

Insurance

## Five Questions With: Jose Trasancos

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Jose Trasancos, senior vice president of research and product development at Pawtucket-based Narragansett Bay Insurance Co., has 27 years experience in business analysis, among other things.

Trasancos was recently asked to make a presentation on personal lines pricing strategies at the Casualty Actuarial Society Rate Making and Product Management Seminar in Chicago.

He answered a few question about predictive modeling and the competitive advantage it can provide for companies such as Narragansett Bay Insurance.

**PBN: What is “predictive modeling” and how is it used today to determine rates for personal lines of insurance?**

**TRASANCOS:** Predictive modeling can be generally defined as the development of a statistical model of future behavior. The objective of any predictive model is to reduce the uncertainty associated with the assessment of risk on both general and specific levels. Predictive modeling techniques have been used to develop very granular classification and rating systems. Classification, also referred to as tiering, has largely replaced underwriting in the traditional sense in that predictive models have defined many groups of experiential homogeneity. These groups set the amplitude associated with price. Within these groups, predictive models (often of different analytical forms) have produced pricing algorithms and factors that apply the slope associated with price. Predictive modeling enables the adjustment of both classification factors and rating factors for the influences of correlation and interaction among variables and attributes, a source of inaccuracy in older rating plans. There are many different techniques and methodologies that can be brought to bear on the classification and pricing of insurance risks, but the components (separating amplitude from slope) and the objective (reduce uncertainty) are the same.

**PBN:** Is predictive modeling changing how traditional underwriting is performed within insurance companies?

**TRASANCOS:** Absolutely, the underwriting function is changing as a consequence of predictive modeling. As previously implied, the underwriting process seeks to identify a group or

groups of experiential homogeneity. Predictive modeling enables the identification of many such groups, to the point where the separation between the groups becomes quite small and the classification model looks more like a continuous model than a step-wise model. The model itself can be expressed as a series of classification rules, allowing for automation. That automation dramatically reduces the frictional costs associated with the acquisition of new business without the process and data inconsistencies associated with desk underwriting. Underwriting professionals are then free to become involved in functions and tasks that have much greater leverage to the business, such as working more closely with agents on portfolio management and the development of marketing plans. Predictive modeling has been a key instrument in a much more logical division of labor across the industry – let the computer apply the rules and let the underwriters apply judgment. Software doesn't think, but it does a wonderful job of applying rules.

**PBN:** Besides being used to determine price, what are the other benefits of predictive modeling?

**TRASANCOS:** Predictive modeling can deliver enormous operational benefits. Many companies apply predictive modeling to things like fraud identification, process optimization and the consumption of survey and underwriting reports (third-party data). Predictive modeling is also tremendously useful in improving our collective understanding of consumer behaviors like retention.

**PBN:** Has the focus of predictive modeling been more on auto insurance than on homeowners' insurance?

**TRASANCOS:** Yes, companies have invested more in private passenger auto from an analytical standpoint, although we're starting to see some changes. There may have been an assumption among many in the industry that the inherent variance for homeowners is less than for auto, but I believe a rapidly growing number of analysts are noticing the potential benefits and improvements available in homeowners and other property lines.

**PBN:** In terms of predictive modeling, how has the industry evolved over the past three decades?

**TRASANCOS:** Predictive modeling in insurance was in its infancy 30 years ago. Robert A. Bailey published a paper titled "Insurance Rates with Minimum Bias" in 1963. It took some time for this numerical technique to catch on, but one should look at this as the start of something big. Minimum bias was an effective technique for adjusting rating factors for correlation and interaction with other rating factors, but it was significant in another dimension: Bailey's paper and the minimum bias technique were thought-provoking and prompted professionals to think differently and unconventionally about our business. Advances in statistical and numerical methods, coupled with advances in technology and computing power have brought predictive modeling capabilities within reach of every insurer willing to embrace them. Better questions, examined with better and more thorough methods and tools, lead to better answers. Today, predictive modeling is the canvas for that painting.