Marketing Mix Modeling:

Limitations and New Strategies

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EBOOK

What Is Marketing Mix Modeling?

Marketing mix models (MMM) are an analytical approach that **quantifies the effectiveness of different marketing tactics and channels** in terms of sales lift, ROI, and profit. Marketing mix models are often produced in house by pharmaceutical companies annually or biannually to measure which activities drive sales and profits in a given campaign. These models define total sales as the dependent variable and each channel as independent variables and uses regression models to determine to what extent each channel impacts total sales. While data teams often use these marketing mix models to determine how much money should be spent on each channel, MMM does not tell marketers which marketing tactics to use. As a result, MMM faces significant limitations that can be overcome by running test-control analyses.

In the pharmaceutical industry, most marketing mix models focus on **measuring the effects of direct-to-consumer (DTC) advertising** while controlling for direct-to-physician (DTP) promotions. By measuring the effects of varying levels of DTC activities, the marketing mix modeling develops an understanding of what promotional channels are effective.

Shifts inside the pharmaceutical industry have **dramatically changed how pharma companies market** their products. The evolving relationship between physicians and consumers combined with the explosion of digital and social channels have created new marketing opportunities. In this complex and rapidly changing environment, companies use marketing mix models to understand what channels are most effective in raising sales and profit.

Pharma companies use marketing mix models to strategically allocate budget resources to different marketing channels. By investing in each marketing channel according to its demonstrated ROI, companies optimize their marketing efforts and maximize revenue.

Benefits of Marketing Mix Models

The most immediate benefit of mixed marketing models is that pharma companies can identify and stop pouring resources into ineffective marketing channels. By focusing their marketing efforts on more productive channels, mixed marketing models make marketing teams more efficient and increase ROI.

Companies can use these marketing mix models to test different high-level marketing channels ahead of time and project sales activity. For example, a marketing mix model may indicate that personal channels could be most effective for a specific geographic region and reflect what amount of investment is appropriate to take advantage of that opportunity. If used effectively, marketing mix modeling can unlock business potential.

Additionally, marketing mix models **assess the incremental value of different marketing channels.** Models can identify the point at which a marketing channel begins to provide diminishing returns. For example, marketing mix models can determine what percentage of viewers a television advertisement needs to reach to be optimally effective and how often the pharma company needs to invest in the advertisement campaign to maximize impact.

While traditional methods of measuring campaign performance can consume a considerable amount of time, marketing mix models produce insights that enable marketing teams to act strategically. However, marketing mix models take a long time to produce, and a result may not produce timely insights needed in a fast-paced market.

Limitations of Marketing Mix Modeling

Marketing mix models measure marketing effects **only among total sales instead of measuring new customers.** As a result, marketing mix models do not adequately reflect the ability of marketing channels to acquire new customers. Mix models also cannot measure the long-term effects of marketing channels but rather only their short-term impact. As a result, pharmaceutical companies are relying on mixed market models to make long-term budget allocation decisions based on these short-term returns. This can present a significant problem as final mixed marketing models are not necessarily stable over time. Initially successful marketing channels grow ineffective, while initially ineffective marketing campaigns may end up having the most impact over time. Additionally, the effects of marketing investments are not necessarily linear: a 10% investment in a specific channel does not necessarily cause a 10% increase in conversions. As a result, relying on marketing mixed models is not as effective as is often assumed.

Marketing mix models rely on large amounts of marketing data that may not be accurate, complete, or unbiased. Additionally, a lack of measurement standards and transparency make it difficult to understand how models were made or the measurements they use. Analytical models are only as effective as the data they use. Before a pharma company makes budgetary decisions using marketing mix models, it must be sure that its data is accurate and that its measurements are appropriate. For example, marketing mix models ideally require engagement and impression data from the healthcare provider (HCP). Some vendors provide only some or even none of this information, limiting the insights yielded by any marketing mix model.

Most importantly, while marketing mix models calculate the impact of different marketing channels, it does not explain how or why those channels work. However, if a company wants to take full advantage of a channel, it must understand not only that the channel is important but also how to use the channel effectively. This challenge is compounded by the fact that advertising content is difficult to quantify.

For example, while marketing mix modeling may identify a particularly effective online advertisement campaign, there is no guidance on how to make the next online advertisement campaign just as effective. As a result, many brands struggle to translate marketing mix models into marketing plans with specific vendors, calls to action, and targets.

Given these limitations, marketing mix models require significant investment in money and time to provide insight that is not immediately actionable. Companies use these models to strategically allocate resources to different media channels; however, research demonstrates that the models' suggestions are **not always beneficial** and may not produce actionable insight.

Supplementing Marketing Mix Modeling

Marketing mix modeling does not increase campaign performance on its own. While MMM identifies the most productive channels, a third-party strategic measurement partner is needed to explain why those channels perform well and how to optimize their performance in the future.

The best method for providing actionable insight is the test-control research design. **Test-control design** compares two groups of marketing targets that are identical except that one group receives a marketing tactic while the other does not. Both groups should be representative of the full marketing audience, including variables such as geography and history of receiving promotions. Since they are substantively identical, any difference in sales between the two groups can be attributed directly to the marketing tactic being tested. As a result, data scientists identify direct causal relationships between marketing methods and ROI that can be applied in future marketing campaigns.

While the test-control method can be used to measure the impact of specific marketing tactics, it can also be used to measure incremental lift of multiple channels, the effectiveness of personalized messaging and different calls to action. Since the test-control design isolates one variable at a time, it involves far fewer assumptions than marketing mix models alone and yields high-confidence insights that can be used directly in marketing campaigns.

Test-control design augments the value of a marketing mix model. While marketing mix models can identify which channels a pharma company should invest in, that investment can be lost if the channels are used ineffectively. Marketing mix modeling only fulfills its value when a marketing team understands how to optimize the use of marketing channels.

In the test-control design, a control group normally consists of between 5 and 10 percent of the full target population. While it may seem costly to exclude a portion of the target audience out of a promotional campaign, the information provided by the test-control design reduces risk, increases sales lift, and ultimately boosts ROI. In other words, test-control design increases the value of future campaigns by constantly honing marketing methods.

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