

For Insurance, Predictive Modeling Will Surpass Human Judgment



Predictive modeling will surpass human judgment.

Predictive modeling will surpass human judgment and lead insurers to adapt a data and analytics insurance business model. This is according to sources in my recently published covering the latest in predictive modeling.

Published in the March/April issue of *Actuarial Review*, [Predictive Prudence](#), also covers how the new business model works, impediments limiting predictive modeling to reach full potential and data ethics.

Despite continual issues with data quality, information accessibility and regulatory considerations, predictive modeling is already demonstrating its power for guiding executive decision making, sources explain. As property-casualty insurance companies grow smarter in addressing predictive modeling barriers, some forward-moving carriers are already finding that predictive modeling can provide probability insight for decision-making and encourage measurable accountability.

Transitioning from a human judgment-based decision making to one based on models is not easy. The idea that predictive modeling will surpass human judgment is a threat to employees comfortable with traditional approaches. It is not surprising that internal pushback is a major reason why many insurance companies struggle to adapt to the new business model to remain competitive.

The idea that predictive modeling will surpass human judgment is a threat...

This article is part III in my series on the latest in predictive modeling. I am thrilled to see it spur discussion on [Actuarial Outpost](#). The intent of three part series was to update actuaries on predictive modeling applications for varying lines and purposes. The first article covers [growing data availability](#). The second one discusses the great [modeling experimentation](#) taking place for applications.

Here's the summary of the three articles:

1. **More data is available.** Ensuring data quality and obtaining enough of the right data to answer a question continues to be a growth area, especially for some commercial lines. Additional data is still needed.
2. **There are hundreds of potential models.** Actuaries and other quantitative professionals are experimenting with different ones to determine which will provide the most insight.
3. **Classic predictive modeling** through generalized linear modeling and decision trees are finding new applications. Concurrently, models beyond those, such as neural networks and gradient boosting, remain in the experimentation phase. There are traces of evidence that such models are being used in the real world.
4. **Predictive modeling will surpass human judgement** as it moves from specific, functional applications. Four years ago, I saw this potential and called it "integrated predictive modeling" in [an article](#) I wrote for the American Academy of Actuaries' *Contingencies* magazine.

Modeling Nomenclature

As a professional communicator who writes about actuarial topics and has worked with actuaries for 25 years, I urge the actuarial community to develop and adopt consistent nomenclature. Common nomenclature is unifying and quite practical. It is cumbersome to define terms just to have a conversation.

For example, I reluctantly choose to use the term "advanced modeling" to describe models beyond GLMs and decision trees because other terms are clunky. It's not a perfect term, I know.

Agreeing upon nomenclature will not only improve communication among actuaries, but the lay professionals that hire and depend on actuaries. Further, classifying models by type or family would also aid discussion.

Another Article Coming!

In the coming months, I will also be publishing a piece in *Actuarial Review* describing how actuaries are addressing cyber insurance.

Question: Do you think predictive modeling will surpass human judgment for insurance decision-making? Please let me know by commenting below.