

Mid-Sized Personal
Lines Insurer

Operations
United States

Guidewire Predictive Analytics

> Auto Underwriting Profitability Turnaround

Business Problem

Like many other personal lines insurer, a mid-sized insurer was struggling with the rising frequency and severity of auto claims. Large underwriting losses had been occurring since 2012. The company knew that adjustments to rates were necessary, but it couldn't make changes to the extent needed because the data was lacking.

As in other states, in 2015 the state regulator saw the need for rate changes to address the rising frequency and severity of claims. Rate changes followed in the coming two years, but they didn't keep pace with results. In 2015 the company reported an underwriting loss of over \$35 million in its auto business, a pattern which it regarded as unsustainable. To stem the tide and turn things around, the company needed a smart way to be more targeted in its risk selection and to reduce the growth of new business by as much as 20%.

Solution

The company's journey with **Guidewire Predictive Analytics** began nearly 10 years ago. Over the years, the company slowly implemented Predictive Analytics insights across its Auto and Homeowners lines of business. It began with the use of Generalized Linear Models (GLMs) and then advanced to using machine-learning techniques.

Using Guidewire Predictive Analytics for Profitability, the company developed a frequency model that scored incoming new business submissions in real time. The frequency model augmented the company's conventional rating structure with a score between 1 and 999, with high scores indicating good risks. Called the "Underwriting Index," this selection tool was implemented in 2016 after approval was granted by the state's Department of Insurance (DOI).



Navigate what's next.

“We are confident that the significant improvements in our profitability are due to the Underwriting Index and the more sophisticated rate plan we developed using Guidewire Predictive Analytics.”

–Senior Director of Actuarial

The frequency model and the related Underwriting Index did not adjust the rates but enabled underwriters to quickly identify unprofitable risks and decline up to 20% of new business. The company is leveraging its strategic partnerships with other larger insurers to underwrite the declined business.

While the submission and approval of the model that introduced the Underwriting Index took some time with the state's DOI, the technological aspect of implementation took just minutes to upload with the dimension of testing—amounting to an overnight process.

Results

The company saw results almost immediately after implementing the Underwriting Index in 2015. Underwriting reported a modest profit of over \$500K in 2017 compared to a loss of over \$24M in 2016. By the end of 2018, underwriting profit had risen to more than \$27M. The company attributes this improvement to the Underwriting Index and a more sophisticated rate plan implemented with Guidewire Predictive Analytics. The new frequency model, developed using Predictive Analytics, has positioned the insurer to find pockets of profitability that otherwise couldn't be determined. The new model has fundamentally changed its book of business, and the insurer is also noticing changes in the types and severity of the claims being reported. New business claims frequency has now become lower than the renewal frequency. Since the introduction of the Underwriting Index, the company has made several iterations to the model while using Guidewire as an advisor. Because Predictive Analytics is a cloud-based solution, model changes can be made very quickly.

Currently, the company is updating the Underwriting Index with additional third-party data and the introduction of vehicle-level factors to improve model accuracy. In addition, it plans to build and deploy new pricing predictive models for bodily injury, collision, and the mobile home line of business.

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