CAPCO

## EMBRACING DATA TO IMPROVE INSURER EXPOSURE MANAGEMENT

INTRODUCTION

An increase in man-made and climate-driven natural disasters is forcing the insurance industry to evolve new risk management strategies that can keep net losses in line with each company's risk appetite. Exposure management is critical to this endeavor because it aims to identify, anticipate, and evaluate the risk associated with each policy, helping insurers to aggregate, quantify and limit financial loss across their portfolios.

A letter from the Prudential Regulation Authority (PRA) to the insurance industry has reiterated the importance of continuing to develop exposure management frameworks that keep pace with fast-evolving natural and man-made perils. To meet PRA expectations and align with market best practice, firms need to identify and mend any gaps in their approach.

The insurance industry remains behind the curve in adopting new technology and maturing its data capabilities, compared to other industries. Today's insurance companies are often let down by weak data management strategies, including in relation to natural and manmade catastrophe risk exposures. This paper discusses the challenges that insurers face and explores how they can establish a fit-for-purpose exposure management framework to help make better data-driven decisions.

Key Benefits of Improved Exposure Management
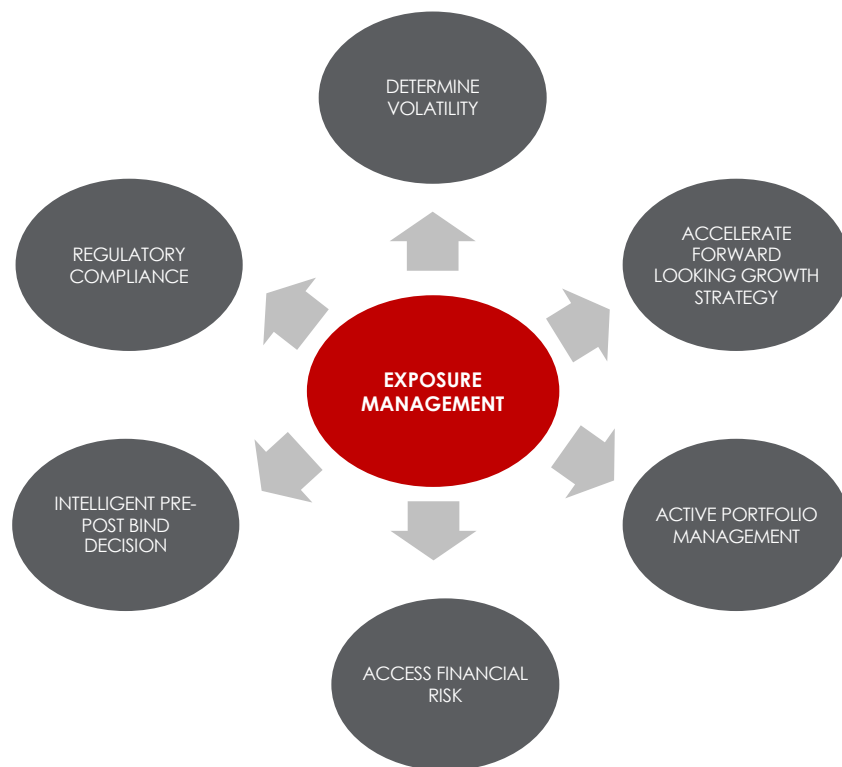
COMMON CHALLENGES

Insurers face some common challenges in their approach to exposure management caused by their continuing use of outdated legacy systems, siloed and manual processes, and inadequate risk modeling. There is also often a lack of alignment between the insurer's business strategy and its governance framework. In more detail, these challenges include:

Reliance on Manual Processes

Insurer processes for reporting exposure data are typically manually intensive. These processes include data entry, data cleaning, formatting data to risk modeling standards, determining pricing, accumulating risk, exposure analysis and reporting top exposures. The manual nature of these processes makes them time consuming and can lead to inaccuracies when calculating and measuring risk exposures. This in turn hampers the production of portfolio management metrics and the outputs that feed into capital models, regulatory filings and other key reports.

Non-standardized Data Capture Process

Underwriters are responsible for collecting the fundamental data that describes risk exposures. However, a lack of connectivity between underwriting systems and policy administration systems often makes it difficult to reconcile and validate this data. Non-standardized data capture processes lead to long-winded solutioning, backtracking of data issues, and inefficient communication between clients and brokers during the validation process. Longer turnaround times and inefficiencies can lead to failures to comply with regulatory standards.

No Single Source of Truth and Lack of Ownership

Businesses tend to operate in silos defined by product, distribution method, territory and the insured. Underwriting appetites are predominantly self-contained and managed via a line size mandate. The use of multiple policy administration systems, and scattered and siloed data sources, makes it difficult to access exposures, establish final exposure management reports, aggregate risks, and manage risk tolerances. This complexity can lead to a lack of ownership and accountability across the organization.

Key Personnel Dependency

Many end user applications are maintained by subject matter experts in their different lines of expertise, e.g. cyber, property, casualty, marine, or terrorism. This increases key person dependency and is difficult to manage over the long term. The problem is exacerbated by the typically small number of individuals monitoring non-property exposure and emerging risks across the underwriting and data lifecycle.

Limitations in CAT Modeling

Organizations using CAT modeling tools to assess risk exposures face many limitations relating to data. For example, even for perils that are relatively rich in data, historical data may only cover a short period of history. Where some regions or perils cannot be included in the modeling assessment, insurers may apply a market share approach – outside of the risk modeling tool – that can lead to losses being consistently under- or over-estimated. Also, models need to be fed the latest data in terms of disasters, earthquakes and so on, or they may underestimate loss.

OVERCOMING THE DATA CHALLENGE

The answer to these challenges is to set out a fit-for-purpose exposure management framework with a plan to improve data standards through greater automation, standardization and data governance. However, it is also important to improve the 'data culture' at each insurer and to make sure that this is supported by new technologies, such as the latest advances in machine learning.

Automated Data Ingestion

Gaining control over data is the key to improving reporting and a wide range of decisions in the company. Key exposure data attributes are often buried in pricing tools and underwriting systems, with inconsistent data capture methods and standards leading to various challenges. Firms must focus on automating the process of collecting, integrating, and processing data from multiple sources using automated extract, transform and load (ETL) tools. When implemented correctly, these tools can ensure that data is of high quality and made available in a timely manner.

Standardized Data Capture

Data standardization helps to improve the quality of data by transforming it and ensuring consistency across an organization. It saves time, reduces operational costs, and develops data transparency and trusted data sources. It can be achieved by first identifying data entry points (data source, critical data elements, data volume), then standardizing the data formats using a data automation platform, and then finally by organizing the data so that it can be easily accessed and used by the business.

Data Governance & Data Quality Controls at Source

The collection of exposure data is predominantly an underwriting responsibility, with limited oversight or input from the exposure management team. There are usually several end user applications and spreadsheets maintained in the exposure reporting process. This decentralized approach means that it is particularly important that the data collection takes place within a rigorous framework of governance that ensures data completeness and accuracy at source.

Data Driven Culture & Training

The insurance industry has developed organically over time. Organizations need to make a conscious effort to foster and promote a coherent data-driven culture across their people, processes and technologies. This often requires a shift in mindset to help individuals embrace data and improve their data literacy. Creating a data-driven culture may require some planning, as well as appropriately skilled talent that may not be immediately available within the existing exposure management team.

Machine Learning & Analytics for Assessing Exposures

New technologies are becoming available that can help insurers to build a forward-looking risk management approach and an in-depth understanding of the risks a business faces. In particular, machine learning (ML) and analytics capabilities can help insurers optimize the real-time assessment of exposure risks. Improved analytics can help businesses in terms of:

- Past trend analysis
- Future scenario predictions
- Scenario planning and mitigation strategy
- Loss forecasting

Descriptive analytics can be used to examine current event trends to help underwriters decide whether to accept or reject deals. Predictive modeling can forecast risk patterns and risk concentrations, to improve pricing and risk selection in ever-changing market conditions. Meanwhile, prescriptive analytics insights could help when automating underwriting, mitigating the more predictable risks, and when optimizing portfolios to limit the accumulation of risk.

CONCLUSION

Many of the challenges of exposure management are related to immature data capabilities and the lack of an effective data strategy. Firms at the better end of the spectrum tend to have:

- A less marked difference between managing natural perils and man-made perils
- A consistent data capture approach with clear standards
- Strong data governance with consistent data capture requirements across several lines of business
- Made investments in tools and techniques that better support forward-looking risk assessments and that incorporate the impact of emerging risks
- Considered the risk across the portfolio more explicitly, including a more robust assessment of the interdependencies and accumulation of risks between geographies, perils, and lines of business
- Better practices where more considered thought has been given to setting risk appetites against which exposures can be monitored more meaningfully.

Moving towards a best practice approach is vital from a risk management and pricing perspective, and is in line with regulations such as GDPR, IFRS17, and Solvency II that demand more robust data management capabilities. However, firms need to make sure any improved approach to exposure management dovetails with their overarching risk management strategy and remains aligned with their broader business strategy and values.

How can we help? Capco is a trusted partner for global insurers, with deep subject matter experts working across all insurance domains, and an award-winning data practice that can advise and support data management strategy. We have developed data management and analytics solutions that can be leveraged as accelerators to help insurance firms manage their exposure to risk, as well as to ensure compliance to regulations.

For more information, please reach out to us at: contactus@capco.com

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ABOUT CAPCO

Capco, a Wipro company, is a global technology and management consultancy focused in the financial services industry. Capco operates at the intersection of business and technology by combining innovative thinking with unrivalled industry knowledge to fast-track digital initiatives for banking and payments, capital markets, wealth and asset management, insurance, and the energy sector. Capco's cutting-edge ingenuity is brought to life through its award-winning Be Yourself At Work culture and diverse talent.

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