voicesense

CASE STUDY

CONFIDENTIAL INSURANCE COMPANY

Predict Post-Claim Fraud Risk

CONFIDENTIAL INSURANCE COMPANY (AUS)

THE CHALLENGE

AMP Insurance (Australia) had a high rate of disability insurance customers who claimed disability and continued to receive disability payments for years without returning to work. Naturally, this hurt the company's profitability.

Since customers that return to work stop receiving disability payments, it is within the company's interest to have those clients return safely to work. The company operates a large call center to help monitor the health and wellness of these customers—evaluating changes in their disability status, assessing their readiness to return to work, and offering work training and actual job positions.

The company discovered that there were two typical post-claiming behaviors associated with the disabled customers. Some are anxious to return to work as soon as possible, even though they'll have to give up the disability payments.

Others behave exactly the opposite—receiving disability payments and trying to extend this situation as long as possible without returning to work.

The main difference identified between these two types of customers was their personality. Therefore, AMP Insurance was looking for a tool that would help differentiate between the two personality types and also help them assess whether the customers that

object to returning to work do so due to their actual health state or due to their personality traits.

THE SOLUTION

As mentioned, AMP Insurance operates a call center that handles many phone interactions with these customers. The phone calls are recorded, and the company realized that these ongoing interactions could serve as an information source for the behavioral assessment. They decided to evaluate Voicesense and their behavioral speech analytics in assessing the willingness to return to work.

The Insurance Claim Predictor solution provides a risk classification score (probability) of the behavioral tendency, in this case of potential willingness to return to work after disability, based on analysis of the prospect's voice.

The objective of this evaluation was to assess the accuracy of Voicesense predictive analytics. The validation study consisted of 190 phone interaction recordings of customers receiving disability payments. The calls were from the initial claiming call, when the customers reported their disability and claimed the insurance payments. They wanted to see if analysis of this initial call could predict the future outcome of returning to work.

The recordings in the sample were historical calls from a period of several years prior to the evaluation, so by the time of the evaluation the company already knew which of the customers returned to work and who were still receiving disability. Consequently, each recording was labeled for its 'return to work' outcome (yes/no).

Voicesense received the call recordings audio from the company. According to predictive analytics best practices, the sample was divided into separate training and testing sub samples. The company gave Voicesense the 'return to work' labels (yes/no) only for the training sample.

Voicesense ran its vocal analysis with its machine learning modeling and trained the predictive model on the training sample calls. The model was then applied to the testing

sample and Voicesense gave the company the risk predictions of 'not returning to work' for the testing sample calls.

The company then compared Voicesense predictive classifications for the testing sample calls to the actual ' return to work' outcome.

THE RESULTS

Voicesense classified the risk predictions of not returning to work into three categories—Low, Neutral and High Risk. 47% of the customers were classified as high risk for not returning to work, 30% as neutral risk and 23% as low risk.

The results showed that the rate of 'not returning to work' among customers that were classified by Voicesense as High Risk, was more than two times higher than the rate of 'not returning to work' among customers that were classified by Voicesense as Low Risk.

The study provided strong validation to support the ability of Voicesense to predict post-claiming behavior through its acoustic speech analysis. The predictions were found to be highly significant statistically and very meaningful commercially.