

# Pricing and Reserving - Connective Layer for Multi-Line Insurers and Reinsurers

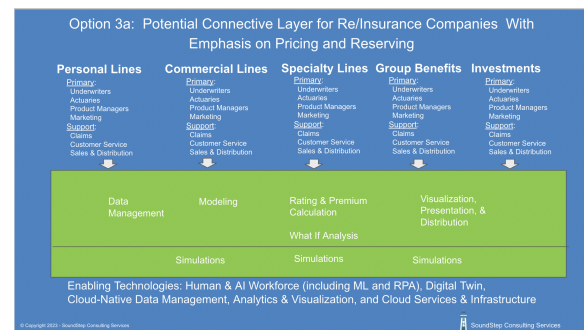
## Multi-Line Businesses

Multi-line insurance and reinsurance businesses have separate business units for each line of business. Each line of business will continue to operate in a different, although closely related, ecosystem. More often than not each business unit has its own dedicated set of underwriters, actuaries, risks and data analysts, and support personnel most of whom are involved in pricing and reserving. Each business unit also has its own set of product managers, marketing and sales professionals, and claims professionals - all of whom provide reports and support to pricing and reserving activities.

## A Connective Layer to Consider

There are several options for creating a connective layer in a multi-line insurance or reinsurance business. Two options that articles from SoundStep Consulting described are, a) *A Data Modeling and Visualization Connective Layer.*, and b) *An Underwriting Orchestration-Focused Connective Layer.* Another option is to create a *Pricing and Reserving-Focused Connective Layer* which leverages the transformative power of digital technologies to support two of the most important set

activities in any insurance and reinsurance company - Pricing and Reserving. This option is depicted in the Option 3a diagram below.



Note that in today's digital/AI and customer-centricity era input for pricing and reserving must also be gathered from sales and distribution, and customer service functions. The information to be gathered from the aforementioned functional areas are to enable modeling and analysis that accounts for policyholders and agents/brokers/advisors sentiment, potential reaction to premium adjustments and new rates, changes to market conditions and competitors' actions, and other items relating to price elasticity.



## Digital Technologies and AI

The enabling technologies required to implement the aforementioned connective layer include Machine Language (ML), Robotics Process Automation (RPA), and Artificial Intelligence (AI) in support of the business processes and workflows used by the workforce, Digital Twin for simulations (offline and/or in real-time) and Cloud-Native Data Management, Analytics and Visualization which are now provided by Amazon AWS, Microsoft Azure, Google Cloud, and several other Cloud Services and Infrastructure providers.

Cloud Services and Infrastructure are crucial to be able to support real-time, on-demand data acquisition, modeling, analytics and simulations from any location. The need to schedule with an internal IT department the computing power or storage space or to load and unload data for simulation must be replaced by Cloud Services provided on-demand by third party cloud providers.

## Pricing and Reserving Activities

In the Option 3a diagram below, the pricing and reserving activities are grouped into four areas that should resonate with seasoned pricing and reserving professionals, and with data scientists, data analysts, modelers, and visualization experts, most of whom are new to the industry. The pricing and reserving activities shown in the diagram are not new. Although certain methods and new techniques are applied primarily in the area of actuarial science and mathematics, most of these activities have remained the same for decades. Most of the activities were completed manually and with spreadsheets.

Today, most of these activities can be enhanced with ML, RPA, and AI. Simulations can be carried out in any of and all of the four areas. The new world where synthetic data and real-time data can be introduced to develop powerful simulations provides significant opportunities for the pricing and reserving activities - which leads to significant benefits toward achieving optimum pricing and reserving.



Models that in the past had to be unloaded from systems (to return computing power and storage to an internal IT department) and then reloaded when it's 'time to re-price and adjust reserves' can now reside in Cloud-Native databases that are accessible on-demand, at any time, and from any location.

Model to model comparisons or trending of experience based on the accuracy or inaccuracy of models can be analyzed. Fine-tuning of claims management can ensue based on more accurate modeling and analysis of loss experience, and fine-tuning of pricing (new and premium adjustments) can include new data impacting price elasticity.

In the future, industry regulations may be adjusted to accommodate dynamic pricing on products and services in order to enable insurers and reinsurers to utilize dynamic



pricing approaches and methods used by retail companies and consumer electronic companies. The regulations today are still restrictive especially for insurers who want to pursue embedded insurance opportunities.

## Underwriting Orchestration - Focused Connective Layer

The reader is advised to review the SoundStep Consulting Services' article on the opportunity to create an connective layer that focuses on underwriting orchestration within a business unit, and across business units.

## Additional Actuarial Activities

There are several other actuarial activities that can be enhanced by using digital technologies. These include, creating new models for new 'insurable risks', and updating existing ones each time a risk event occurs (e.g. hurricane), conducting economic capital modeling, creating internal models (e.g. credit rating), and modeling of catastrophes and incremental pricing that must be added to the premium to provide adequate coverage for the cost of insuring and to adjust profits. It includes creating internal market risk capital models to compare against regulators' market risk capital models. It also includes pricing reviews, that is, reviewing submission data, underwriters' notes and assumptions, the validity of the models used by underwriters to price, and pricing terms and conditions). All of the aforementioned activities can be improved with ML, RPA, AI, and simulations.

## Critical Requirements

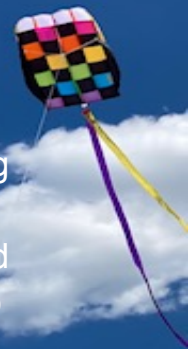
A connective layer that enables the sharing of simulations and digital twin capabilities

will benefit all units in an insurance or reinsurance multi-line business. Since the re/insurance business is essentially a business of risk management and underwriting with the two important activities being pricing and reserving, insurance leaders must consider creating a digitally-powered Pricing and Reserving Connective Layer.

The critical requirements are creating a company-wide vision and strategy to build a *Pricing and Underwriting Connective Layer*, and identifying an executive leader who's willing to sponsor and champion its implementation. As with any connective layer, the vision and the leader are in the critical path of its implementation - not the digital technologies since they are available and ready to be leveraged.

## A Sound Step...

that multi-line re/insurance leaders and their business strategists should take is to envision what a truly digital and AI-enabled underwriting and risk management function would look like, and the benefits of being able to quickly develop new and more relevant products and services unencumbered by legacy practices, legacy technologies, and historical organizational silos.





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