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# Your Marketing Mix Model Refresh Cadence Matters

## An OptiMine White Paper

# How Frequently Should an MMM Model Be Refreshed?

What is the right frequency for refreshing a brand's MMM model in order to get the most out of the modeled results? For most brands, this is an unanswerable question as they are stuck with slow model refreshes a few times per year. Brands know inherently that this isn't ideal so OptiMine conducted research to find the answer to the question: **what is the optimal cadence to update MMM models?**

# Why Should You Care About Your MMM Model Refresh Cadence?

## What is a “Model Refresh”?

What it is:

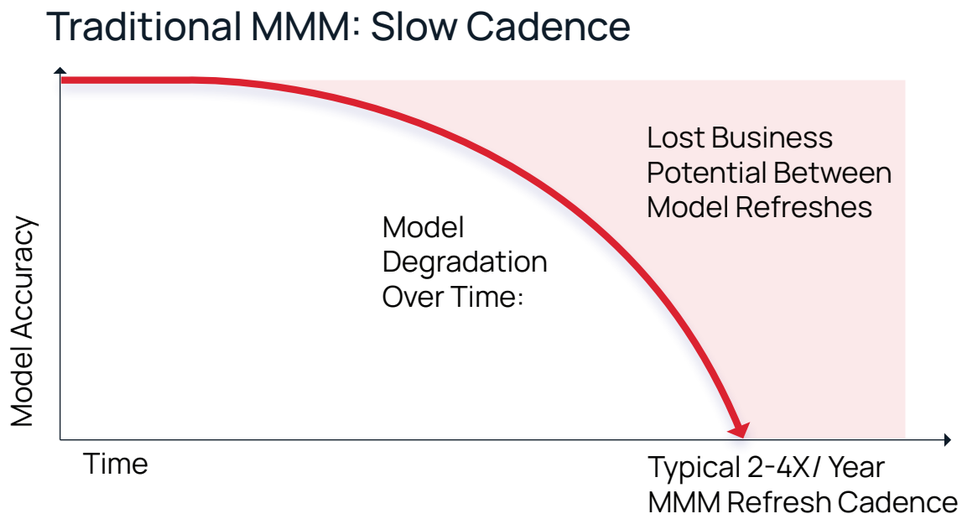
- Full Re-Train/ Re-Score/ Re-Estimation
- Building NEW Models Using Latest Data

What it isn’t:

- Scoring with Existing Models
- Re-Build of Models Using the Same Data

A “Model Refresh” is a fully new model or set of models including the latest marketing, conversion and market conditions. It is not scoring an existing model or coefficients.

## Why Should We Care?

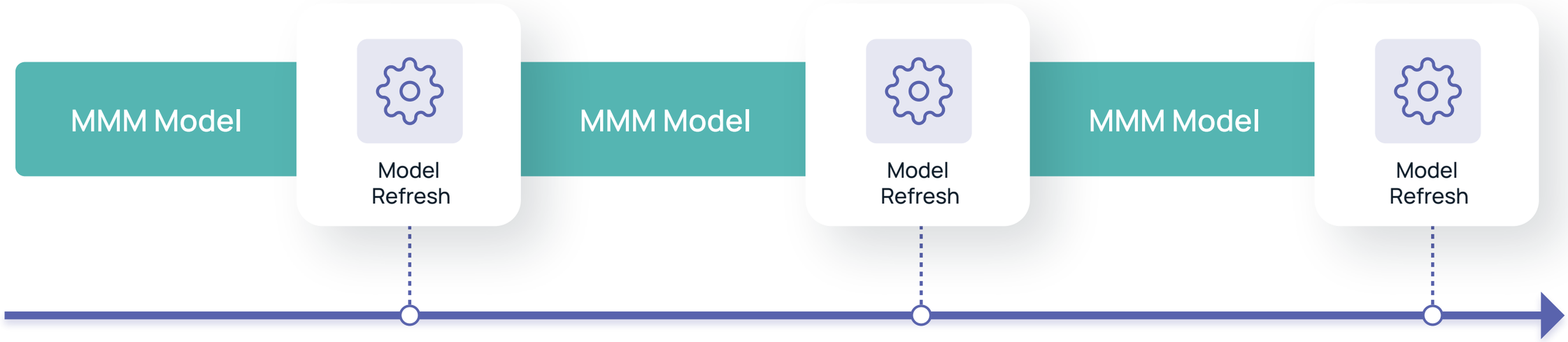



Brands should care deeply about their model refresh cadence because the model’s accuracy degrades over time, and business decisions suffer as a result, lowering business performance.

# OptiMine's Research: MMM Model Refresh Cadence

OptiMine's research was conducted to answer the question: **what is the optimal model refresh cadence?** By determining model degradation over time, OptiMine's goal is to be able to inform brands where the sweet spot is for refresh frequency, and also what level of business performance is lost at differing lengths of refresh windows.

To answer this, the OptiMine data science team pulled historical models along with actual results from across several clients and ran experiments by running model refreshes at varying sequences. OptiMine was then able to measure model prediction drop off at differing model refresh sequences. **The results were surprising.** But first, let's examine how the research was conducted.



# OptiMine's Research: MMM Model Refresh Cadence

The research was built carefully to control exogenous factors such as seasonality, economic conditions and promotions in order to isolate the contributions of marketing and its decay over time. Further, brand data sets were selected with extensive history and where fast, frequent model refreshes– typically monthly– had been conducted for several years. Lastly, the OptiMine data science team built automation to cycle through different refresh sequences to examine and compile results, leveraging significant compute cycles to accomplish the research.

## Designing the Experiment

- Comparing Model Degradation at Varying Refresh Intervals
- Controlling for Exogenous Factors, Significant Changes in Taxonomy, etc.
- Objective: Quantifying an Optimal Cadence

## Selecting the Sample Set

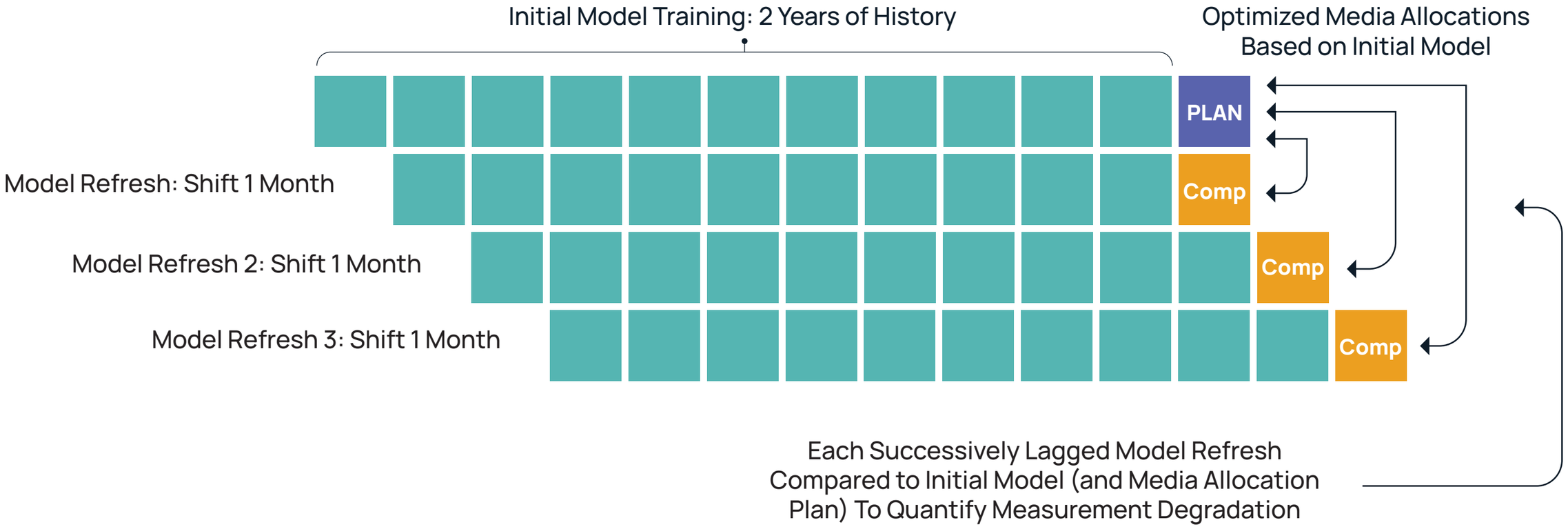
- Selecting Brands With:
  - Extensive History
  - Fast Cadence
  - Relatively Stable Taxonomies
- Trimming Out COVID / Post-COVID Effects
- Managing Extensive Computational Resources

## Executing the Research

- OptiMine Data Science Team Built Project Automation to Cycle Through Timing Iterations
- Ensured Proper Control Variables Included Specific to Each Data Set
- Analyses Started in April, Completed in September

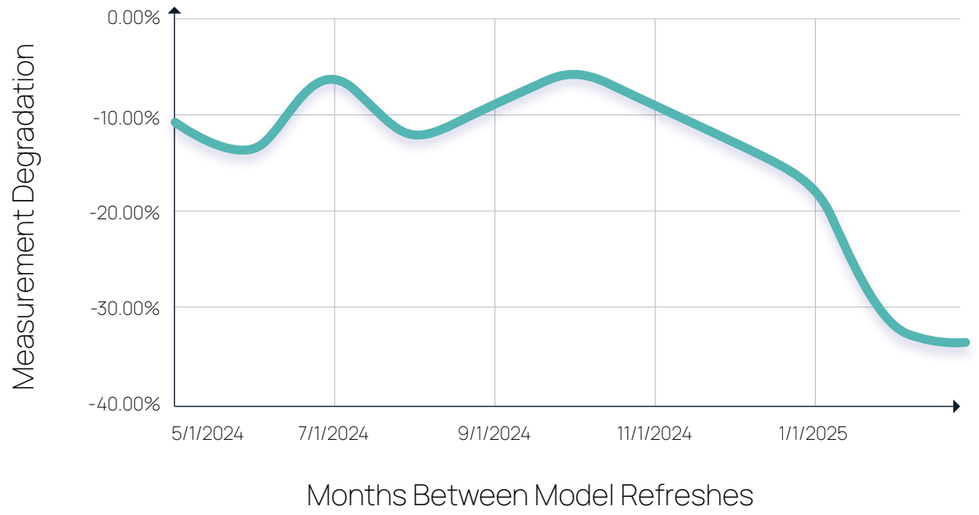
# OptiMine's Research: MMM Model Refresh Cadence

Using these historical data sets, OptiMine built models and then compared how their predictive accuracy held up over time, in increasing monthly increments. OptiMine evaluated an optimized media allocation at the time of the model refresh and then compared this allocation's performance versus actual results over time to evaluate model degradation with each successive month of a delay in model runs.



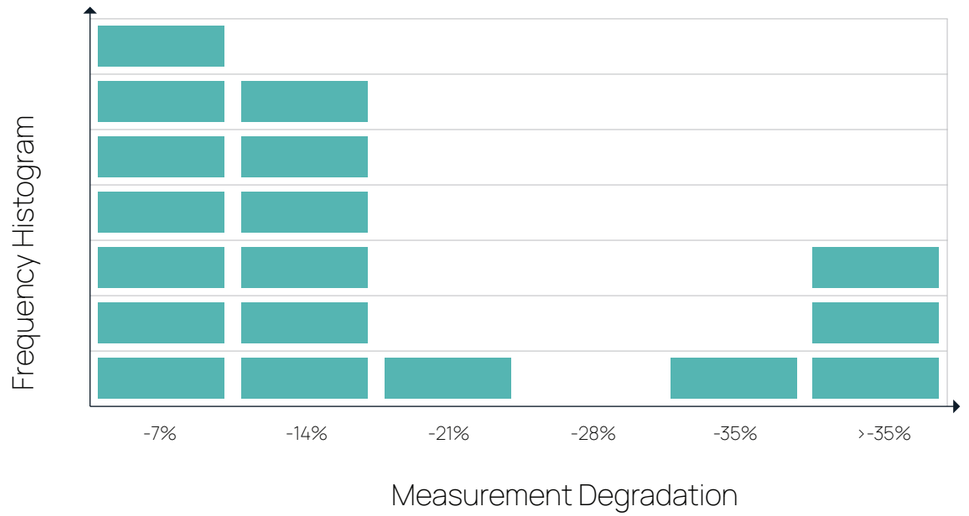
# OptiMine MMM Model Refresh Cadence Research Findings

## What We Expected to See:




The first collection of experiment runs resulted in a degradation curve that most would have expected to see. As time increased between model refreshes, performance decayed and dropped significantly after four months.

## What We Actually Saw:




As OptiMine's data science team added more brands and samples into the experiment, the predictable degradation curve disappeared and was replaced by a much less predictable, and much more variable result.

# OptiMine MMM Model Refresh Cadence Research Findings

## Why Such Variability in Model Degradation?

Why would the model results degrade over time? Because marketing executions shift and evolve, often deep within channels as brands and agencies continually adjust. And consumer behaviors shift, tastes change, and buyers' needs change. **Put simply, with all of these changes occurring rapidly, models don't hold up over time.**

### Media Mix, Execution & Strategy Changes:

- Why Assume this is Uniform? It Rarely Is.
- Creative Changes Alter Results.
- Channel Teams are Continually Adjusting, Adapting, Testing and Evolving Approaches (which is a good thing).

### Consumer Behaviors Evolve:

- Consumer Purchase Behaviors Are in Continuous Flux.
- As is Their Reaction to Your Brand's Advertising.
- And Exogenous Controls Can't Control Everything.
- And the Longer it Takes to Account for the Changes, the Larger the Damage.

### Models are "Rear View Mirrors":

- Models Only Reflect the Past
- Past Results May Not Reflect the Here and Now
- We Collectively Have Limited Our View of What MMM or What MMM Can Be.

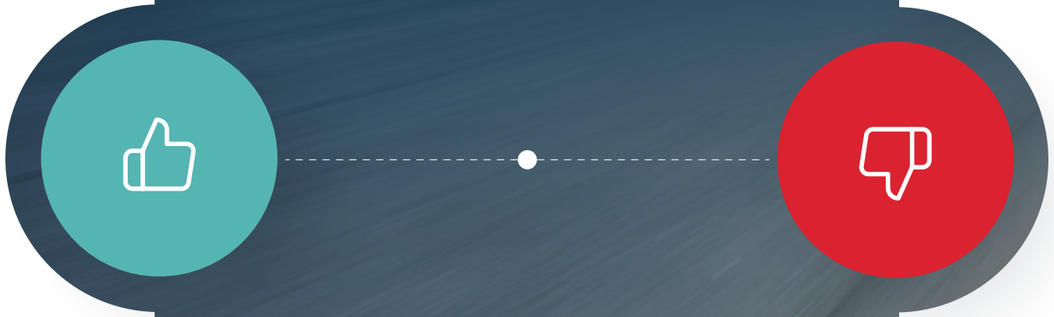
# Conclusions

- Brands that only refresh their MMM models **1-4 times per year** need to seriously consider the risks of moving so slowly.
- **Model degradation of 10-35%+** outlines the business risks brands face making decisions on old models.
- This risk compounds because brands **do not know** when their model has lost predictive accuracy.
- Brands must **embrace a new imperative** to refresh models faster, or face lower performance and competitive losses.

# Research Conclusions: Refresh Recommendations

With this research completed, OptiMine has developed best practices for brands considering increasing their own model refresh cadence. Clearly, there are significant business benefits from doing so, but brands need to proceed carefully, plan accordingly and invest in data and decisioning maturity to support these objectives.

- Align Cadence with Speed of Media Investment Decisions
- Data Infrastructure Must be Up to the Task
- Identify and Address the Biggest Lag Factors First
- Build & Commit to a Road Map
- Map To-Be Decisioning Processes First



- Don't Try to be Fast Just to be Fast
- Diving into the Deep End of the Pool is not Advised
- Rushing Without Mature Data Will Create Issues (& Possibly Drain MMM Confidence)

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# Research Conclusions: Key Considerations for Brands

Because OptiMine has been providing high-frequency model refreshes for its clients for more than a decade, OptiMine has observed many less anticipated– but critical– considerations for brands when moving to more frequent model refreshes. These considerations can stall such initiatives or aspects that must be in place for ultimate success.

## Managing Changing Answers

Brands must get comfortable with **changing measures**. This is actually one of the reasons to move faster– to capture changes as they occur and adapt more quickly.

## Managing Changing Data

Changing marketing data– naming conventions, structures and taxonomies– are all primary roadblocks to faster model refreshes. Brands must invest in governance, mature data infrastructure and agile ETL to adopt and adapt.

## Adapting Processes

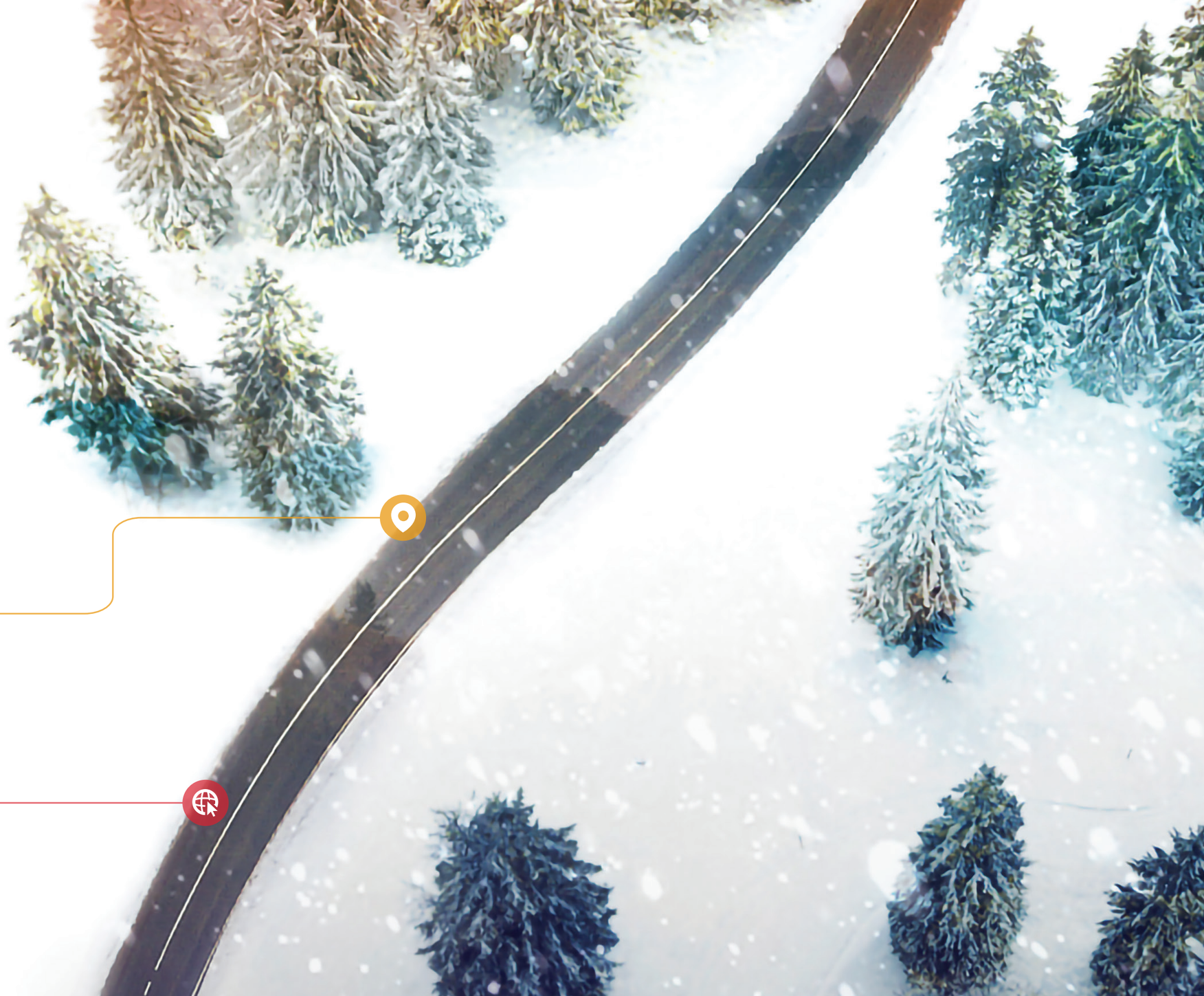
How should brands change the way they make decisions when getting more frequent insights? This should be defined first – well before the effort to increase model cadences.

## Ensuring Leadership Support

None of this works without executive leadership support– support for the investments needed to achieve increased model frequency, support for data maturity and support for changes in the way the brand leverages these faster insights.

## Contact Us

Contact us today to schedule a demo or meet with OptiMine to learn how you can leverage our advanced analytics to lift your marketing performance.



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