Top Producer Propensity

Deploying a predictive modeling solution lowers "opportunity costs" by 63% or $16M

As the volume of business surges, so too, are the challenges associated with appointing the right distributors – whether independent or own agency force. The list of standards and regulations for newly appointed agency force is long, and the learning curve is steep. Yet many insurers continue making appointment decisions using "gut feel". Could data science help making these decisions more informed and minimize the risk of appointing a wrong agent/agency? Moreover, as we are about to invest in the producer product education and training, how can we predict which candidate is likely to become a successful top-performing producer for the carrier?

A leading P&C insurer knew that their agency selection process is expensive, cumbersome, and doesn't scale for the growth the CEO demanded. Their internal agency management resources were spread thin across a huge candidate pool, at times "over-assessing" distributors regardless of their true potential. Yet, the client was still experiencing costly "mis-appointments", where candidate agencies with a low propensity to succeed as a "top distributor" were often selected.

GOALS	APPROACH	RESULTS
Prove power of data science	• **Define the meaning of a "top producer"**	• 10 weeks from whiteboard to results • Achieved overall model predictive accuracy of 79.61% • Reduced agency appointment cycle from 4 months to 6 weeks
Optimize model for best fit	• **Identify predictors for "top producers" and quantify their effect**	• Quantified potential profit opportunity savings of $16m = to NB premiums from newly appointed agencies
Estimate uplift benefits	• **Quantify uplift from an improved distributor selection process**	• Key predictors - book of business, change in agency ownership, agency experience and tenure, producer experience and number of full quotes
	• **Recommend operational improvements**	• 9 insights (5 are counter-intuitive) • 8 improvements to streamline agency selection • 6 new factors to include in the production model • 6 opportunities to enhance data availability and quality • Unique approach to modeling producer-level behavior

In executives' own words:

"We are going from an anarchy to 80% certain appointment decision. This is revolutionary"

– Chief Executive Officer

"A distributor appointment process doesn't need to be the American Ninja Warrior style"

– Head of Distribution Management

OPERATIONALIZING & COMMERCIALIZING RESULTS

1 **Productionize the model**

While the Phase 1 model offered a great deal of insights into the effectiveness of the existing agency appointment processes, in order to make sound management decisions, the model needs to be fully productionized.

2 **Model producer-level behaviour**

We utilize unique sentiment and machine learning modeling techniques and takes advantage of agents and agencies acting in the digital/social community to overcome common challenges related to internal structured data availability and quality

3 **Operationalize the solution**

Once a complete solution is built, tested and accepted, it is integrated with business operations by applying consistent and sustainable changes to the existing operating model

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