Is Predictive Analytics a Game Changer for Underwriting in Homeowners’ Insurance

By Wendy Hopfensperger

Recently, the CEO of a global insurer compared declining investment returns to one of the biggest catastrophic weather events. “The lack of investment income continues to be an issue that the industry hasn’t fully addressed,” the CEO said. “We call it ‘the hidden catastrophe,’ equivalent to more than a Katrina-sized hit to profitability every year relative to the long-term baseline.”

In order to counter low investment returns and weather-related losses, there is a growing need to better understand and manage risk in the homeowners’ insurance market. Insurance executives dealing with an uncertain economy are increasingly turning their attention to underwriting to drive profits and protect surplus.

Numbers do a good job of telling the story in the homeowners’ market. According to Marsh’s 2012 “Insurance Market Report,” catastrophic events, which totaled more than $105 billion in insured losses, made 2011 a record-setting year. Historically, homeowners’ insurance has
proven to be much more volatile when compared to personal auto. According to A.M. Best and the Insurance Information Institute, homeowners’ combined ratio swung from a high of 158.4 percent in 1992 to a low of 88.9 percent in 2006 – that’s a 69.5-point swing. Compare that to the swing for auto insurance with its highest combined ratio of 109.5 percent in 2000 and a low of 94.3 percent in 2004.

Volatility aside, the average combined ratio for homeowners’ carriers from 2008 to 2011 was sitting at 113 percent, compared to 102 percent across all property/casualty lines of business.

While carriers continue to mitigate weather losses by geographically dispersing and diversifying risk exposures, historical results beg the questions of whether current risk management practices are sufficiently effective and whether carriers have a good understanding of the risk exposure they are writing. With more emphasis on risk management as catastrophes get bigger and worse, carriers have to ask themselves if they are managing their risks well. Companies have responded by focusing on their risk concentration, or by buying aggregate covers.

But is the homeowners’ market plagued by a problem that can be solved with reinsurance? Is there a deeper issue with risk selection? This naturally leads to a strategic focus on underwriting performance. But why is it so hard to achieve superior underwriting today?

Homeowners’ carriers face challenges in underwriting as they struggle to understand the risk profile of the properties they write and renew from year to year. The magnitude and volatility of historical combined ratios support the notion that unacceptable property and liability risks are being systematically accepted and retained through the underwriting process. Additionally, properties are being renewed at insurance-to-value levels well short of 100 percent, causing premium leakage and negatively impacting combined ratios.

This confluence of market realities is driving carriers to search for new methods to improve their homeowners’ portfolios. Some carriers are implementing rate increases and geographic retraction, and many are turning to the use of predictive analytics as a promising technology to help improve underwriting, claims, and marketing.

Predictive analytics uses statistical and analytical techniques to develop models that enable accurate predictions about future event outcomes. Predictive models can take various forms, with most models generating a score that indicates the likelihood that a given scenario will occur in the future. Mining data in order to identify trends, patterns, or relationships is a key component of building predictive models. Predictive analytics enables powerful and sometimes counterintuitive relationships to emerge among data variables that otherwise may not be readily apparent, thus improving a carrier’s ability to predict the future outcome of a policy.

**How is Predictive Analytics Used in Homeowners’ Insurance?**

The use of predictive analytics in homeowners’ insurance has steadily increased during the past several years. A majority of homeowners’ insurers have used predictive analytics for making rates, assigning rate plans, and qualifying price discounts for many years.
The most widely known use of predictive analytics in personal lines is the use of credit scores to predict future loss-ratio performance and likely behavior of the insured. Carriers are also integrating predictive models for claims handling to predict overall severity, early fraud identification, and litigation risk. Marketing departments are taking the lead from financial services organizations to analyze consumer purchasing patterns and other behavioral attributes through the use of predictive models.

Most recently, leading carriers are taking advantage of predictive analytics in underwriting in order to more accurately predict future performance of homeowners’ policies. The fundamental problem many carriers face is the lack of reliable data on the homes they insure. Using predictive models enables carriers to focus underwriting efforts on homes that are likely to have an insurance-to-value deficiency and a condition and/or liability hazard. This allows a carrier to charge the amount of premium commensurate with the risk on the policy.

**Predictive Analytics Helps Carriers Know What They Insure**

It's too early to say whether predictive analytics in underwriting is the one game changer that will successfully address systematic risk selection problems in homeowners’ insurance. Taking cues from personal auto, predictive analytics does offer a better, faster, and cheaper method for underwriters to assert more control over their portfolios’ performance. With recent data and technology advancements, carriers of all sizes can compete on a more level playing field because it is now possible to counteract the unpredictable homeowners’ market, gain a competitive advantage in underwriting, and improve operating performance.

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