High-Value Marketing AI Use Cases

Churn Prediction

Given that it costs 5-10 times more to acquire a new customer than to retain an existing one, it seems obvious that all businesses should engage in some level of churn prevention. Churn prediction is a relatively quick win with machine learning, and its potential value to an organization is staggering, making it a great proof of concept (POC) project.

> *In a subscription-based business, even a small rate of monthly/quarterly churn will compound quickly over time. Just 1 percent monthly churn translates to almost 12 percent yearly churn. Given that it's far more expensive to acquire a new customer than to retain an existing one, businesses with high churn rates will quickly find themselves in a financial hole as they have to devote more and more resources to new customer acquisition.*
>
> - Michael Redbord, General Manager of Service Hub at HubSpot,
> *Customer Churn Prediction Using Machine Learning: Main Approaches and Models*, KDnuggets, 2019

There are two complementary modeling approaches used to predict churn:

- **Machine learning model (short term action).** Develop a machine learning model to analyze performances that will enable short term actions. Based on the outcome of this analysis, marketing teams are able to undertake one-shot actions to reduce churn;
- **Analytical model (long term study).** Develop a model to understand the reasons causing the churn. This deeper knowledge allows to attack the root of the problem and to understand how to reduce churn.

In both cases, it is crucial to connect your models to relevant short or long term marketing-driven actions in order to attain churn reduction. In both modelling and marketing strategies, only a combined approach of mixing short term with longer term approaches will have an effective and sustainable impact on churn reduction.

Creating a Churner Profile and Identifying Churn Behavior

Churn analytics projects can be addressed by data science and marketing teams thanks to machine learning modeling (classification) with a defined target. The target is known in subscription business models while it needs to be defined in non-subscription scenarios. There are several considerations to take into account when identifying churn behavior:

- **Segmentation**. Segment your customers based on their behavior and address the question, "Which customers do we care about?" Only the best? The most valuable? Regardless of the answer, a churn reduction campaign should be targeted toward a well defined customer segment;

- **Compare to control population.** By understanding the variations in churn behavior, new customer classes can be created and refined. On one end of the spectrum, there are customers who interacted with the product at least once, but no longer visited afterwards. The other end of the spectrum includes customers who make frequent uses or purchases and are heavily engaged with the product. In this context, the definition of a "new customer" can be formulated along with an understanding of customer groupings;

- **What makes your churner different?** Data collected from the above analysis, when subjected to machine learning modelling, enables your company to discover differential patterns among churners and identify what makes your churners different from others.

Implementing the Churn Scoring Mechanism

Churn scoring is used to assign a score to customers that conveys the potential loyalty of the customer. Implementing a churn scoring mechanism relies on a pair of processes:

- **Find relevant features:** Customer features, such as social information and behavior-based actions, are used to paint a picture of who your customers are. Start the churn scoring process by finding the customer features that are the most relevant to your churn calculations;

- **Compute a churn score:** Churn score computation combines all relevant customer features to determine exactly how likely specific customers are to abandon your product/service. At this point, machine learning technology takes over — predictive algorithms are fed into Dataiku and the best one is selected. It is then deployed to calculate a churn score.

The process of churner identification and behavioral analysis involves expertise from both data scientists and marketing specialists: one party understands the customers whilst the other can measure & analyze behavior. At the end of this process, it is time to apply the information learned to the company's loyalty program. The output of a churn project is a dataset that contains the customer ID and an associated churn score. This churn score indicates the probability of the customer abandoning your product or service.

Churn scores enable data science and marketing to build business rules together in order to define customer segments. In order to achieve optimal results, the actions need to be customized based on your business requirements and your knowledge of customer behavior and expectations.

Finally, in order for your churn prediction project to be successful, you want to avoid one common pitfall: perceiving the model as a one-shot study. You won't do much with a single iteration of a churn model and you risk overlooking critical aspects in the project, such as scalability (applying it to grow larger customer bases) and reproducibility (replicating the same approach in future). Multiple iterations help you create a successful scalable and long-term strategy to retain and increase customer loyalty.