Thought Leadership

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TATA CONSULTANCY SERVICES

The Insurance CRO: New Age, New Responsibilities

Part of Chartis and TCS's research series *The Future of the Risk Enterprise*

Chartis

Independent. Insightful. Actionable.

About Chartis

Chartis Research is the leading provider of research and analysis on the global market for risk technology. It is part of Infopro Digital, which owns market-leading brands such as Risk and WatersTechnology. Chartis' goal is to support enterprises as they drive business performance through improved risk management, corporate governance and compliance, and to help clients make informed technology and business decisions by providing in-depth analysis and actionable advice on virtually all aspects of risk technology. Areas of expertise include:

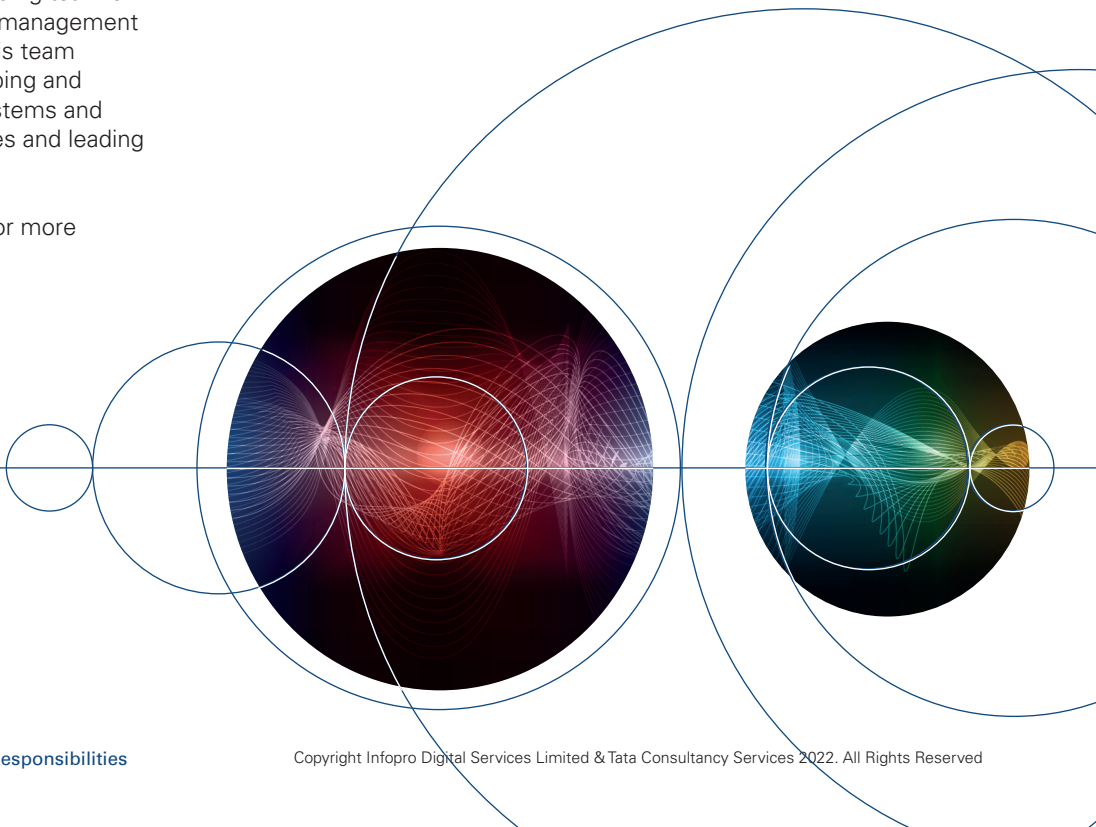
- Credit risk.
- Operational risk and governance, risk management and compliance (GRC).
- Market risk.
- Asset and liability management (ALM) and liquidity risk.
- Energy and commodity trading risk.
- Financial crime, including trader surveillance, anti-fraud and anti-money laundering.
- Cyber risk management.
- Insurance risk.
- Regulatory requirements.
- Wealth advisory.
- Asset management.

Chartis focuses on risk and compliance technology, giving it a significant advantage over generic market analysts.

The firm has brought together a leading team of analysts and advisors from the risk management and financial services industries. This team has hands-on experience of developing and implementing risk management systems and programs for Fortune 500 companies and leading consulting firms.

Visit **www.chartis-research.com** for more information.

Join our global online community at **www.risktech-forum.com**.



About TCS

TCS partners with 900+ clients across 46 countries, including eight of the top 10 global insurers, eight of the top 10 property and casualty insurers, the top 10 global investment banks and 12 of the top 20 global retail banks. With a comprehensive portfolio of technology-led, domain-focused processes, frameworks and solutions, TCS helps banking, financial services and insurance (BFSI) organizations respond to market changes and manage customer relationships effectively, while ensuring regulatory compliance.

Using expertise gained from working with global banks and insurers and regulatory and development institutions, as well as specialty firms, TCS has developed customizable solutions to help global BFSI organizations manage risks better, leverage ecosystems effectively and create value for customers.

TCS's Risk and Compliance unit is a focused strategic group that partners with CROs of global BFSI organizations in their transformation, innovation and regulatory change journey. With its subject-matter expertise, solutions and broader ecosystem capabilities, it has partnered with global BFSI clients in navigating the risk and compliance landscape, helping to create resilient and agile risk management capabilities.

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1. Executive summary

Working with chief risk officers (CROs) and other leading risk professionals, Chartis and TCS have undertaken an important piece of structural research and analysis that aims to understand how the CRO function[1] (or risk function) and its culture and processes are evolving. Focusing on operating processes, the research looks at the CRO function's overarching delivery mechanism, as well as the centralization and restructuring of the risk unit currently occurring in many financial institutions and insurance firms. Crucially, it examines the increased *externalization* of the risk function, its broader role and the changing nature and impact of the services it delivers to the wider organization.

To gain a deeper understanding of the overall landscape, Chartis and TCS conducted both quantitative and qualitative research. This consisted of an extensive survey and a series of interviews and discussions focusing on CROs and risk IT staff within the risk function as a whole unit.

The research and analysis is contained in a series of seven reports:

- An introductory report, *The Future of the Risk Enterprise: Enabling growth and competitive advantage*, which provides an overview of the key findings and recommendations of our research.

- Five reports that consider firms in sub-sectors of the financial services industry: retail banks, universal banks, buy-side firms (asset managers, hedge funds, etc.), insurance companies and investment banks. In these we examine the specific pressures faced by firms in each sector and analyze how the risk function is evolving within each type of institution.

- A benchmarking report, *Benchmarking the Risk Function: A Framework*, which focuses on the benchmarks, roadmaps and analytical frameworks Chartis Research and TCS have built to enable firms to analyze and understand where they stand relative to their peers.

[1] *When we refer to the 'CRO function' we don't just mean CROs. CROs can now have several people reporting to them, all of whom undertake a variety of tasks, including risk IT, risk methodology, quantitative development and technology risk. The overall risk function can be relatively large in some bigger organizations and highly distributed by business, geography and functional group. Some big banks can have hundreds of CROs, with many dedicated CROs for individual business lines under a group CRO.*

2. Overview

Evolution and expansion

The CRO's role has evolved in sectors outside banking. The CRO function in the insurance sector arguably has seen the most change across all types of institutions, partly because insurance risk is actually being developed from the ground up.

Historically, insurance CROs tended to be actuaries with little real idea about risk. Their approach was typically statistical and less forward-looking, based instead on past history and time-series data.

Today, relatively few insurance risk professionals are actuaries, coming instead from other areas of finance. Some large insurance companies have had non-actuaries running the CRO function for about 15 years, but during that time the role has continued to expand and evolve.

Indeed, not only has the CRO's role in insurance companies changed at a fundamental level, it has increasingly expanded beyond risk. Some of the first issues that insurance CROs had to address, which have helped to catalyze their evolution, concerned the challenges of Solvency II. Crucially, this introduced the value at risk (VaR) calculation, whereby several standard banking-style calculations moved into the insurance sector.

3. The evolving role of the CRO

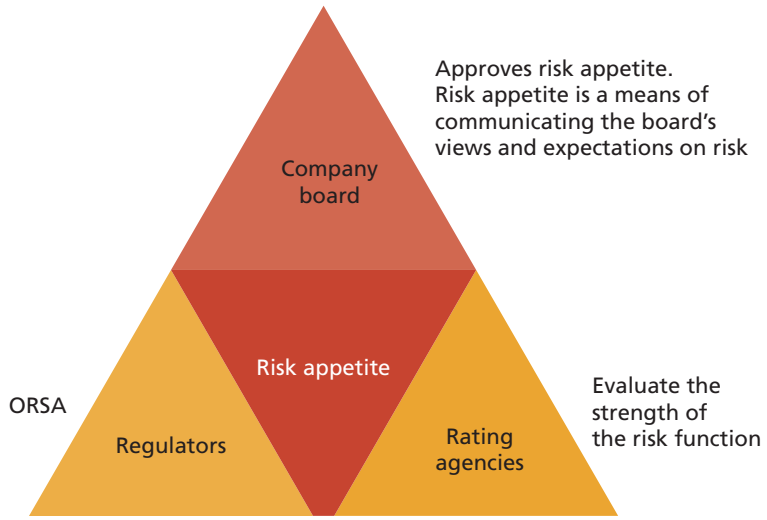
Against a background of regulatory pressure and expansion, the insurance CRO is taking on a variety of roles and responsibilities, including product design, model validation, basic performance analysis, pricing, customer outcome/centricity, compliance risk, operational resilience and financial reporting. While all of these activities are also undertaken by the finance department, it is the risk function that calculates the relevant numbers.

Increasingly, the CRO provides the vital link between financial, actuarial and operational risk and the business' overarching strategy (see Figure 1). As insurance firms broaden their strategies (by developing, for example, new digital business lines and new products), they will have to expand their quantitative approaches alongside their risk appetite.

It is now the responsibility of the CRO and the CRO's office to bring all of these elements together. This is driving changes in the nature, structure and personnel of the CRO's office (see Figure 2). There is a strong trend toward the use of AI in standard risk functions, for example. Firms' CROs are also incorporating data-centric approaches and quantitative methods developed in other financial markets (including option-theoretic frameworks) into more conventional models.

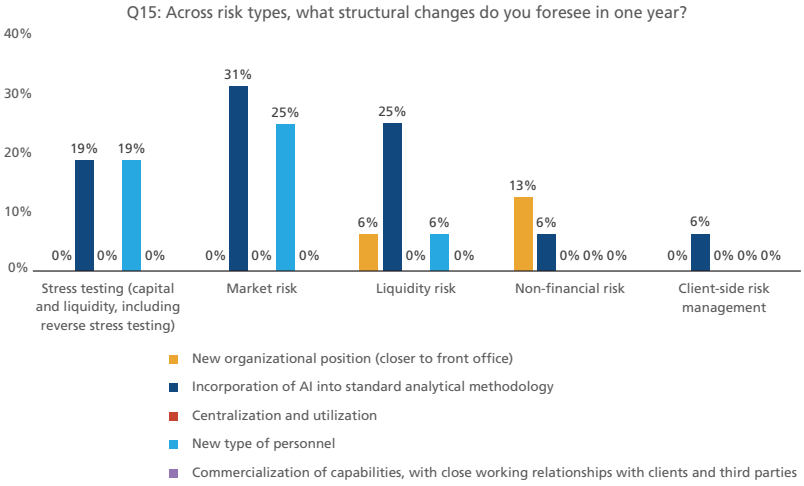
However, our research identified significant gaps in insurance firms' risk organizations, in such areas as digital capabilities and data management (see Figure 3). Structural gaps between business setups and the risk function were also identified as potential stumbling blocks.

Figure 1: The CRO function – a vital link



Source: Chartis Research and TCS

Figure 2: Structural changes in the CRO's office



Source: Chartis Research and TCS

Figure 3: Operationalizing risk: gaps and challenges

Source: Chartis Research and TCS

Sector-specific trends and dynamics

Digitalization, data and modeling

Despite this, ongoing digitalization in insurance is opening up new capabilities and opportunities.

- In operational risk:
  - New digital data makes the world of operational risk more accessible, both internally and externally.
  - Underwriting is now possible for new operational risks, such as cybercrime and IT risk.
- The use of large and alternative datasets is growing.
- Efficient analytical modeling and simulation are now possible across a broad range of general risks (such as marine, fire, etc.).
- All aspects of the contract and contractual risk elements can now be integrated in the modeling of future payouts and expenses, and in business planning.

In tandem, the increasing volume of data now available is beginning to impact the computational elements and process technologies used by insurers.

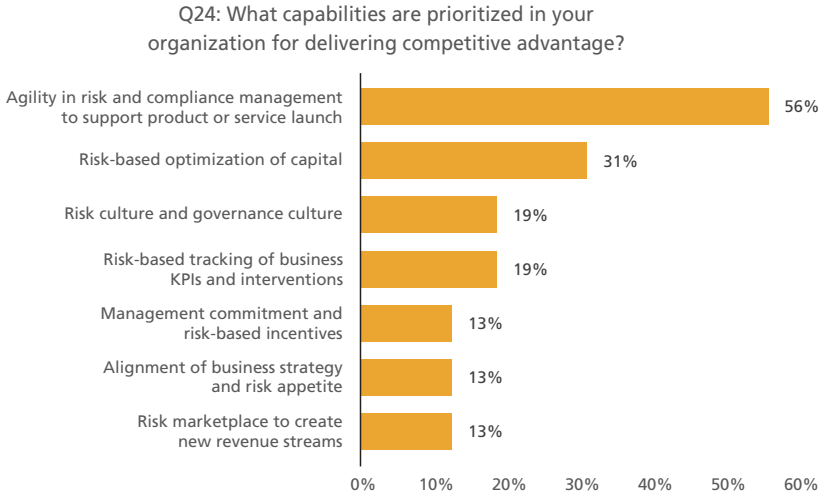
- New standards and more granular requirements have increased data volumes.
- Insurance modeling for a broad range of risks (such as health and general), and their requirements for new and large alternative datasets, is affecting different elements of insurers' technology systems, including the:
  - Data management framework.
  - Computational framework.
  - Analytical framework.

In the above areas, the CRO function plays a vital role in linking product management and operational areas (see Figures 4 and 5). As firms require increased operational support for product management, the CRO function is expected to link and coordinate the operational requirements that most firms expect to increase in such areas as cyber risk.

Figure 4: Touchpoints and interactions in the risk value chain

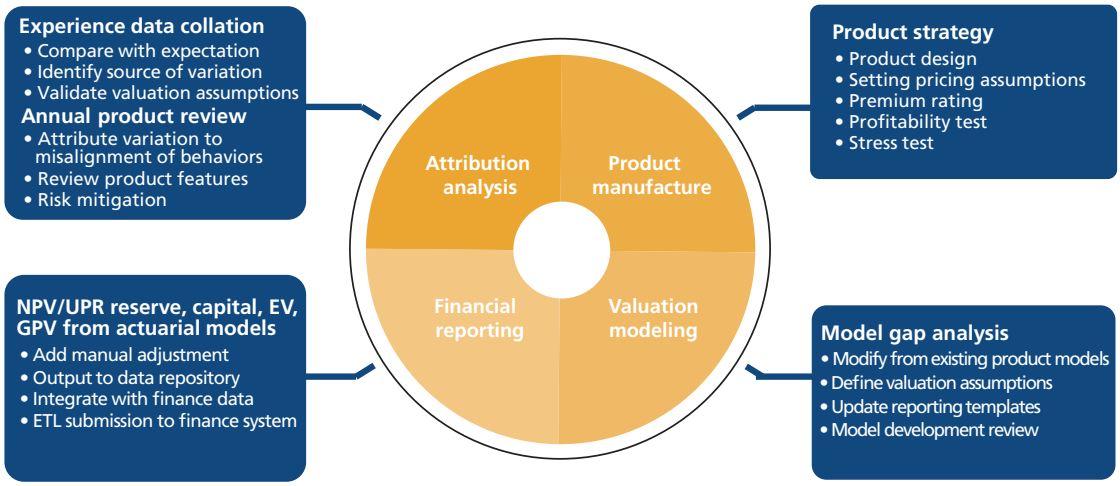
Source: Chartis Research and TCS

Figure 5: Prioritized capabilities



Source: Chartis Research and TCS

Figure 6: Insurance risk analytics require many frameworks



Source: Chartis Research and TCS

Modeling and analytics

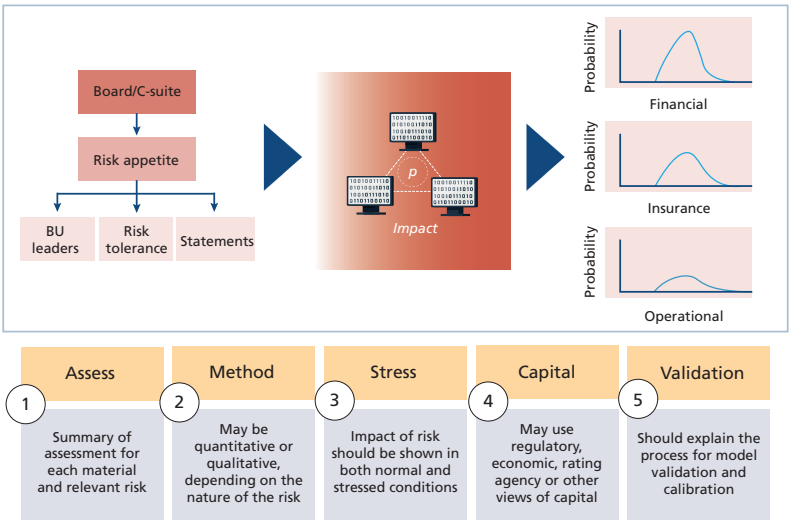
As a result of these changes, the actuarial function has had to evolve to accommodate a much more diverse range of analytical frameworks than ever before (see Figure 6). This is driven partly by products (such as variable annuities), but also by regulation (Solvency regimes) and accounting standards (such as International Financial Reporting Standard [IFRS] 9 and Current Expected Credit Losses [CECL]). These developments have had several effects:

- Conventional actuarial modeling is now only a tiny part of what is broadly referred to as 'actuarial modeling'.
- At the heart of actuarial modeling is an exercise in developing the probability of events.
- At its core, contemporary Solvency modeling (which is often classified as actuarial modeling) is in fact financial risk modeling.
- Both IFRS 17 and Long Duration Targeted Improvements (LDTI) require explicit risk adjustments (derived from conventional actuarial modeling).
- The force with which IFRS 17 and LDTI impact actuaries will vary between institutions.
- Actuarial event analytics are becoming more specialized.
- Over time, the relatively simple actuarial modeling framework has been stretched to encompass financial models.
- Increasing numbers of life insurance contracts have large financing components embedded within them.
- Financial modeling (including discounting), natural catastrophe (NatCat) modeling and extended climate risk modeling are key elements in calculating contract-fulfillment cash flows.

The insurance CRO now has to mediate between a variety of models and modeling approaches (see Figure 7).

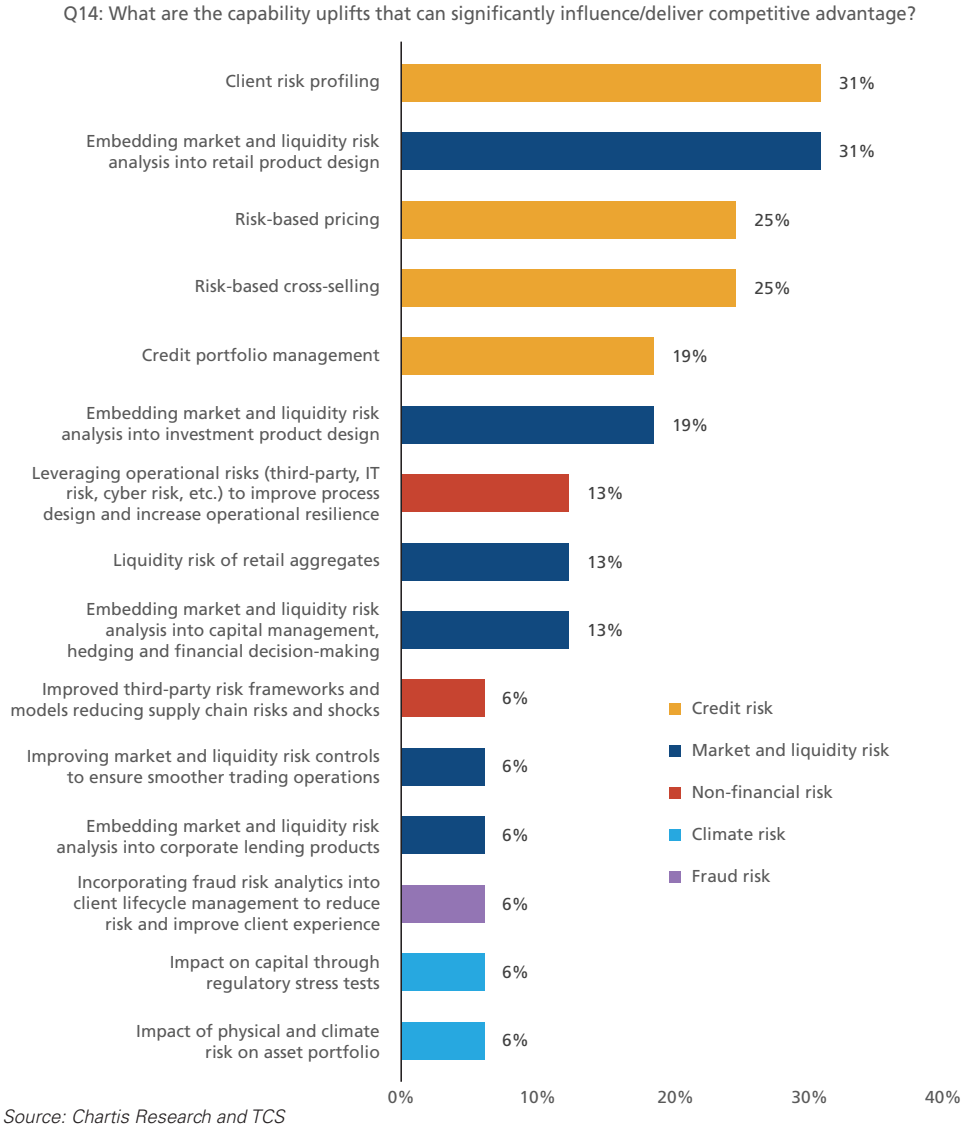
The growth of annuities and related products highlights the need for market risk capabilities (see Figure 8). Equally, as insurance firms leverage derivatives, the requirement for credit risk management to be a critical capability is becoming central to their approach.

Figure 7: Insurance risk and modeling are being revolutionized



Source: Chartis Research and TCS

Figure 8: A growing need for market risk capabilities

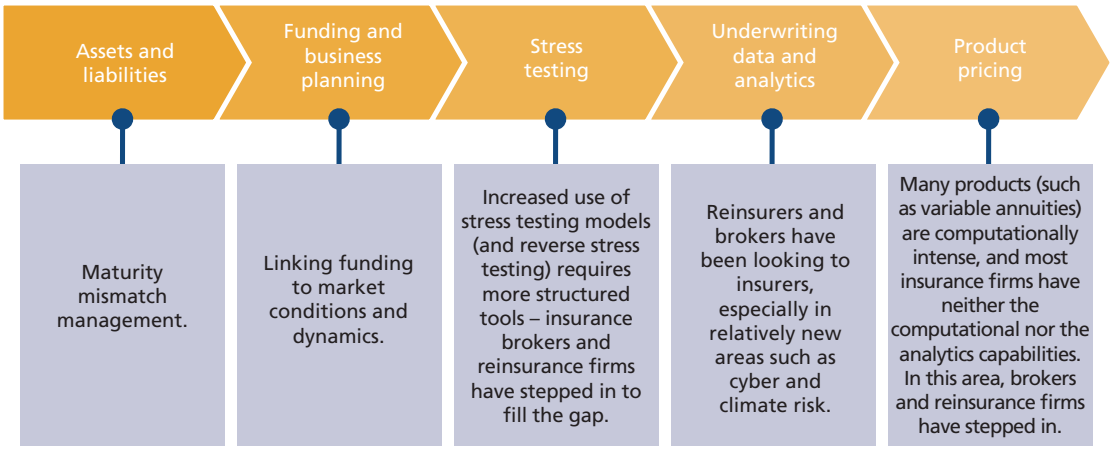


Source: Chartis Research and TCS

Externalization of the risk function

Finally, in the insurance sector, externalization of the risk function is strongest among reinsurance firms and insurance brokers (see Figure 9).

Figure 9: Risk externalization in insurance



Source: Chartis Research and TCS

4. The way forward

Across the entirety of this research we have explored strategic shifts in the way that risk departments and functions are being organized, how they are interacting with other business groups, and how far they and their institutions have moved toward commercializing and externalizing the risk function and its activities. This has involved an analysis of the mechanism by which risk units are involved, directly or indirectly, with customer management – how the risk function is enabling customers of institutions to manage and control their own risks.

The research has revealed enormous variance in these situations and approaches. Some risk organizations are centralized, some are highly distributed, some collaborate closely with their business units, some even have special units designed to collaborate. And still others are highly commercialized, providing repackaged services to create commercial value and/or stronger customer relationships. From the institutions' perspective, some of this repackaging and commercialization serves strong business ends, enabling them to 'de-risk' in a way that does not disrupt existing customer relationships.

Looking ahead, we expect these themes – greater interaction with front-line business units and greater commercialization and externalization of risk units – to continue and expand across the industry as organizations and risk units mature. The mechanics of these developments will vary from organization to organization. We will see greater diversification of the personnel who work within risk units, to include a wider variety of backgrounds, such as technology and financial risk, engineering, data science and other disciplines that complement core risk capabilities.

As we have noted, there are correct and incorrect ways for firms to approach the evolving risk function and its fit within the wider organization. Any plans must be properly structured – firms' response to these evolving dynamics will vary depending on their size and type and the nature of their customer relationships. Institutions must manage the necessary growth and change, but they must also calibrate and measure themselves appropriately as they evolve. This is a complex process, and to succeed firms will have to break down some existing cultural ideas around how risk units should be organized.

In that context, when establishing this culture, processes and methodologies are often far more important than high-level conceptual approaches. Senior management must consider the organizational maturity of the risk function and what it needs to achieve, setting out very clear guidelines and targets around the level of interaction between risk and other business units. As our research highlights, formal rules, processes and methodologies are vital elements in driving risk culture throughout an organization.

Finally, it is one thing to talk about culture and quite another to define and communicate it effectively. The more formal rules and well-defined methodologies firms have, the more likely they are to avoid problems. And carefully benchmarking how they are achieving this is key – what you can't measure you don't understand and you can't control.

Insurance: a variety of dynamics

The insurance risk landscape is undergoing major structural change. In several areas the fundamentals of the business and the concept of an 'insurance pool' are being redefined. At the same time, risk-aware accounting standards are causing a convergence between insurance and broader financial services frameworks. Equally, new Solvency regimes have changed the way that insurance firms think about risk.

Cyber risk and other operational risks bring not only huge potential for insurers but also new operating and structural challenges. Beyond the challenge of quantification and analytics management, underwriting new operational risks can create demand for new datasets, new ways of managing data and new operating methods (including a whole new set of operating styles).

In this period of great change, we feel that the CRO's office in insurance firms will change structurally and dramatically, shaped by three key dynamics:

- Greater methodological awareness among firms and a requirement to synthesize a broad range of disciplines. This includes the blending of actuarial methods with conventional risk frameworks from other areas of finance.

- Greater data-centricity.

- A stronger focus on products and the internal operational risks (including fraud) of different products and processes.

We are also seeing very strong organizational change. Many insurers (and more importantly, insurance brokers and reinsurers) are preparing for a period in which they will be deeply entwined with their clients and their clients' clients, and will establish risk consulting and support arms, many of which will continue to expand. Some of these entities will also have well-established libraries of software and extensive technological capabilities.

The impact and implications for insurers will depend on what type of firm they are. For small firms, the focus will be on ensuring that product design and asset management are tightly coupled with the risk function. Large insurers, for their part, behave in a similar way to universal banks and intermediaries. Reinsurers, meanwhile, will behave even more like intermediaries because controlling risk profiles – especially for non-financial risks – is vital and ultimately affects the contracts they are considering.