in4mation insights

10 Strategies for Navigating Marketing Performance Measurement in the Cookieless World

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Marketing Mix Modeling (MMM) has re-emerged as the gold standard for marketing performance measurement, decision support, and planning to make sense of the multilayered, interdependent options from which you must assemble your marketing strategy and choose your marketing investments.

With Google's commencement of third-party cookie deprecation, multi-touch attribution (MTA) is fading as the formula for identifying what drives consumers to action. Concurrently the explosion of marketing and media channels has created a complex landscape of investment options, and the factors that challenge your business performance are changing with lightning speed.

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As you're planning your media strategy in the cookieless world, here are ten points to consider when leveraging the modern MMM.

1. Scope out Your MMM for Your Needs:

MMM is a powerful tool that can do many things: ROAS for individual media channels helps you optimize spend or balance your performance versus brand marketing; summaries of YoY drivers let you learn about what you control and don't control and their relative importance to the business; strategic forecasting can support arguments for media budget increases; and, under some circumstances, MMM can provide tactical guidance around things like audience targeting or media flighting. Given the proliferation of new media channels, these choices are only becoming more complex. This may sound contradictory but start by asking yourself what you don't need the MMM to cover or what you might get to later. Consider how much information you can absorb and disseminate effectively to your internal audiences. Consider how much flexibility you have in your media budget to move money around and in what time frame. Few clients realize just how much an MMM can deliver – so it is perfectly reasonable to start with KPIs for major media channels, test the appetite of your audiences, then move on to more detailed deep-dives later.

2. The MMM is Not Inexhaustible. Tend to Your Garden:

Make sure your MMM vendor is open and honest about how many drivers can be used in the model. There are now at least 10-20 separate media channels (e.g. linear TV, streaming TV, streaming radio, YouTube, etc.) that can be employed in modern marketing mix models versus the 3-5 that existed just ten years ago. Adding in halo effects, breaking out major vendors, retailer-specific media, and time-varying effects of media can multiply the number to over a hundred variables. Do you have sufficient data to support this kind of model? The key things to guide you here are spending levels, as well as continuity and variation in the media impressions. Have you spent enough, for long enough, to get a measurement? Have you spent different amounts at different times? One of the strong points of MMM is its ability to manage the full spectrum of marketing and promotion activity. But even with advanced pooled Bayesian methods, the MMM is not an inexhaustible well. Often, we hear clients say: "let's just add this to the mix" and we would love to accommodate them. But we should also ask "do we still need to measure this?" and "can we collapse all those tactic categories into one?"

3. Get Media Data at the Lowest Level You Can:

To get the best read on a media signal, the dimensions of the data need to match those of the effect you are measuring. If you are trying to measure, say, the impact of the variation in YouTube formats on brick-and-mortar sales, it does not necessarily help to have store-level sales data. The variation that occurs from store to store has one set of drivers such as weather, promotions or availability of product. The variation that occurs in YouTube may be dependent on the device, the category of video, or the addressable audience.

In general, it always helps to get media data at the lowest geographic and audience level you can, and to get it by week (and sometimes by day). If you can match up media and sales data by time and location, you are starting to control for all the different and distracting activities that may occur across longer time periods or bigger regions. For instance, getting media data at the DMA level is useful, even if you only buy media nationally (and even if you can only act nationally). Your analysis database will now have many more replications of the relationship between sales and the potential drivers of sales.

4. Ask Questions About Use of Constraints:

If the same constraints are always applied in every modeling round the model can get stuck at a fixed level of effectiveness and the only driver of change is the ad cost or CPM.

Constraints are a necessary part of all practical econometric modeling. For instance, we know that the immediate impact of raising price is to reduce volume, so the sign of the underlying price coefficient (the sensitivity) must be negative. In a few cases, however, the coefficient of the model will not be negative, and we must apply a constraint to make it so. The same issue arises with advertising, which we want to always be positive. For various reasons this does not always happen. Sometimes advertising is deliberately timed with product seasonality, and since season is the stronger driver, it gets the positive coefficient in the model and may make the advertising small or even negative. Sometimes all the advertising channels are

concentrated in a heavy-up period. In this case the model cannot distinguish which is the driver and may make some drivers positive and some negative. For these reasons, practitioners constrain ad coefficients to be positive and even to fall in a range that is typical for that media channel.

How constraints are used is worth a question to your supplier. For instance, if the same constraints are always applied in every modeling round the model can get stuck at a fixed level of effectiveness and the only driver of change is the ad cost or CPM. Make sure that data is modeled unconstrained at least some of the time to test for movement in values. Second, how your vendor does the constraints matters. In Bayesian models a very flexible form of constraint called *slice sampling* is used. This is especially important in modern MMMs that have scores of advertising variables, all requiring constraints. Some methods that impose fixed bounds, or worse, that hold coefficient values constant from period to period certainly make for consistent delivery of KPIs but at the price of insensitivity to changing effectiveness.

5. The Baseline is Your Friend:

Models are only as good as the estimate of the baseline. We have known this for years. This fact was recently affirmed by in the MSI Blue Ribbon Panel Report on MMM. The reason for this is that we do not want to attribute changes in sales to media when they have a more fundamental explanation due to core business drivers, changing economic circumstances or even weather. Think of the baseline as the foundation on which the house of media is built. It is possible to back into the baseline by building a media model and then subtracting this from the total, but we don't recommend this. Establish the base model first, then add media; better still if you try out only weakly constrained media before applying stronger constraints.

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In CPG, the syndicated vendors supply facts such as base price and distribution that can be core baseline predictors. But syndicated base price is often incorrect for specific UPCs and channels, so we recommend applying a custom *base price algorithm* to replace those values. Syndicated vendors have their own estimate of baseline. These are based on removing store-weeks with known promotions. MMM models derive a baseline by accounting for both trade promotion and media; these baselines are lower than their syndicated equivalent and more accurate because they account for media. For online DTC sales, an MMM model is often the only way to extract a baseline and can help to isolate truly incremental sales in those channels. Outside of CPG, each vertical will have its own unique headwinds and tailwinds that, along with product seasonality, make up its baseline.

6. Make Necessary Cuts:

Don't be afraid to cut back the level of measurement of media if you are seeing unstable results. For instance, we would all like to look at streaming TV channels by major partners like Hulu, Netflix, and Amazon but you may not have spent enough to get a separate read by vendor. If you find that the reads are unstable, do the model a favor and cut back to a single streaming TV variable and think of another way to compare the streams by partner.

7. Lean on Your Experts:

There needs to be a skilled and experienced data scientist somewhere on your vendor team (or your own team if doing this internally). Preferably one who knows your model and your business. As much as we have made progress in automating the estimation of sophisticated marketing mix models over the last ten years, the explosion of media channels has destabilized the workstream and pushed data scientists to the limit. Beware of phrases from junior analysts like "the model says…." or "the model doesn't like it when…" –These are a sure sign that the analysis is being run by someone who barely knows what he/she is doing.

8. Test and Share:

Try to use AB tests (agile tests) to inform MMM, especially if the number of media variables is large. Many clients like to triangulate MMM results against AB tests as part of a validation step in a marketing measurement framework. But be aware that MMM models are being asked to do an awful lot – so every piece of data that informs a constraint or a prior is invaluable, especially when the medium is new. Even if you would like to maintain separate roles for agile testing and MMM, set up a process so that post-validation, the data from AB tests are available to the MMM vendor.

9. There is Such a Thing as Over-Automation:

Not everyone has to be a data-hound, but somewhere in your process and on your team, an experienced person must scan the data and look for what's changing.

Don't over-automate the data ingestion phase of the MMM to the point that the staff running the models have no idea what the data looks like. Look at your data! As Yogi Berra said, "You can observe a lot by just watching." Emerging media channels often have different formats and breaks than older channels. These new formats/breaks can be clues to how media is executed that have a bearing on your marketing questions. Nothing will give you a sense of what is possible better than looking at a data set, and getting a feel for the granularity and the kinds of associations that may be measurable. Not everyone has to be a data-hound, but somewhere in your process and on your team, an experienced person must scan the data and look for what's changing.

10. Be Smart About Your Model Metrics:

Certain basic measures such as R-squared, MAPE (mean absolute percent error) and Durbin-Watson are table stakes. Some more challenging questions are:

(i) what is the R-squared improvement due to media?

(ii) Are the MAPES based on in-sample or out-of-sample (holdout) tests? If holdouts, what kind of holdouts (e.g., random, fixed, last month of data)?

(iii) What proportion of media variables have wrong signs prior to constraint?

You Need to Form a Holistic Picture and Work Collaboratively With Your MMM Team

Just as your doctor doesn't look at any one medical statistic, you shouldn't rely on any one of these.

MTA is made all the more challenging with the (no longer pending) demise of cookies. It is crucial that your MMM partners are knowledgeable in the complexities involved in applying sophisticated analytics. This ensures that under any given scenario, you can predict the exact opportunity for optimal investment, in any channel partner, across time, in your entire media plan so you spend exactly what you need to – no more, no less – to achieve your evolving objectives.

Ready to realize the full predictive power of MMM? Contact us to see how our unique approach to marketing performance measurement and optimization can deliver better business results.

About in4mation insights

in4mation insights, LLC is a marketing analytics company specializing in measuring the impact of media and fundamental business drivers on sales. The company's innovative media and optimization models are driven by its deep expertise in Bayesian statistics. Through the company's strategic road mapping, clients can allocate their marketing resources more effectively and grow their own data analytics capabilities, ultimately leading to maximum, sustainable ROI, and sales growth.