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Pricing modernization:

an investment in profitable growth

September 2023

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The insurance industry has been silently embarking on a new wave of modernization: pricing modernization. Having made investments in their core technologies and architectures, carriers are now looking for ways to harness more benefits from those large investments. At the same time, a wave of new pricing platforms such as Earnix, Akur8, Quantee, and Guidewire Predict are entering the market, competing alongside stalwarts like Towers Watson.

Carriers are already facing a myriad of other profitability challenges, such as high inflation, increasing reinsurance rates across the industry, and growing regulatory pressures to limit rate increases. With the added obstacle of the current pricing trend, carriers are primed and ready to seek new ways to maintain and even increase profitability.

This paper will outline what pricing modernization is, why it is important to invest in this transformation now, and how best to elicit the highest returns from an investment in pricing modernization.

What is pricing modernization?

The majority of insurance carriers today are pricing their business, either through in-house pricing teams or external consultants. Pricing is, after all, critical for insurance organizations. However, like any function, pricing has the ability to evolve and improve substantially. Pricing modernization is the means by which the industry can make insurance pricing faster, smarter, and more personalized.

Of course, this does not necessarily mean driving each of these facets to the leading edge, but that a carrier can improve upon what it does today to do it better tomorrow. Carriers should assess their existing capabilities, skill sets, and goals, and then use these to devise and embark upon specified modernization plans that meet their budgets.

Throughout this paper, we use the following to define and explain rating and pricing:

Rating: The process by which price is calculated for a specific risk, usually determined by a rating engine integrated into a carrier's core policy platform

Pricing: The process of developing a model or models that will be used by a company's rating engine

Faster pricing

The logical end state of speed is real-time rating—with up-to-the-minute pricing adjustments based on data such as market demand, supply, weather conditions, and any combination thereof—so there's zero lag between price development and rate deployment, and rate-change frequency becomes near infinite. While this may be a utopian concept on the whole, *faster* can, in fact, be achieved by **reducing the gap** between developing rates and deploying them to customers (e.g., going from 30 to five days between pricing and deployment), as well as by **increasing the frequency** of these rate changes (e.g., going from deploying four to 12 rate changes a year).

Carriers typically develop their pricing based on the information available up to that point in time, as well as their judgment about future conditions and expectations. The longer the gap between development of pricing and deployment of rates, the older the data being used to estimate pricing becomes, and therefore the less likely that their assessments will reflect the current environment—all of which work to reduce the accuracy of the price.

Additionally, increasing the frequency of rate changes helps ensure calculations reflect up-to-date information. This generally requires carriers to quickly access data and adjust for any new and relevant insights.

Given today's increased supply-disruption risks, inflationary pressures affecting claims costs, and overall global uncertainty, the push toward revising the rating process in order to allow carriers to respond quickly is even more relevant.

Regulated lines of business can be another impediment to achieving true real-time pricing; however these should still be considered when assessing how to develop and deploy faster pricing and rating. While carriers don't have control over the time it takes to have filings accepted, they can nevertheless play an active role by speeding up their pricing analyses and cutting down on time spent preparing exhibits for filings. And once rates are approved, carriers can usually further reduce the time it takes them to deploy those rates to customers. Moreover, as more jurisdictions move toward file-and-use systems, even regulatory filing gaps should be reduced.

In order for carriers to become faster, they must have the resources needed to obtain and analyze the relevant data, and then use these findings to create and deploy their pricing models into their rate engines with less lag. Therefore, investing in tools that hasten data-assessment is crucial to reducing the time to develop new pricing models. In turn, more tightly coupled rating engines and modelling tools can reduce deployment periods—and therefore the lag before insurers can make use of those updated rates—and cut down on any possible errors, too.

Smarter pricing

Insurance is one of the only industries in which an organization must set prices prior to knowing the full costs involved. While goods and services can easily be priced according to the respective costs of material and labour, insurance is typically priced based on the likelihood—and likely size—of a future loss. Therefore, rating continues to be an exercise in attempting to predict the future. Smarter pricing, therefore, should have as its goal anticipating losses with better accuracy, thus better enabling carriers to charge prices more closely reflective of the risks they're undertaking. Here, separation between pricing and rating becomes particularly relevant. Models that establish pricing are bound by the technology, knowledge, and data utilized to develop them, and are subject to the randomness of future events. These models must also be able to be deployed and used in rating engines in order to be applied successfully to customer pricing. However, when the rating engine is not able to handle the sophistication of the model, there can be a loss in accuracy of the rates being used to calculate final premiums.

Actuaries and data scientists are continually pushing the boundaries of sophistication with gradient-boosted models, neural-net model ensembles, and other complex data-analysis techniques. However, to fully realize the benefits of these models, rating engines to support these ratings should be able to assess and rate individual customers within the framework of the models they're paired with. Therefore, when a carrier can develop complex models as well as rate with them, it will have achieved smarter pricing.

More personalized pricing

Revisiting the insurance-utopia scenario, the pinnacle of pricing would be to set an individual price per customer that maximizes premium volume and profit based on the strategic position decided by the insurer—that is, to optimize pricing—as well as to be able to tie in every possible cross-sell and upsell line of business. To appreciate the benefits of personalized pricing, let's consider a scenario in which there's a gap between a carrier's projected rate and the market rate: based on loss costs and expenses, the insurer's pricing algorithm may project that a risk should be priced at $50 upon renewal, but the insurer's competitive pricing model says the same risk would be priced at $90 if it were to go to market and face competition pricing. The question becomes: what do you do with the $40 difference? For example, given that we know price is a factor for consumers when deciding their insurance coverage, the carrier could simply charge $50—a 45% savings on the projected market-competition price—and have a very happy client. Alternately, pricing the risk at $85 could result in an additional potential profit of $35 and a client who is still somewhat happy—though, given that customers have considerations other than purely price, a savings of just 5% on the projected market rate may not be enough to retain the business. Personalization, then, is the ability of an insurer to set an individual price per policy and risk, based on the not just the risk profile of the policyholder, but also competitive market prices and demand profiles.

Most customers have multiple insurance needs—for example, one person might want policies for a house and a car. But whether there's a need for additional coverage (e.g., flood, increased limits) or products (e.g., umbrella, pet, cyber), knowing your customers and anticipating their unmet needs can drive new product development and the targeted marketing of those new products. This surgical precision in customer retention and policy expansion can deliver a much higher rate of return over traditional shotgun-style approaches to product development, marketing, and pricing.

Why now?

The last 10 years have seen a huge wave of investment in core technology transformation. For one, mainframe legacy systems continue to be replaced with modern core solutions. Additionally, infrastructure has moved from paper-based manual entry to connected systems in the cloud, using application programming interfaces (APIs) and microservice architectures. These modern core systems are also now allowing insurers to obtain their own data more easily and with greater granularity, and a higher abundance of third-party data providers are helping carriers to obtain and supplement this information more easily. Lastly, with stronger connections within the architectures themselves, rating engines can closely interact with modelling platforms, thus decreasing the time and effort needed to deploy rates and increasing sophistication of the rating engines themselves—and, ultimately, enabling more advanced pricing models to be used for rating.

This path to pricing modernization has started globally. For example, in the UK, a large volume of personal auto insurance is written through digital insurers and price comparison websites. As a result, insurers have responded with pricing strategies that emphasize agility and modeling competitor's rates. In some cases, insurers are building dynamic pricing algorithms that seemingly change daily. While this might not be optimized for the Canadian market, this is a proof point that the technology and skills exist to build a highly connected and agile rating engine.

How can a carrier best maximize return on investment?

A move to new technology is critical to enable a carrier's drive to higher sophistication. However, to truly maximize the return on a technology investment, an organization's people and processes should also be reassessed, with adjustments made as needed. An exploration of some areas to evaluate, with potential solutions, follows:

Technology

There is a clear gain from just having the correct tools and updated capabilities for a pricing team to build better, more complex models and deploy them faster. In order to devise ways to better integrate pricing and rating technology teams, carriers should assess these two teams themselves, as well as the overall technology department. Potential ways to proceed include:

- Exploring deployment processes and code management to enable faster rating changes and minimize deployment time
- Examining opportunities for reducing rating, testing, errors and deployment times through better path-to-production processes and more robust automated regression testing
- Evaluating additional use cases for modelling technology in order to seek ways to improve overall company capabilities

Processes

To best realize the potential gains that new technology can bring to an organization, it's crucial to evaluate the processes it supports and is supported by. For example, many carriers have large teams that specifically manage rate deployment and validation. Additionally, the data scientists and actuaries that build the models to develop rates are often affected directly by new pricing technology. Therefore, examining and re-evaluating these teams, roles, and processes can help ensure that potential gains from technology transformations are fully realized. Potential measures a carrier can undertake include:

- Reassessing roles and processes, from model creation to rate deployment—including verifying who is responsible for what steps, and determining whether some steps are no longer required in this more integrated architecture
- Evaluating path-to-production activities and, if processes that may slow down rate deployment are uncovered, challenging the status quo to seek a more efficient path
- Evaluating the efficiency of—and need for—existing error- and exception-handling processes to decrease investment costs (e.g., by avoiding rebuilding extraneous processes) and to extinguish poor behaviours and designs that may be associated with these potentially outdated processes from outdated technology

Business direction

Pricing teams can often be siloed, strictly guarding the profitability of a company by charging the correctly determined amount for the right risk. Though this will continue to be central to pricing, better technology and processes can offer pricing teams insights that they can then bring to the entire organization, helping other groups to be more efficient and forward-looking in their own business processes and pursuits. Other teams that pricing may be able to work with to advance the overall business include:

Marketing. Pricing teams can align with and inform marketing of target profitable segments, as well as marketing assessments that identify ways to funnel those target demographics. Ongoing collaboration can help ensure marketing campaigns and pricing initiatives complement each other.

Underwriting. Underwriting and coverage-availability rules are the gating around risks, with pricing teams assigning costs to everything that crosses that gate. As such, pricing teams should be involved in defining those gates, while underwriting groups should keep pricing teams apprised of the risks that require pricing.

Advanced analytics. Several modern pricing platforms include the ability to bring your own model; therefore, in addition to working with the pricing team, the advanced analytics group can help to more seamlessly integrate analytics models into pricing and rating processes.



Conclusion

Unlike other modernizations, which may be visible to the competition (e.g., new direct offerings, new distribution portals), pricing modernization goes relatively unnoticed. It doesn't involve fanfare, announcements, or press releases that carriers are investing in their pricing modernization. In those same unseen investments, however, the competition is also working to better identify risks and improve their ability to target the most profitable customers, and to respond more quickly to market trends—that is, to successfully grow their profitability.

Many carriers have already started to invest in pricing modernization. Over the next five years, they are expected to make large leaps forward, with pricing that is faster, smarter, and more personalized—and therefore more profitable. Moreover, assessing their current levels of sophistication and adjusting their short-, medium-, and long-term modernization road maps accordingly, these carriers are well on their way to identifying the paths they need to follow in order to get or stay ahead of the market.

With more and more carriers making these investments in pricing modernization, late movers run an increasing risk of being left behind and, ultimately, losing out on potential customers, failing to retain profitable customers, or keeping unprofitable customers, all of which can result in the continual erosion of profit.

Authors



Brad Middleton

Pricing and Rating Transformation Leader

bmiddleton@deloitte.ca



Harrison Jones, ASA

Actuarial Transformation Senior Manager

hajones@deloitte.ca

Deloitte.

www.deloitte.ca

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