tomas Saulsbury-Hunter

Tomas Saulsbury-Hunter is Vice President of Client Development for CJ. With extensive experience in the partnerships and affiliate industry, Tom collaborates with brands, publishers, and agencies to develop effective and integrated partner growth strategies. He leads teams that offer innovative strategic consultancy across the performance marketing sector, assisting affiliate leaders in aligning their programs with other marketing channels. With a decade of tenure at CJ, Tom transitioned from the fintech industry, bringing a strong background in sales and commercial partnerships.





## About CJ



Founded in Santa Barbara, California in 1998, CJ (formerly Commission Junction) continues to lead the industry as the largest, most trusted name in global performance marketing, specializing in affiliate marketing technology and services. We're the platform of choice for driving profitable growth for over 3,800 global brands across all verticals, including retail, travel, finance, and network & home services—our technology powers a partnership ecosystem where over 167K publishers and brands engage billions of consumers worldwide. As part of Publicis Groupe [Euronext Paris FR0000130577, CAC 40], aligned with Publicis Media, we leverage unparalleled data, technology, and strategic expertise to bring a truly customer centric approach to performance marketing. For more information visit [cj.com](https://www.cj.com).



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