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Five Hot Trends in Retail Analytics

Retail isn’t an easy place to be these days. The environment is omnichannel and ever-changing. Competition is rising, and retailers are struggling to understand how to best meet customers’ merchandise preferences and drive profitability and market share.

Smart retailers are doing that with analytics by harnessing the big data streams that define the digital nature of our increasingly online, mobile world to inform more meaningful omnichannel strategies. Let’s take a look at the five hottest trends in retail analytics.

Trend 1: Volume and climate clusters are so #oldschool

Remember when the only option for shopping was to get into your car and drive to the store? Those days are long gone. Shoppers often engage with brands online before even stepping into the store, and many continue on to purchase online. Personally, I typically window-shop from my couch in comfy yoga pants.

To understand customers’ merchandise preferences, it’s critical to break down the silos of channels. Look across channels to understand what products individuals are purchasing online, what products they’re purchasing in store, and what products have an opportunity within a local market.

Retailers need to use analytically driven clustering techniques to cluster local markets or trade areas by similar merchandise preferences and selling patterns. It’s one smart way to use retail analytics to stay relevant with our omnichannel customers.

Trend 2: Attribute analytics are all the rage

Merchandise attributes are ways to describe products such as color, sleeve length, silhouette, fabric and so forth. Retailers can analyze any number of merchandise attributes and vary this analysis by area.

More attributes are not always better. Analyzing too many attributes can become overwhelming, and quite frankly, the juice may not be worth the squeeze. Correlation analysis can be used to understand which merchandise attributes are correlated. This can help narrow the number of attributes down to a manageable size.

But what draws customers into the department and what drives their purchasing decisions may also be understood through attribute analytics.
The statistical forecasting process automates the ability to account for promotions and holidays, giving merchants back more time in their day.

I always head toward the Jessica Simpson heel display because I know the price is right, the styles are cute and the shoes are actually comfortable. I can’t wear heels that aren’t comfortable, no matter how cute they are. I end up looking like a baby deer trying to walk in stilettos. It’s not a good look. Now, I know that brand is driving my purchasing decisions for heels, but what about every other customer?

You can use analytics to statistically determine what merchandise attributes are the most important to customers – and then, within those attributes, the specific values of those attributes that have opportunity.

We can understand, for example, whether it is brand or fit that drives customers’ decisions and then, within that, which brands or fits have the most opportunity by cluster. Retailers can use these insights to drive assortment planning decisions and move from product-centric to customer-centric assortments.

By operationalizing their analytics, the savvy retailer uses the data that represents the attributes, discovers the most relevant attributes, and then deploys those insights through assortment and allocation decisions to deliver the best experience for their customers.

**Trend 3: Manual sales planning is out, statistical forecasting and price optimization are in**

Retailers can throw out their sticky notes reminding them of previous events. Clear their calendar reminders for past promotions. Let merchants focus on the art of analytics.

Different events, causal factors, promotions, merchandise and stores can create a big data problem. It’s about using analytics to drive decisions from big data with greater accuracy. Using a statistical forecast enables retailers to predict future demand. For new items and previous items, analytics can determine the significance of events and promotions and account for outliers and anomalies in the data. The statistical forecasting process automates the ability to account for promotions and holidays, giving merchants back more time in their day.

Statistical methods have also been proven to increase forecast accuracy by more than 50 percent. The increase can equate to a significant optimization in inventory, which leads to an increase in gross margin and profitability.

Gone also are the days of using business rules and product age to drive promotion and markdown decisions. Leading retailers are taking advantage of analytics to understand customers’ price sensitivity and to determine the optimal recommendation down to a customer or store level. Localized pricing strategies can drive 5 percent to 15 percent of incremental margin - profit that retailers are otherwise leaving on the table.

**Trend 4: Steer clear of the loser loop**

Retailers can have the most amazing assortment, completely tailored to customer preferences. But if the retailer doesn’t have the customer’s size in stock, it’s a lost sale – an epic fail. Traditionally, historical point-of-sale data has been used to determine what the size curve of a given product should be for locations. The problem is that if they didn’t stock the size, then they didn’t sell the size, ultimately creating a loser loop.

The other aspect here is the use of imputation techniques. Imputation might sound like a word out of a high school biology or genetics textbook, but don’t be scared. In statistics, it’s the process of replacing missing data with values. In this example, imputation is replacing missing sales due to a lack of inventory. Each time a store sells out of a size, it creates what is referred to as an out of stock. When stores have items out of stock, they miss out on sales. Sometimes this concept is referred to as lost sales. However, more advanced statistical imputation techniques can create a much more accurate result. For example, being able to take into account when in the product life cycle a stock-out occurred gives a much more intelligent perspective. If the location didn’t have inventory on hand, the next step is determining where the item was in its product life cycle. If the item was out of stock at a meaningful point in its life cycle, the lack of inventory could have affected the demand. The earlier in the life cycle this occurs, the greater the effect. But if the item was about to be marked down to clearance the next day, the fact that it was out of stock is actually a good thing.

Using analytics to determine the true size of demand for a given product down to a location level will ensure that customers find the right product in the right size. This process not only creates a better customer experience but also avoids markdowns, increasing overall profitability.
Trend 5: Personalization

The relationship between retailers and customers should be viewed as a two-way street. Customers are continuously giving retailers information in real time through their browsing and buying behavior – online and off-line. Today’s breed of customer expects that retailers will use this information to offer them the most relevant communications.

For example, women’s apparel retailer Chico’s FAS gathers information at many points – from customer-provided information to website activity to social media and in-store visits and purchases – to create a continuously evolving model of each customer. That’s each individual customer.

The customer can direct where and when she decides to receive contacts, when and how to act. She can do this anywhere, anytime, on any device, and the experience will be consistent. Information gained from each channel is reflected in every other channel – never lost or fragmented.

The retailer’s Digital Retail Theatre concept and model makes omnichannel retailing a reality and takes it to a diversity of digital devices such as interactive displays, mobile phones and tablets. Far more than just a modified website experience, it is retailing redefined. Boundaries are erased. Lines are blurred. There is no start or end to the experience. Customers have unprecedented options in their shopping experiences as well as their relationship with the retailer – delivering an omnichannel experience that is powerful for its real-time relevance.

Where technology was once viewed as depersonalizing the human experience, analytics is bringing personalization back in a new way.

Learn more

Learn more about how retailers are using analytics to redefine how they interact with customers, provide the right communications to suit their preferences, and succeed in the new omnichannel world in my book, *Style & Statistics: The Art of Retail Analytics*.

For insights from MIT Sloan Management Review research on how the retail industry is using analytics, start with the industry brief, *The Analytics Mandate: Helping Retailers Evolve*.

About the author

Brittany Bullard is a systems engineer for the retail and consumer packaged goods industries. She has nine years of experience in the retail industry - implementing, managing and designing solutions for allocation, replenishment, forecasting, location planning and assortment planning. At SAS, Bullard helps retailers drive profitability through the use of powerful analytics.