

Predictive modeling techniques used in marketing

ZyloTMtech

Customer Data & Analytics Blog

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The concept of [predictive modeling](#) has been around for decades, and it involves collecting data, formulating a statistical model, making predictions, and then revising the model as more data becomes available. It is only in recent years that the use of predictive modeling techniques in marketing has taken off- thanks to the abundance of customer data available. There is a wealth of internal and external data that data scientists and marketers can leverage to make predictions about customers such as the propensity to

engage, convert, buy, and churn. This post highlights two common predictive modeling techniques used in marketing.

Clustering models

In marketing, [clustering](#) models are used primarily for customer segmentation- identifying and grouping customers based on specific attributes. Organizations can collect and aggregate massive volumes of customer data from a wide range of sources including social media sites, smartphone apps, CRM platforms, and e-commerce websites. This data can be fed to clustering models which allow customers to be segmented based on not only demographic attributes but also behavioral patterns. And customer data can be segmented in hundreds of ways providing marketers an understanding of customers at a granular level. This detailed understanding of customers allows organizations to make accurate predictions about future customer behavior. For example, a luxury corporate travel company might first segment customers based on income, age, gender, and location. The company could use clustering models to further segment these customers based on behavioral patterns to make predictions such as:

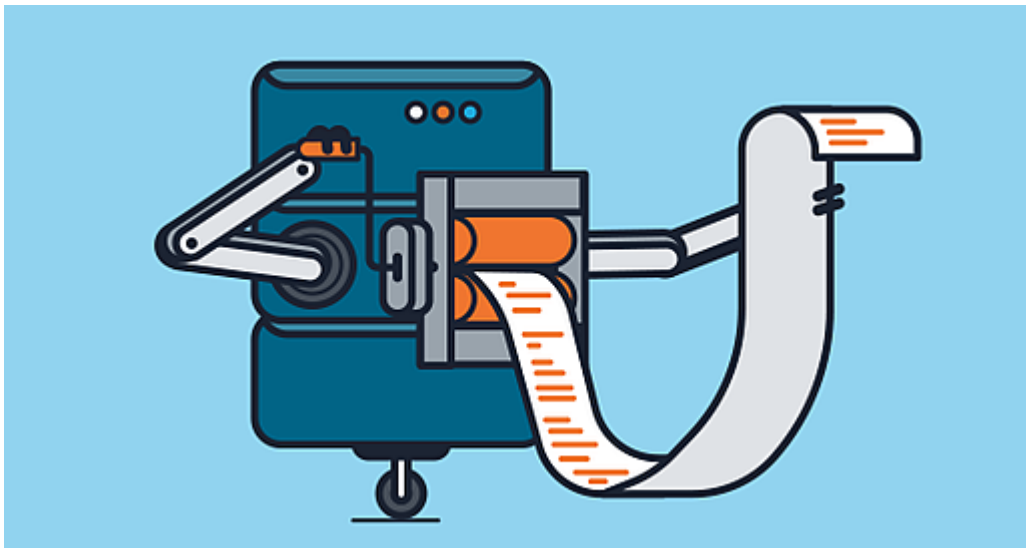
- The cities each customer is most likely to visit.
- The times of the year each customer is most likely to travel to those cities.
- The luxury hotels each customer would be interested in staying at the most.

Marketers can then create personalized marketing campaigns based on these predictions. To build a clustering model you need the [right algorithm](#). Standard clustering algorithms include [k-means](#) and [Gaussian mixture](#)

models (GMMs). Our customer data platform (CDP) features dynamic segmentation which updates marketing segments automatically as new information is ingested and analyzed.

Propensity models

Propensity models are statistical models that make calculated predictions about future events and outcomes based on the given data. There are many types of propensity models used in marketing



including predicted customer lifetime value (CLTV), propensity to churn, and propensity to buy. A customer propensity model typically provides a score that indicates the likeliness that a customer will perform a predicted action. The higher the propensity score, the more likely the customer will act as predicted. For example, a high-end clothing and accessories retailer could use propensity models to predict which customers:

- Have a high propensity to purchase accessories such as designer handbags or shoes.
- Are ready to purchase specific types of clothing like a cashmere sweater or silk blouse.

- Would respond to a personalized sales offer for any of the above products.

Some organizations build many propensity models that make predictions for a wide variety of marketing campaigns. Some organizations build one propensity model that makes numerous predictions which can be applied to multiple marketing campaigns. Organizations that build propensity models must regularly retrain those models so that they provide accurate propensity scores. Instead of building propensity models in house, organizations could implement a CDP that features [propensity prediction](#). Using a CDP like Zylotech, marketers can leverage historical and transactional data to predict customer behavior as well as the value of each customer.

Powerful tools for marketers

Predictive modeling techniques are powerful tools for marketers, but only if the models are fed quality data that has been cleaned and prepared for analysis. Quality data along with predictive modeling techniques allow organizations to gain valuable insights about customers that can be used to build highly personalized and persuasive marketing campaigns.

Janet Wagner is a Zylotech contributing writer.

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