Small Commercial Data Pool Project—Leveraging Partnership

by Lori Walters, Gen Re, Stamford

Gen Re’s recently completed Small Commercial Data Pool Project leveraged the power of partnership to provide our clients access to the advantages of predictive modeling. This project—which included Building, Business Property, and Liability coverages for Small Commercial Package policies—enabled the participating companies to enhance underwriting results and achieve their unique market strategies.

Over the past two decades, the benefits of predictive modeling have headlined insurance articles on a daily basis. For many insurers, predictive modeling has delivered significant improvements in underwriting results through pricing accuracy, target marketing and underwriting process efficiency.

Despite the high rate of adoption in Personal Lines, relatively few companies have successfully deployed predictive modeling in the area of small commercial insurance. Most companies find themselves barred from the advantages provided by predictive modeling due to common barriers, such as sufficient quantity and quality of data, specialized actuarial and modeling expertise, the budget required to fund the analysis, and infrastructure to implement and maintain the models.

What if you could leverage a partnership to access modeling expertise and sufficient data, and reduce project costs as well? Gen Re’s recently completed Small Commercial Data Pool Project demonstrated the power of such leverage. In this initiative, Gen Re partnered with existing clients and Pinnacle Actuarial Resources to develop refined loss cost...
models based on a voluntary pool of detailed exposure and loss data for Small Commercial Package business. The project accomplished the following:

> Pooling data created the scale needed to use advanced predictive modeling.

> Predictive modeling expertise was accessed to develop the models and validate results.

> Results feedback was structured to implement near and longer-term action plans for greatest utility.

**Results**
The resulting data pool consisted of nearly $2.5 billion in earned premium over five policy years, and represented a broad set of risks across 48 states. The breadth of pooled loss experience was leveraged to develop loss cost models by coverage, and a wide variety of traditional and non-traditional rating characteristics were considered as potential predictors of loss. The resulting models were found to be highly predictive and demonstrated a 25-time difference in loss costs, comparing the best-performing to worst-performing segments.

Data Quality
Data quality and standardization is both at the core and the most challenging aspect for this type of project.

It is critical to have high-quality, consistent data, in sufficient volume and detail. Many in the industry are going through systems replacement initiatives and understand the difficulty and cost of consistently capturing information. Pooling data across companies and systems presented additional challenges of understanding, communicating and verifying data element differences so that standardization could be done to maximize the data availability.

We believe this portion of the project was key to the success of the Small Commercial Data Pool’s model development. Based on the extensive insight developed during this process, customized feedback was structured for each participant to improve data quality and governance to enable more accurate reporting and analytics.

**Data Capture Feedback**
Improvement in data capture and exposure characteristics presents significant opportunity to improve underwriting results through more accurate and granular pricing.
All companies face the challenge of balancing process optimization with maximizing the return on investment, and it is difficult to monetize the gain from improving data. As demonstrated in the Small Commercial Data Pool results, there is significant lift available in pricing results by incorporating new, non-traditional rating characteristics.

Although no sole participant provided every rating characteristic, by leveraging the pool, the participants are now able to quantify the amount of differentiation and return on investment provided by these new, statistically significant rating attributes.

Results Validation
Results interpretation and validation are critical to assess the model’s effectiveness at predicting outcomes for a new or future set of policies.

Model validation assesses the accuracy of the model’s predicted loss costs and the amount of lift the model provides in differentiating loss costs. Best practice is to perform model validation on a “Holdout” set of data, which was not used to develop the model.

In Gen Re’s Small Commercial Data Pool, 40% of the pool data was randomly “held out” to assess the model’s performance. In addition to validation results on the pool’s “Holdout” data set, each participant received validation results specific to their own unique data, as well as output sufficient to assess the amount of lift and return on investment the pool model provides over their current rating plans.

Predictive models can provide detailed insight on a book not otherwise accessible through traditional pricing methods. However, accessing the data and expertise needed to do the work is not easy for companies of all sizes. Leveraging partnerships can provide another way to achieve your goals.

About the Author

Lori Walters is a Predictive Modeling Manager with Gen Re’s Decision Analytics team, based in Stamford. She may be reached at 203 328 5481 or lori.walters@genre.com.
More Gen Re Research

Here are some recent Gen Re Research publications and blog posts. You can search on genre.com for these titles:

- U.S. Wildfire Risk Continues to Rise (October blog by Martha Flanagan)
- FAA Introduces New Regulations for Commercial Use of Drones (September blog by Ridge Muhly)
- The Drive Towards Fully Automated Vehicles Continues (September blog by Charlie Kingdollar)
- UM/UIM Updated Law Survey for Third Quarter 2016 (E-News Email to Auto clients)
- Workers’ Comp—Positive Results While Facing a “Transforming” Landscape (August article by Bill Lentz and Diane Brown)
- Crumb Rubber—Is It on Your Radar? (July blog by Andrea Garcia)
- Umbrella Loss Segmentation - Trends for Better Insights (July blog by Liz Kramer and Maria Slowinski)
- Cyber Education—10 Facts That Sell Cyber Insurance (June article by Mindy Pollack)
- Do I Have Additional Insured Coverage or Not? (June article by Tressler LLP)
- From Cyber to Construction to Cars—Delevopments Affecting Your Business (May article by Matt Burns, Jill Tumney and Mindy Pollack)
- Commercial Umbrella Lesson From Losses—Segmentation Insights (May article by Matt Burns and Liz Kramer)
- Is This Auto Claim Covered?—The Ridesharing Challenge (April article by David Hurt)
- School Liability—Student Athlete Concussions (April article by Charlie Kingdollar and Jeffrey Weisel)
- Apartment and Condo Pools: Staying Afloat With Commercial Umbrella Insurance (March blog by Maria Slowinski)
- Predictive Analytics in Workers’ Comp (March article by Bill Lentz, Gary Tamburri, Lori Walters, with Stan Smith of MillimanMAX)

The difference is...the quality of the promise.