

# Unlocking the potential of pricing analytics in the P&C insurance industry



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### Introduction

For anyone who has been around the insurance space for a significant amount of time, innovation has been rather scarce up until recent years. Tech-fuelled innovations in areas such as underwriting, claims management, fraud detection or new insurtech models only emerged fairly recently. Pricing is even more of a different story, being both a core and highly regulated process. Naturally, technological innovations such as Artificial Intelligence and Machine Learning are now used by a number of pricing teams but - and this is a key but - on an exploratory basis, with a try and learn approach that cannot be used in production nor filed for regulatory purposes. Which is, let's acknowledge it, one big limit. The very core of the pricing process has indeed largely remained a 'dark niche', mastered by few technical experts, mostly using manual legacy tools.

Why is this changing?

Structurally, the market environment has been shaken up, calling for new value creation and differentiation levers: low interest rates, rising competitive pressure from GAFAs and disruptors, evolving customers standards along with the rise of insurtechs. (See our position paper: 'The Transformation Imperative for Insurers')

All hell broke loose with COVID-19, an unprecedented accelerator of change. To reference just one data point: a whitepaper by Salesforce<sup>1</sup> predicts that the insurance market will contract due to an expected global GDP decrease of at least 5.2%. Coming out of the pandemic, insurers are likely to face hardened market conditions.

To stay afloat in this 'New Deal' era, insurers need to explore undisrupted areas to unlock value potential. Pricing sophistication is one of these next new frontiers, and as a matter of fact a very luring one when well executed. One that is also quite untapped to date given the unique pricing requirements of the insurance sector.

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<sup>1</sup> Building the Bionic Insurer: Coming out of COVID-19 Better, Faster, Stronger

## The tricks-not-treats of insurance pricing

Like in all sectors, pricing in insurance is at the heart of business decisions, but there are several factors that make the pricing process very specific in the insurance industry:

- Costs are unknown when setting a price: when an insurer sets the price of an insurance policy, they have little certainty about what the cost of that policy will be. They will find out at best 3-4 years down the line, after claims have occurred with various levels of frequency and severity.
- Adverse selection risks: an insurer that underestimates the risk profile of a subscriber, and underprices their policy accordingly will attract not only one, but virtually all the risky profiles in the market. The lopsided share of bad profiles that they attract, as well as the time that will pass before they realize it and the costs materialize, generate a disproportionate impact of that pricing error, compared to other industries. Without mentioning that insurers struggling with adverse selection are making their competitors more profitable.
- Regulatory constraints: insurance pricing is heavily regulated, with the nature and depth of regulations differing by market. Requirements include filing obligations, retail margin control over technical prices, number and type of variables that can be used and the list goes on. The level of scrutiny borne by insurers makes pricing a highly sensitive topic, calling for utmost accountability and thus, transparency.
- Distribution constraints: intermediated insurers need their pricing strategy to be as transparent and explainable as possible to their agents, to maximize their willingness to adopt these strategies
- Repricing imperatives: risk and demand-based pricing components are subject to alterations. While major phenomena, such as natural disasters or economic crises may significantly alter customers' risk profiles, the demand component is structurally subject to more repeated and material changes. Ongoing changes in behavioral patterns and price sensitivity call for an almost continuous review and adaptation of policy prices.
- Conflicting injunctions: increasing portfolio performance standards imply ever more sophistication in rate modeling parameters (more variables, integration of behavioural data etc.), to optimize GWP and loss ratio. Conversely, User Experience-focused strategies require simple quoting and subscription processes to maximize conversion in a minimum of clicks, implying fewer questions asked to customers and therefore less information gathered.

## The many challenges of a robust pricing strategy

Insurance pricing is both art and science.

Its specificities tend to make it a "dark niche", mastered by a few chosen ones, notably actuaries, a sacred profession in the insurance industry. As a result, decision drivers leading to rate computation can be foggy to the laymen.

Because the need for transparency is so enshrined in the rate making process, innovation has shied away from this space for many years. Ancient-looking manual tools are the norm. Prices are commonly updated once a year at best, at a prudent pace with lengthy time to market: 8 months to update the price of a car insurance policy, a year to launch a new product on the market are not uncommon data points.

The emergence of Artificial Intelligence (AI) and Machine Learning (ML) techniques like GBMs (Gradient Boosting Machines) or Random Forest paved the way for speed and performance gains. But, and this is a huge but, applying these classic AI/ML techniques to pricing encounters major limitations because of the blackbox nature of such algorithms. That is why these types of models are often used for exploratory purposes, but not in production, given the unacceptable adverse selection and regulatory risks induced.

Delivering pricing sophistication is undeniably a complex challenge, though not impossible!

## Pricing analytics can overcome these challenges and be the next value reservoir for insurers

How can that be done? Two main boosters stand out to unlock the value of pricing sophistication:

- The first one is becoming an industry norm: the ability to harness data, whether internal or external, to embrace data-driven pricing. Data sources are multiplying. Telematics allow insurers to capture new data, with greater accuracy and granularity. Technology provides the ability to see not only how individuals drive their car, but also under what circumstances - traffic, road conditions, time, mood etc. That combination of information is a more powerful predictor of insurance losses than pure demographic information such as age, gender, marital status, or where the car is garaged. Hence, the opportunity to get more granular in how prices are set is a win-win combination for both the carrier and the customer, reducing risks and losses.
- The second booster is using AI and ML powered algorithms in production. The key acceleration and success factor is to move from exploration in data labs to the production stage, to leverage the power of AI at scale and generate sizable business impact. This is where Transparent AI comes into play. Transparent AI-powered algorithms harness the power of AI while preserving complete control, auditability and transparency over the models created. Transparent AI uniquely combines actuarial and data sciences, generating models that are production-ready, based on standards that actuaries know and use: Generalized Additive Models (GAMs) and Generalized Linear Models (GLMs).

### **Wait, there's more to successful pricing sophistication than that**

Remember how insurance pricing is both art and science?

Well, let algorithms take care of the science, and pricing teams perfect their art.

Indeed, the pricing sophistication journey calls for broader considerations:

- Automating data driven processes like rate modeling to gain speed-to-accuracy calls for the best in class automation tools, with built-in transparency and the ability to go into production.
- It also calls for a renewed and augmented role of pricing teams, with less time spent on repetitive, manual modeling tasks and more focus on value added business input.
- The augmented role of pricing teams will empower them to gain business relevance and impact across the organization, leveraging the value and best practices of AI-based solutions.

## Bottom line: what's really in it for insurers and policyholders?

Embarking on the pricing sophistication journey is a win-win for insurers and end-customers.

An insurer's pricing sophistication journey gradually evolves from the use of GLMs for risk modeling, to building demand-based pricing capabilities, running 'what if' scenarios, all thanks to best-in-class pricing automation tools used in production.

As insurers progress along this journey, they unlock GWP and loss ratio improvement potential, through performance, speed and reliability gains, increased predictive power and accelerated time-to-market. McKinsey<sup>2</sup> has estimated the impact of the pricing sophistication journey on insurers' loss ratios: the first step, the consistent application of GLMs, yields up to 1.5pp for acquisition and 0.2 to 0.5pp for renewal, while full-scale pricing transformation can generate a whole 3 to 6pp in loss ratio improvement. This comes along with 3-4% additional GWP growth through better acquisition and retention performance.

Sophisticated pricing solutions empower insurers to make the best-informed conscious business decisions, based on reliable and robust outputs. Down the road, policyholders are most likely to benefit from higher personalization through more targeted and better-adjusted prices, accounting for their behaviours, usage patterns, price sensitivity and such factors. The level of understanding and precision brought by such solutions also means greater transparency made possible from their insurer, a decisive factor to (re)build trust in an industry that suffers from a great lack of it. What else?

## Conclusion

No insurer would dispute the core importance of pricing within their strategy. Just like no insurer would dispute the irreplaceable strategic value of pricing teams. Yet pricing teams are largely under-equipped, too often relying on ancient manual tools to work their magic.

Pricing sophistication can address this paradox, opening a crack into a major and vastly untapped value reservoir for insurers. This journey comes with the will to embrace a renewed vision of the importance of pricing in the data & tech era. It also calls for adapted rate modeling tools leveraging AI with all insurance pricing constraints in mind. These will be game-changers, empowering the organization, with pricing teams sitting in the driver's seat, allowing the power of AI to graduate from data labs to production status for maximum impact.

In times of unprecedented uncertainty, sophisticated pricing teams will empower insurers to quickly react and adapt to changes and make the most of them.

That is if insurers want to stay in the game. Let the Insurance Hunger Games begin!

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<sup>2</sup> The post-COVID-19 pricing imperative for P&C insurers