

Marketing Mix Modeling

In order to measure the return on investment of marketing or media activities, one must control and measure the impact of all other factors influencing sales.

Market Mix Models are designed to measure the classic 4Ps of marketing (Product, Price, Promotion, and Place) to both control for and measure the impact of macro and micro dynamics influencing sales.

Outcomes of Market Mix Models

- Impact of competitors' marketing activities & pricing
- Data-driven marketing budget planning to modeled business outcomes
- Media, sponsorships, & marketing tactics investment allocation recommendations
- Advanced scenario planning, both proactive and 'in the moment'
- Measured contribution of on-and-offline media tactics
- Impact of channels and message effectiveness
- Financial returns to my marketing & media activities
- ROI trade-offs of marketing activities
- Incremental cost for various heavy-up options to achieve quarterly sales goals

What is a Market Mix Model?



A good Market Mix Model can be the difference between intuition and precise data-driven decision making. Market Mix Models, when done well, measure all forces impacting sales to determine next best alternatives, trade-offs, and cost per each incremental acquisition.

The Model Inputs

Model construction starts with good inputs. Ultimately, the model will need data feeds for all measurable macro and micro dynamics, such as media activities for you and your competitors, price and promo, economic conditions, and seasonality.

The goal is to build a database and clean data taxonomy that allows the model to control and measure all factors influencing sales.



Your Business & Competitors

- Media & Sponsorships Activities
- Customer Experience, NPS, WOM
- Distribution
- Price / Promo

External & Industry Factors

- Economic Conditions
- Seasonality
- Regulation Changes *(if applicable)*
- Weather *(if applicable)*
- Additional Factors

The Model Construction

The model interprets and organizes all inputs that impact sales into three key groups:

Baseline



Baseline identifies the proportion of your sales which can attributed to inertia. If we strip away advertising, promotions, and all other controllable activities, Baseline is what is left. Strong brand equity built over time, regulated industries, and low competition are all common factors that contribute to higher baselines.

Negative Dynamics



Negative Dynamics are the factors that have a deducting effect on your sales. These could be marketing & promotion activities from your competitors, poor customer / patient experiences, unique external factors (i.e. COVID-19), and more. The sum of these factors will be subtracted from your baseline. In other words, your 'Controllable Investments' must overcome the negative impact of these factors.

Controllable Investments



Controllable Investments are the factors that you can control and have a positive effect on your sales. These will most likely be your marketing & promotion activities, sponsorship activities, PR, social, digital, etc. Positive customer / patient experiences, launches, events, and more can also all into their category. All marketing activities should fall into their category.

A key outcome of the model is to assign investment allocation recommendations. In other words, by holding your marketing budget constant, the model will reportion your marketing budget to your sales target.



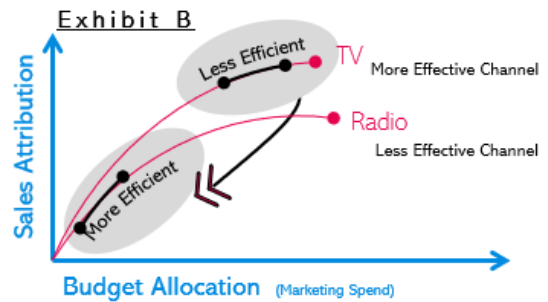
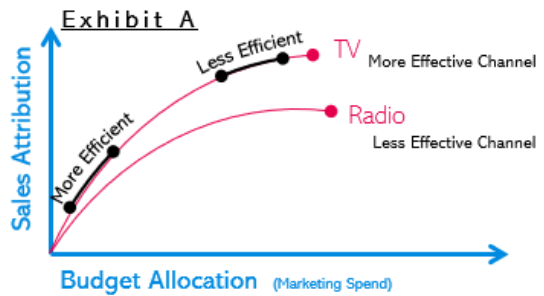
Because a Market Mix Model has been built to control and measure the impact of all other factors influencing sales, we are therefore able to measure the precise returns on investment of individual marketing or media activities, complete campaigns, and negative dynamics as well. This complete picture allows the model to optimize to any given target such as a quarterly sales outcome, budget constraints, media changes, competitor dynamics, or much more. Below we will explore how the model optimizes budgets.

Optimization of Channel & Marketing Tactics

Within your controllable investments, the Market Mix Model will first determine Attribution Decay Curves (Exhibit A.). By plotting the cost per (sales vs. spend), we can begin to understand channel effectiveness as well as spend efficiencies.

To determine budget optimizations, we must first uncover our next-best-alternatives. In our example, Radio is a less effective overall channel, however, there comes a tipping point where even our most effective channel is now less efficient than our next-best-alternative.

In other words, if we were to continue to invest in TV, the cost per incremental acquisition would continue to escalate. (Exhibit B.) If we reallocate those dollars to radio, our cost per acquisition becomes much less costly and thus more a more efficient use a marketing spend.

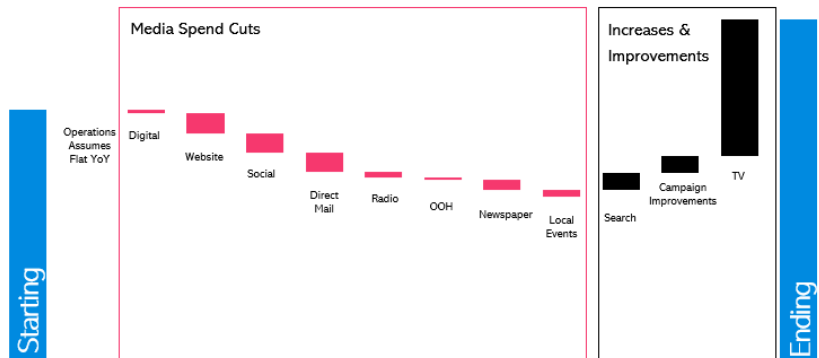


As an output of properly plotting attribution decay curves and allowing the model to optimize to cost per acquisition, we can now:

- 1) Build data-driven marketing and media investment plans that target specific sales and budget outcomes,
- 2) Answer strategic marketing trade-off questions,
- 3) Optimize to budget constraints and/or sales outcomes (Exhibit C.)
- 4) Retrospectively measure the impact of internal and external forces on your quarterly results and analyze how to improve on a go-forward basis
- 5) And, potentially the most popular, analyze business scenarios real-time, such as

“What impact would a 10% cut to our quarterly media spend have?,” “how much do we have to spend to hit my new target for the quarter?”

Exhibit C



Placement & Frequency



By planning properly upfront, we can ensure very detailed analysis and optimizations. It's one thing to optimize at the channel level, but at CMI we find that detailing results down to the detailed level of time of day, TV channels, websites advertised on, is much more useful information.

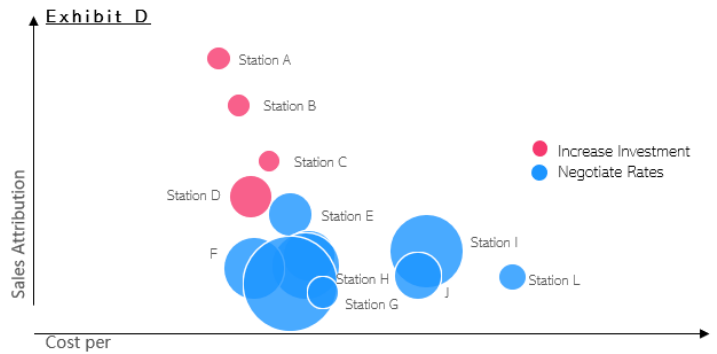
Advertising Placement Optimization

Each channel goes through a thorough deep dive to understand which placements are more effective and which are less effective.

This analysis helps significantly in the annual planning as your agency renegotiates rates.

In Exhibit D, TV Stations A – D have a relevantly low cost per acquisition and a high number of acquisitions attributed to these stations – making them a very efficient media purchase.

The other stations in the example (items in blue), show a lower amount of sales attributed to the stations coupled with a higher cost per acquisition.



Advertising Frequency Optimization

Beyond placement optimizations, we also must understand frequency. This is important for a number of reasons. We do not want to “wear-out” our creative by running it so often consumers become annoyed or turned off by the spot. While less obvious to the consumer, we do not want to run an advertisement more than is needed to hit our target sales contribution levels. This will only lead to unrealized media spend.

To avoid these issues, we must plot the advertising frequencies to contribution and spend.

In Exhibit E, we see that the first 150 advertising placements produced 87% of the total available contribution to sales but was only 32% of spend available. We can see that for each incremental placement past the 150th placement will result in a lower contribution and higher cost per – thus our incremental ROI will significantly decline past 150 and we should cap frequency here.

