OPTIMIZED PROMOTIONS FOR MODERN DEMAND FORECASTING

The effect of promotions on retail consumer behavior is significant. In fact, 80 percent of consumers are likely to make a first-time purchase with a new brand when they find an offer or discount[1]. And the impact of price promotions on sales in the world of social media and connected commerce has become even more important, as evidence suggests that millennials and young adults are most affected by promotions-based marketing[1]. So, the industry has responded by offering more variations of deals and promotions than ever before.

This proliferation of promotions has created a challenge for demand planners, which also has a halo effect for marketers. The additional volume of simultaneous promotions for each SKU has made accurate demand forecasting nearly impossible when using traditional planning solutions. And as the volume of overlapping promotions continues to grow, competing promotional demand signals get jumbled together and overload the baseline demand signal.

That makes it very difficult to accurately model and predict baseline patterns in comparison to the demand impact of an individual promotional event. While the complexities of accurate demand planning perpetuate, marketers need the valuable insight generated from purchasing behaviors to understand which promotional event drove which portion of the demand spike.

Traditional demand modeling techniques typically fall short due to an odd information paradox: they have too much data to process at once — yet not enough data about what they are processing — to achieve analytical clarity. What retailers should consider is a new way to accurately untangle all of these demand signals.

Manhattan Associates has pioneered a new method of unraveling concurrent promotional activity by using data science and machine learning to resolve the underlying causes of this paradox with context, capability, and compromise avoidance.

Manhattan Associates is delivering an entirely new approach to turn the millions — or even billions — of SKU, promotion, and event combinations into an advantage for your organization.

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DATA IN CONTEXT

This first issue is context — or more accurately, the lack of context. Traditional demand modeling methods focus on SKU-level demand, which makes sense because that is what we are ultimately attempting to predict. However, when faced with the hyper-promotional activity that occurs within omnichannel commerce, local demand modeling analysis becomes confused and begins to break down due to the volume of demand data. While it may seem counterintuitive, in order to resolve the issue, we actually need to add to the amount of information analyzed, exploring well beyond the scope of demand for a particular SKU.

Through innovative use of dynamic, distribution-free, and quantile-based robust statistics — combined with advanced statistical analysis techniques like Extreme Value Theory, Outlier Detection Analysis, and Hierarchical Cluster Analysis — Manhattan has unlocked the ability to reliably characterize and strengthen the view of demand by enriching it with discriminating data features that offer additional insights.

KNOWLEDGE IS POWER

Now things really start to get interesting. Armed with the enriched dataset, Manhattan Demand Forecasting broadens its analysis by considering all promotional and baseline demand observations across all SKUs and all events, simultaneously.

Advanced machine learning techniques, like Frequent Item-Set Mining and Association Rule Learning, that looks across a massive amount of data and learn — with probabilistic guarantees — the association and impact that each promotional event has on the demand for the individual SKU. It begins to peel away the noise until you are left with the demand picture for a single SKU and a single promotion. In other words, this insight is exactly what demand planners need to improve forecasting accuracy, and what marketers need to improve both promotional performance and marketing return on investments (MROI).

No other solution can do this.

PLANNING WITHOUT LIMITS

The final task remaining is ensuring the avoidance of solution compromises. Traditional demand modeling approaches often must make compromises in an attempt to simplify the complexity in order to reach a result because they cannot put the dataset into context, and they do not have the advanced mathematics technology to resolve the enriched data. Instead, they apply overly simple (and often inappropriate) statistical transformations and filters. Many solutions also require large amounts of human intervention and guidance — even resorting to a manual promotional-event filtering and removal process. Such solutions were never designed for the way consumers shop today, so they process demand without any insight into the complexities of omnichannel. In doing so, they unintentionally negligently remove useful information and introduce unintentional biases, both of which undermine analysis and results.

Rather than fight the complexity and massive amounts of data, Manhattan Demand Forecasting embraces it. It uses machine learning to decouple and assess the demand impact of each individual promotional event accurately and reliably, and in doing so provides more accurate demand models, which in turn yield better predictive models for both baseline and promotional forecasting purposes.

OUT WITH THE OLD

When companies face more competition, higher pressure on margins, and a skyrocketing number of promotional events, accurate demand planning is essential. Manhattan Associates is delivering an entirely new approach with a solution that turns the millions — or even billions — of SKU, promotion, and event combinations into an advantage for your organization. That means greater insight, more dependable forecasting, and the most optimized demand planning to ensure you have a finger on the pulse of omnichannel promotions modeling.

For more information

To learn more about Manhattan Demand Forecasting and Promotional Planning technology, contact us today:

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1. RetailMeNot Survey: Deals and Promotional Offers Drive Incremental Purchases Online, Especially Among Millennial Buyers

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