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## Learning From Your Errors

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On a business trip with my business partner, I was entrusted to provide directions. “It’s about 20 miles up the highway. I’ll give you finer details when we’re closer,” I said. Twenty minutes later: “Take this exit and then right...turn here...go straight...left...right...” After weaving through a residential area, then into an office park, and past, then into another residential area, “Uh, are we on track, getting closer?” “Yes, the map shows it should be the next left.” We were looking for a hotel. Usually these are reasonably close to the exits and we were venturing well away from the exit. Then reality hit me. I had not input the hotel into the navigation app, just the city. So, we were off track, headed to the geographic center of the city instead of the hotel.

Great learning happened at that moment. I realized that I needed to adjust and actually put the hotel information into the navigation app. As I relay this story I’m reminded of a great conundrum: While we strive to be right, we cannot be until we have observed our errors.

This is how learning works. Develop a forecast of what you expect and plan accordingly. Then when the future unfolds, observe your error and take the opportunity to learn. You learn how things were different and move forward with a revised forecast. Adapt and learn.

Being adaptive to learn requires us to make forecasts and receive feedback to know when and how things went wrong.

In marketing, there are many metrics that lend themselves to forecasting such as awareness, consideration, preference, market share and market volume. Further there are many activities such as distribution, pricing, advertising and messaging that drive those metrics. With a forecast model there’s a way to understand how actions taken today affect results tomorrow, which then inform decisions today to achieve the desired result.

Of course there is uncertainty – loads of it at times. Like my navigation issue there are plenty of times to be wrong and create new learning as adjustments to the forecast model are made. These adjustments come from better understanding the relations between investments in marketing activities and sales and brand health. Constantly honing in on a moving target.

Bayesian statistics is the best analytical technology for this type of dynamic forecasting. Our decision support system, MIDA, leverages this technology. This is the same technology that’s used in guided missile navigation and spam filtering. At the outset the model starts with a prior assessment of the impact of the marketing activity, which is then modified with historical data. Going forward we project the impact of the activity in the form of a forecast. As new data become available, the model adapts to the new data and stays current. It does so by learning from the errors in the forecast. Given an error in the forecast, the model can tell by the movements in the marketing investments relative

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## Learning From Your Errors, *Cont'd*

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to the movements in sales which aspects of the model need to be adjusted.

Making forecast errors is part of human nature and so is learning. These are flip sides of the same coin.

MIDA's forecasting capability resolves a major pain point with traditional marketing mix modeling. Many managers use marketing mix models that are year old or older to make decisions up to a year in the future. That's a two year a gap from the last data point to the first period of the forecast, which means there's a large gap for error. And a large gap in the learning that could take place. Using MIDA that gap can be closed, using forecasting technology that allows managers to learn from their errors.

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*Using forecasting technology allows managers **to learn** from their errors*