

# The Future of the Risk Enterprise

Enabling growth and competitive advantage





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.

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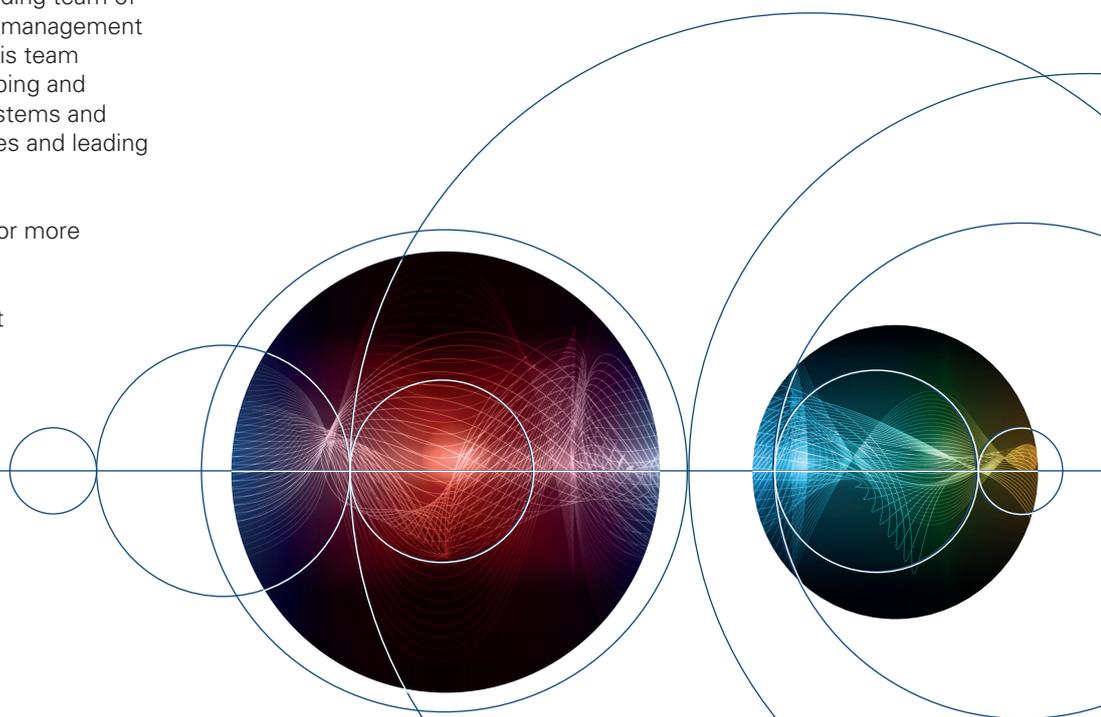
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TCS partners with 900+ clients across 46 countries, including eight of the top 10 global insurers, eight of the top 10 property and casualty insurers, the top 10 global investment banks and 12 of the top 20 global retail banks. With a comprehensive 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<sup>1</sup> (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. 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.

The report also focuses on such areas as how the risk function is influencing organizations' growth agendas, key performance indicators (KPIs) and measurement frameworks, early warning systems and risk simulations, and the role of advanced analytics. Finally, it examines the risk function in a variety of institutional types and the structural shifts each is undergoing. Follow-up reports will consider retail banks, universal banks, buy-side firms (asset managers, hedge funds, etc.), insurance companies, investment banks and broker dealers, looking at the specific pressures each faces and analyzing how the risk function is evolving within each type of institution. We will also publish the final section of the overall research program as a separate report, focusing on the benchmarks, roadmaps and analytical frameworks Chartis Research and TCS have built to enable financial institutions to analyze and understand where they stand relative to their peers.

### Emerging themes at a glance

#### The risk function is undergoing a deep and structural transformation

The risk function increasingly is perceived – and operates – as a service within the broader organization. Correspondingly, more than 70% of the organizations Chartis interviewed maintained that they had already embarked on a program of consolidation or risk transformation. In this report, we consider how the risk function can work more closely with business lines and credit teams in different contexts, as its role expands into several

key areas of the business, including emerging risks (such as cyber risk, climate change risk and operational resilience), product design and early warning systems.

#### Strategy: driving growth through risk centralization/externalization and the expansion of technology and operational risk

The **centralization** of risk services is increasingly accompanied by the development of standardized services and solutions and centralized risk technology. **Externalization** of the risk function is now a genuine phenomenon: more than 50% of respondents reported that some form of externalization is underway in their organization. While the various approaches to externalization varied, the popular vehicles and organizing entities employed often included:

- Custody.
- Security services.
- Prime brokerage platforms.
- Special-purpose services platforms.

How organizations choose to deal with these overarching strategic themes and challenges will be the major predictor of their relative success. Moreover, how financial institutions sequence centralization and externalization in the risk context is of vital importance.

#### Externalization in retail banking and insurance is less mature but growing rapidly

In retail finance, we see a strong focus on investing in tools to enable end customers and their advisors (if they exist) to analyze their portfolio and financial risk. Retail banks (particularly in Europe) have provided their clients and distributors with a variety of methods, and financial planning tools are becoming more capable. The externalization of compliance continues apace, as several large banks build anti-money laundering (AML) and Know Your Customer (KYC) capabilities.

Insurance brokers traditionally have provided a range of risk tools. Increasingly, however, it

<sup>1</sup> 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.

is reinsurers that are providing the tools and technologies needed to reduce the risk profile of their customer base.

### New types of intermediaries emphasize 'risk analytics as a service'

As a whole range of banks and non-banks become prime brokers, it is becoming standard practice to deliver risk (and risk analytics) as a service as part of the package. Two potential commercial upsides of this are data infrastructure and data services, when redistributed to funds, intermediaries and other service providers.

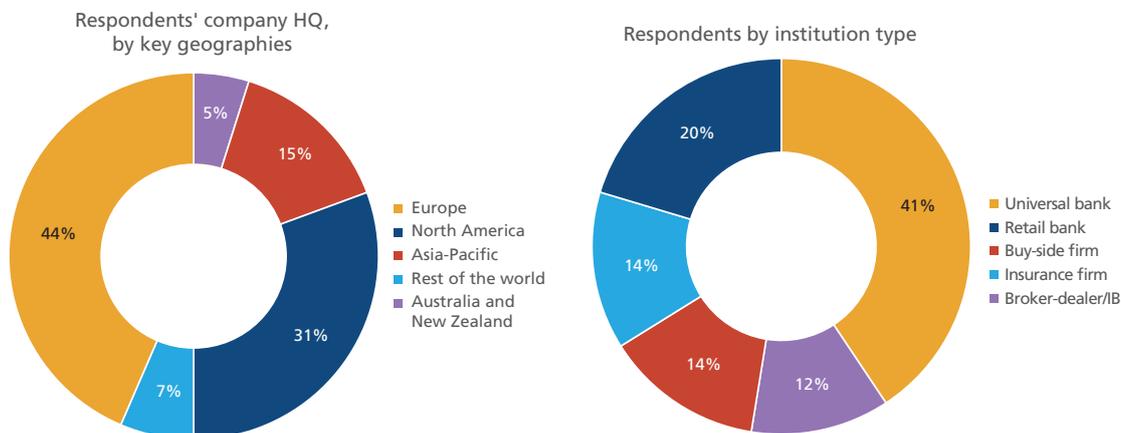
#### Research details: survey and interviews

To enable us to gain a deeper understanding of the overall landscape, Chartis and TCS conducted both quantitative and qualitative research consisting 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.

- **Quantitative:** a set of online surveys with 50 institutions, followed by quantitative analysis.
- **Qualitative:** detailed expert interviews with 68 institutions.
  - A broad and diversified interview program across a diverse set of organization types and geographies (see Figure 1).
  - The single largest group of respondents – about 40% of the firms covered – were from universal banks, with business lines ranging from retail and corporate banking to wealth management. Most European firms – and virtually all large US institutions – could be classified as universal banks.

We combined and blended the results of the interviews and survey to give a single unified overview with a total base of 118 respondents.

**Figure 1: Demographic analysis – qualitative research**



Note that percentages in charts may not add to 100% because of rounding.  
Source: Chartis Research and TCS

## 2. Overview and context

This report examines the CRO function and how its role in the wider business has changed over time. It also considers how the CRO function increasingly influences other areas of the business – for example, the front office – and how it can now be a factor in firms' competitive advantage, and even their growth. It asks some important questions about the CRO function, e.g., where is it going, is it maintaining its focus on control, or is it becoming more involved in business strategy, commercialization, operations and functions?

To answer these questions, we assessed whether the risk function has moved beyond its largely policing role to helping institutions manage their growth and define their products. In some cases, it may even produce revenues for a firm by aiding and shaping the interaction between customers and the bank – delivering services, for example, or generating risk numbers and providing risk data and externalized services.

### The goal: developing a more effective and valuable risk function

The context for much of the CRO's evolution is credit risk, which in various forms remains at the heart of the financial process. Credit-related activities in financial firms can be embedded in a variety of operational behaviors across a wide range of business processes. Equally, such credit-support functions as collateral management, covenant monitoring and financial health monitoring are likely to be distributed across an organization.



Against this background, many respondents in our survey saw technology as critical, and felt that the risk function should be strategically involved throughout the credit value chain – in helping to design products and in process management and governance throughout the credit lifecycle (see Figure 2).

### Integration is key

Unlike traditional risk management, the new, evolving role of the risk function aggregates a range of processes, providing value for the organization by integrating risk strategy, risk management processes, risk infrastructure and risk culture. Within this, a 'risk first' attitude and a mindset focused on finding the opportunity in risk management drive the decision-making process in organizations.

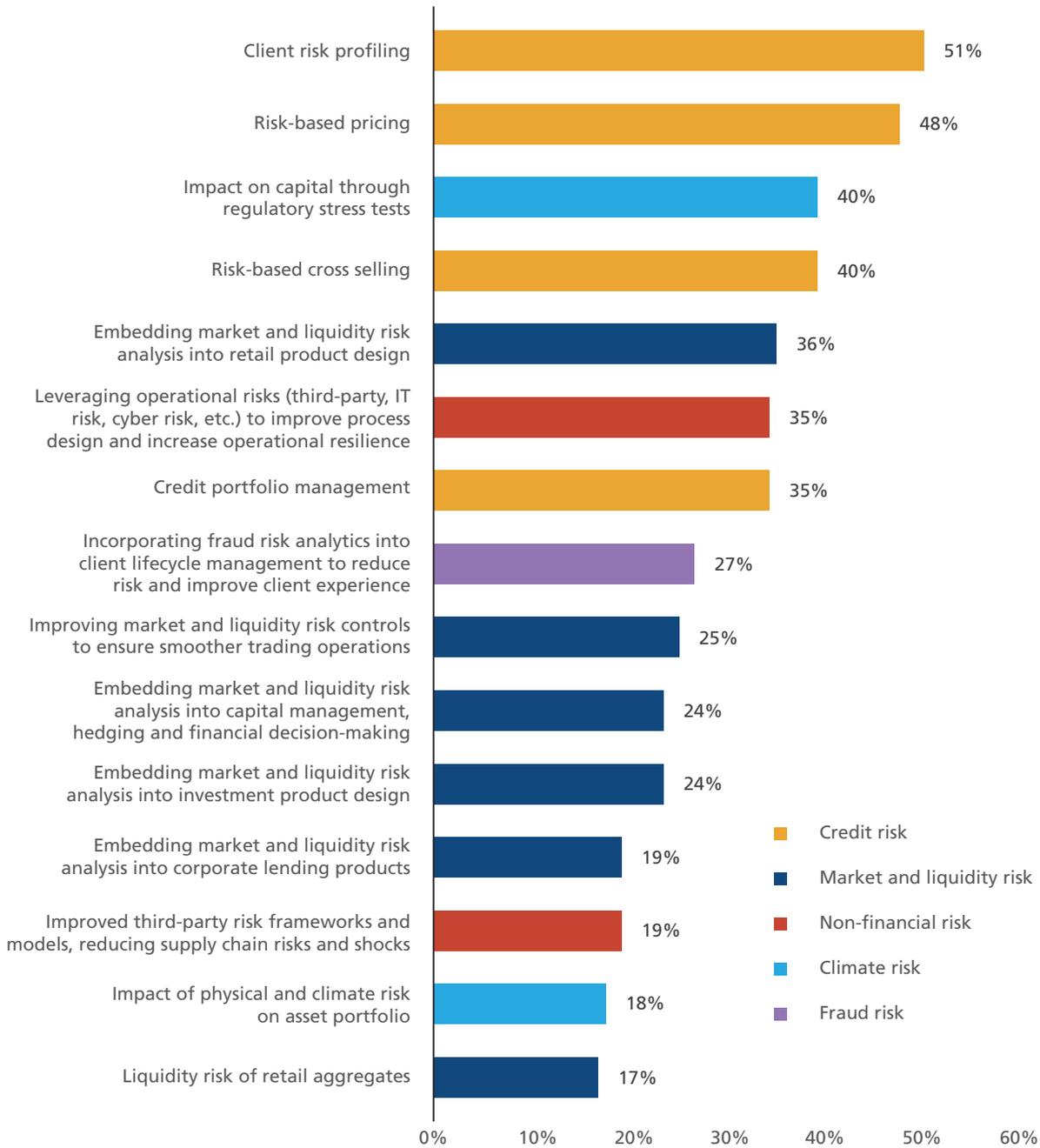
This value is best realized if a firm can align governance, skills and capabilities, an understanding of the business strategy and objectives, and risk management processes, tools and communication. Doing this enables the business to monitor, interact with and action the outputs of the risk function to support its decision-making.

By using the tools of the risk function efficiently, firms can aggregate the range of processes now available, from discovering and mobilizing essential data for capital calculations to recognizing the efficiencies and benefits of connected risk management processes and managing finance and performance. This can enable an efficient risk-based decision-making process and provide a proactive view of the impacts of a particular strategy.

These benefits and impacts may have been disguised in previous years by the focus on regulatory compliance. But firms can begin to use their existing investments in compliance to develop a more effective risk function.

**Figure 2: The factors that can help financial firms deliver competitive advantage**

Q14: What are the capability uplifts that can significantly influence/deliver competitive advantage?



Source: Chartis Research and TCS

### 3. Key themes in the evolution of the CRO

#### Key theme 1: The quantification of emerging risks

As we explore later, a key part of the risk function's evolution is how it is taking an increasingly broad view and expanding across different dimensions. Not least is its attempt to quantify several emerging risks (some of which fall under operational risk), including technology risk, governance, risk management and compliance (GRC) and climate change risk.

However, much in this area is still unclear – regulators have yet to settle on a single quantification framework, and within organizations little consensus exists between business units, CROs and methodology and quant groups as to how these models should be used, built and managed throughout the business lifecycle. Consequently, firms are still waiting for some impetus and indication from regulators about how to address emerging risks, or for one or more financial institutions to publish their methodology.

Without these structural developments, the quantification of emerging risks remains relatively immature. Climate risk models, for example, still need regulatory input and oversight, while quantification and control processes for operational risks (such as cyber risk, operational resilience/model risk and third-party and supply chain risk) are evolving, but are likewise

still immature. There are also many signs of relatively low maturity in other established risk areas, including highly variable methodologies and a lack of standardization. However, Merton-style models provide a powerful framework for linking and integrating operational risk with financial instruments and inserting these risks into the capital structure.

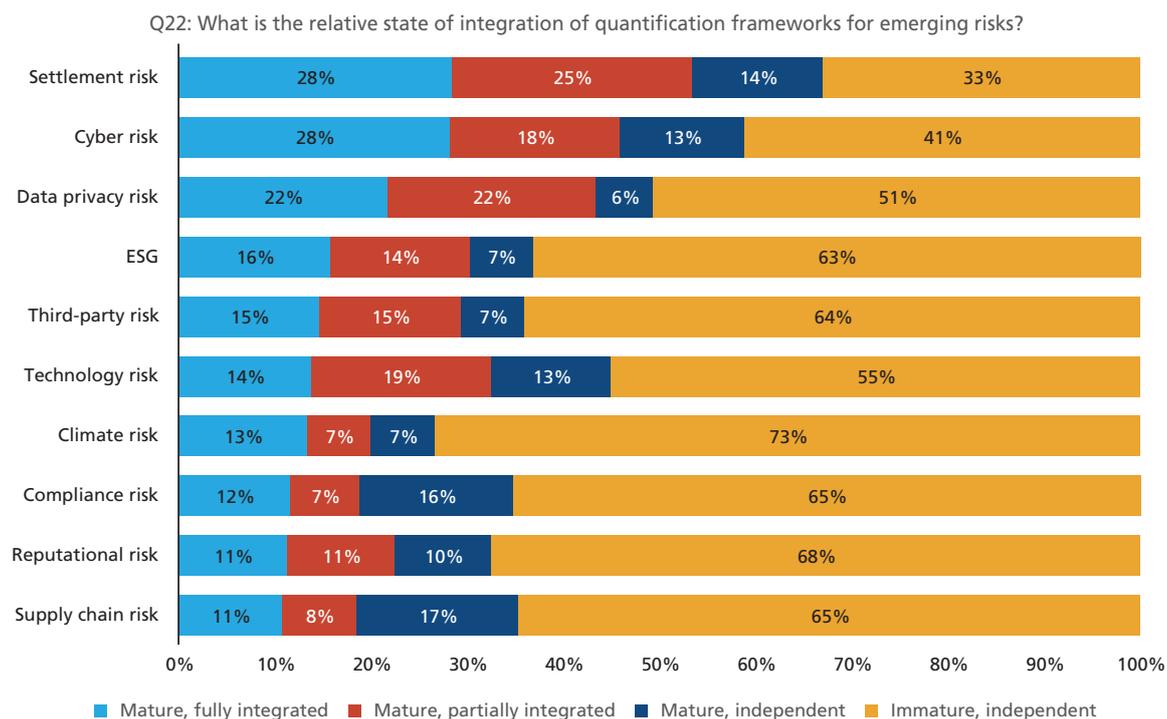
And while there is consensus among relevant parties that emerging risks should be quantified and managed, and that a theory, model and framework for doing so must be properly developed, there is no consensus about what form such a model should take, whose model should be chosen and how it should be used to determine location, aggregation and attribution.

#### An integrated approach

As certain risks (such as the risk of data breaches) intensify and become more complex and disparate, addressing them requires an integrated approach that multiple business roles are unable to manage effectively. For the first time, many risk-related functions and roles are being consolidated as the pace and breadth of digital interconnectivity increases (see Figure 3).



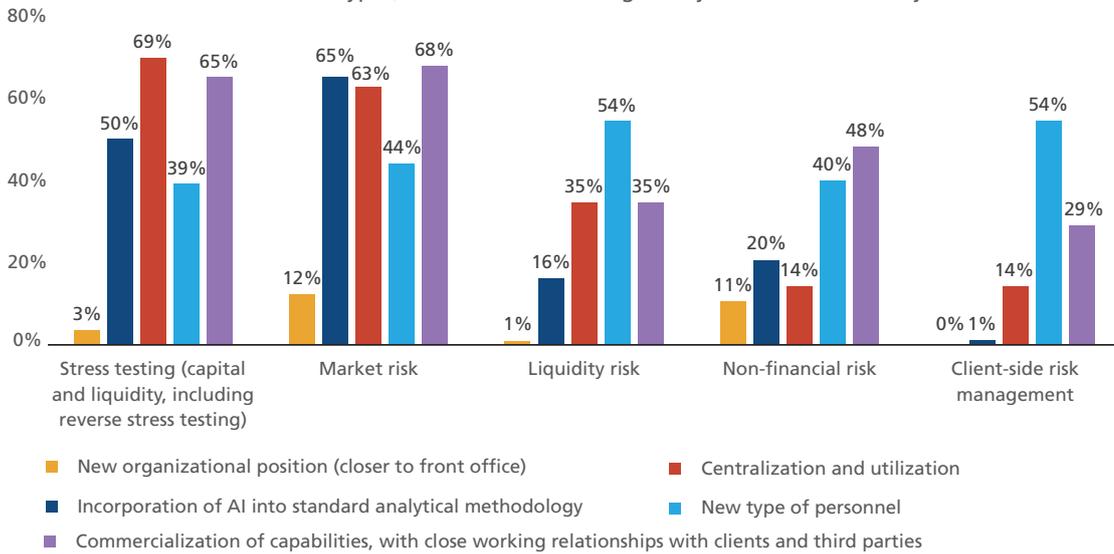
Figure 3: A move toward integration



Source: Chartis Research and TCS

**Figure 4: A changing risk function**

Q16: Across risk types, what structural changes do you foresee in three years?



Source: Chartis Research and TCS

This accelerating consolidation and the associated increase in control responsibilities for risk management personnel have been ongoing for several years, via different waves of interaction and integration. The first wave, whereby physical security merged with information security, took many years to happen. Next came the merging of risk, compliance and privacy capabilities (at least from a conceptual and methodology perspective). Today, all of these previously diverse areas are merging rapidly into a centralized enterprise risk function to improve how the CRO's office recognizes and responds to risk.

## Key theme 2: The risk function as a strategic resource

### A next-generation risk management program

Increasingly, the finance industry sees the risk function as a strategic business discipline that can help an organization achieve its objectives by addressing the full spectrum of its risks and managing the combined impact of those risks as an interrelated risk portfolio.

As success stories about risk solutions spread, more companies are realizing that the risk function is something they should be actively managing (see Figure 4). In particular, the emerging risk function represents a significant evolution over traditional risk management techniques, because it encompasses all areas of an organization and looks at the overall set of risks that result from interrelated processes, people and structures across the firm.

The risk management program enables financial firms to achieve a balanced, holistic enterprise strategy that leverages risk management outcomes, insights and

**Figure 5: Key outcomes of the risk function**

Q6: What are the key outcomes risk functions should deliver in driving competitive advantage?



Unsurprisingly, control and strategy functions are seen as touchpoints for most immediate impact. However, retail/universal banks suggested that product design was key.

Transparency, performance measurement and assurance remain the central functions of the risk office.

Source: Chartis Research and TCS

resources across the organization. This approach enables proactive collaboration with providers, better aligns products with clients' current and future needs, and improves operational performance, all with a focus on reducing cost and improving product quality.

Risk management programs can be used to better define business plans through the transition to value-based programs, with an eye on the longer-term financial resilience and longevity of the risk function.

### The risk function can generate real value for firms when properly structured

By definition, the risk function enables firms to gain a better understanding of their risks (see Figure 5).



There have been well-documented examples<sup>2</sup> in recent years of firms entering liquidation or being compelled to merge/restructure following issues around mismanagement of the balance sheet. This might have been avoided had the risk function been appropriately connected with the rest of the business and able to exert its influence on decision-making. This approach could also improve a firm’s credit rating and, by extension, its cost of doing business.

Equally, leveraging the data captured through regulatory reporting can drive second-order business benefits in such areas as product design and cost reduction, and can enhance the ability to adapt to fast-moving market changes, such as those introduced by the UK’s decision to leave the EU (see Figure 6). Portfolio optimization also becomes easier, again in the context of the enriched data environment delivered by an enterprise approach to risk management. Firms can also drive better quality and clearer reporting of risks to the C-suite. They could also, where appropriate, benchmark the quality of managerial decision-making (something that is already happening in the banking industry).

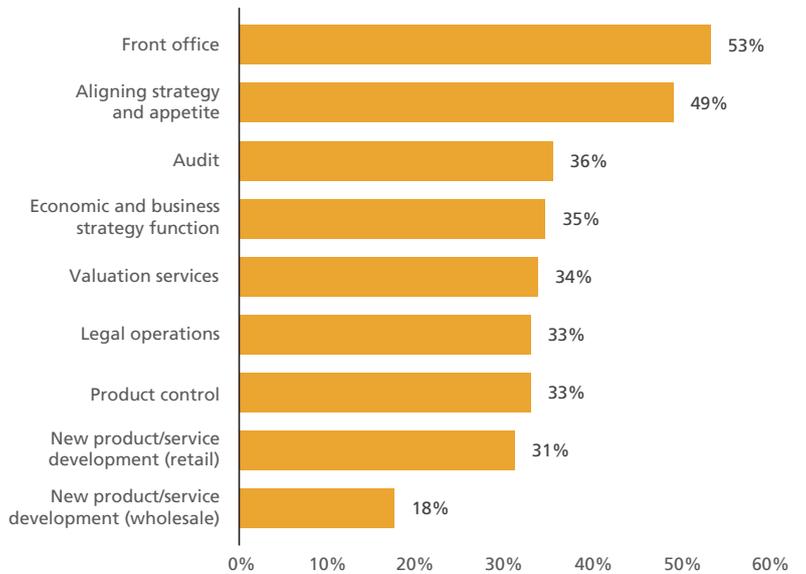
However, to maximize the value generated by the risk function, firms must pay as much attention to the way it operates as they do to its links to transactional systems and processes and the core risk system itself.

**Already seen as adding value**

In fact, our research shows that the risk function is already seen as adding significant business value (see Figure 7). Risk-based pricing and risk-based product design were seen as the most significant ‘value add’ from a client’s perspective. This reflects all areas of the business and all types of institutions,

**Figure 6: Benefits throughout the business**

Q18: Name the touchpoints/interactions in the risk value chain where the CRO function can have a significant impact on delivering a competitive advantage



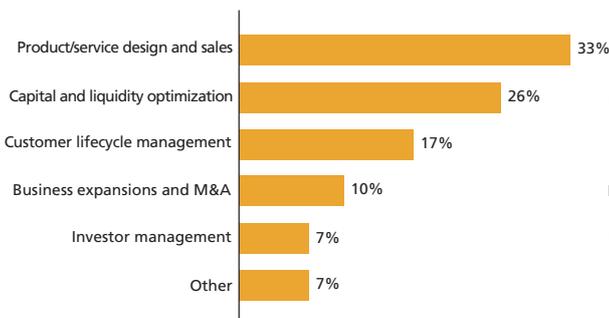
Source: Chartis Research and TCS

including universal banks, asset managers, insurance firms and specialized retail banks.

There is broad agreement that measuring and building performance is a central function of the CRO’s office, as risk and performance are closely related.

**Figure 7: Current perceived value of the risk function**

Influence of risk functions on competitive advantage KPIs, by business touchpoints



Enablement through risk function, by adjacent areas within the organization



Source: Chartis Research and TCS

<sup>2</sup> Notably Enron, Bear Stearns, Countrywide, RBS, Northern Rock and AIG.

One core function of the evolving risk function, therefore, is building an integrated performance and measurement model (see Figure 8). The issue, however, is that methods for measuring and improving performance can vary considerably across different business lines and classes, leading to many different definitions of risk and performance, and making this central task more challenging to achieve.

**But building relationships is difficult**

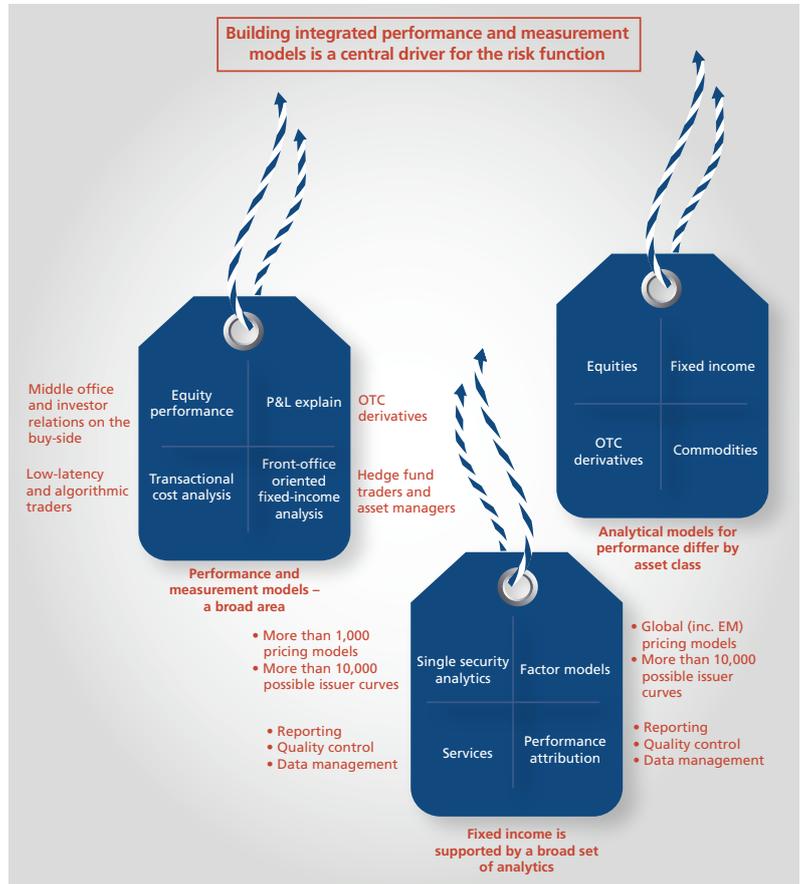
One finding from our research is that building relationships between the risk function and the business is becoming much harder (see Figure 9). Our survey results suggest that developing an operating model for closer collaboration is a challenge, because most people find that working with the business is harder than working with the risk function, with many conflicts of interest. Businesses are often keen to take as much risk as possible, while the risk function has to impose restraints without damaging the business model. A lack of suitable knowledge and experience can also cause problems. If people from a predominantly risk background are making decisions, they may not understand vital business elements, such as securitization or fixed income, and may introduce controls that are not good for the business as a whole. Equally, if people from a trading background are brought into the risk department, they may be too close to the business and may not impose sufficient controls.

The fact that the risk function tends to align itself more closely with regulators further complicates the process of aligning with the wider business. A lack of integrated risk management is also an issue because in a single business – over-the-counter (OTC) derivatives, for example, or market lending or a syndicated loans business – a problem arises because different aspects of the risk business are covered by diverse groups, introducing different types and levels of operational risk.

**Key theme 3: The risk function is moving from compliance to broader responsibilities**

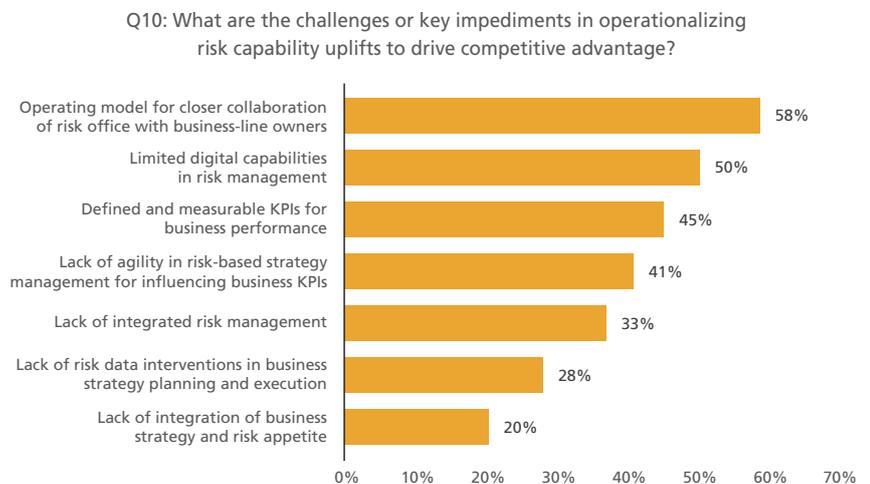
As firms attempt to develop a risk department that can add value, the responsibilities of the CRO are growing in number and broadening, and increasingly shifting away from pure compliance to a wider set of risk capabilities, as highlighted

**Figure 8: Building an integrated performance and measurement model – a central driver for the risk function**



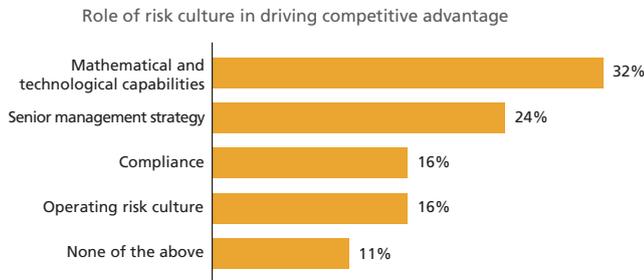
Source: Chartis Research and TCS

**Figure 9: Building a framework for a relationship between the risk and business units is inherently difficult**



Source: Chartis Research and TCS

**Figure 10: A broader range of responsibilities**



Source: Chartis Research and TCS

by our respondents and interviewees (see Figure 10). We also expect the risk function to become ever more integrated with the measurement and control of operational risk.

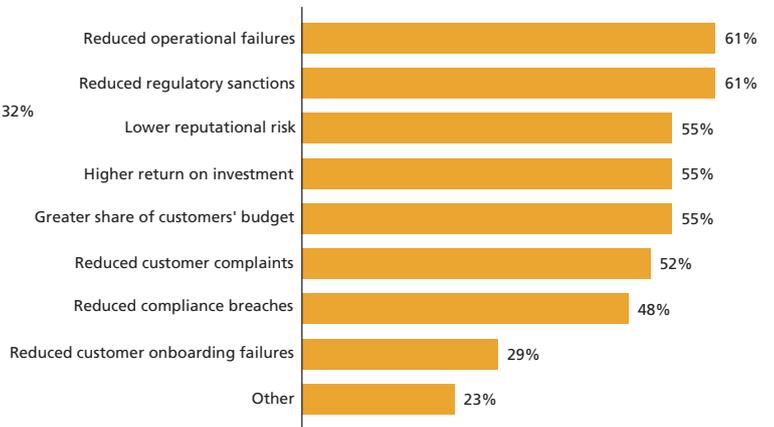
Compliance is important, but the risk office is increasingly being asked to consider and examine a broad range of activities. Alongside more traditional responsibilities, such as reducing regulatory sanctions and operational failures, it is also being asked to help reduce catastrophic reputational problems and more serious conduct issues. It also has a closer involvement in the business strategy of the institution – helping to reduce investment risk, for example.

Respondents clearly felt that in terms of a firm’s risk culture, there is an advantage to be gained in developing mathematical and technological capabilities. The general perception is that ‘risk culture’ concerns the mechanics of doing business (defining limits and methodology, for example) and that a ‘good’ risk culture involves strong attention to detail.

Key KPIs for risk and compliance functions are highly diversified and less consolidated, stretching from higher ROI to lower operational failures (see Figure 11). This in turn reflects the broad impact the CRO’s office has on the organization and the evolution occurring in the CRO’s role.

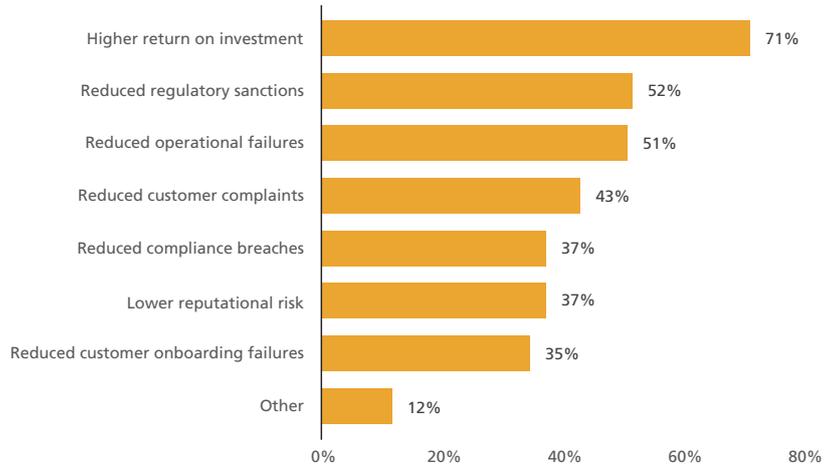
The world in which the CRO is now being expected to operate is becoming multifaceted, moving from implementing systems in response to regulations to a more complex environment that often involves considerable responsibilities for operating and business strategies. Consequently, the CRO, who previously may have been highly

Key KPIs for risk and compliance functions in driving competitive advantage



**Figure 11: The risk function’s KPIs in driving competitive advantage**

Q8: What are the key KPIs that risk and compliance functions should influence in driving competitive advantage?



Source: Chartis Research and TCS

specialized, now has a variety of tasks to accomplish that involve several different skills.

As interviewees indicated, however, taking on a new role can be a culture shock for the CRO’s office, and can involve multiple trade-offs. Internal delivery goals require a different mindset and approach to external ones: there is little or no consideration of product lending or roadmaps, as the main consideration is what regulations are in force and what is required to deliver on them. All these trade-offs impact an institution’s structure, politics and other dynamics, creating complex challenges with potentially significant risks.

All of this is happening against a background of the growing influence of credit risk and capital management. As expected, addressing credit risk

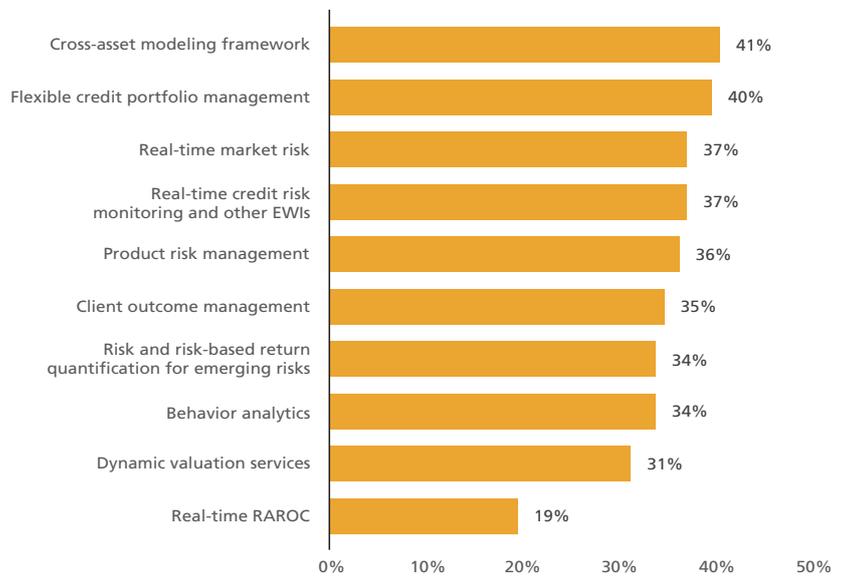
remains one of the strongest demands placed on the CRO's office by the business (see Figure 12).

### Key theme 4: The changing role of the CRO requires a new set of tools

With broader multi-dimensional responsibilities linking various parts of the business together, the CRO now requires a broader set of tools within an enterprise framework (see Figures 13 and 14). These tools can help provide a quantitative superstructure for the organization's strategy, operational management, and financial and actuarial analytics.

Figure 12: The credit imperative

Q17: What are the capabilities that require enrichment and extensions into adjacent new areas?



Source: Chartis Research and TCS

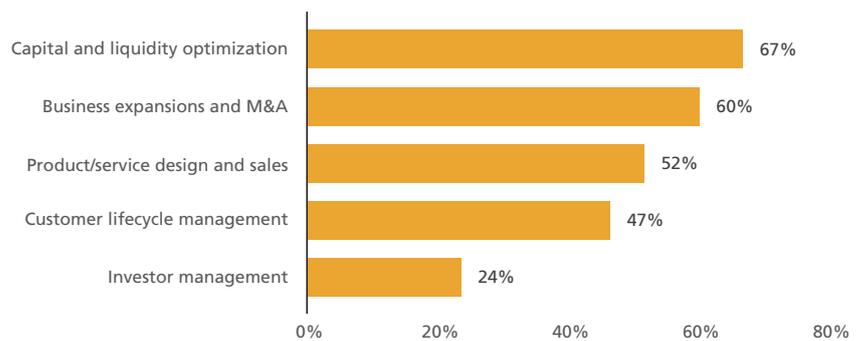
Figure 13: Creating a new enterprise risk management framework

Enterprise risk management framework



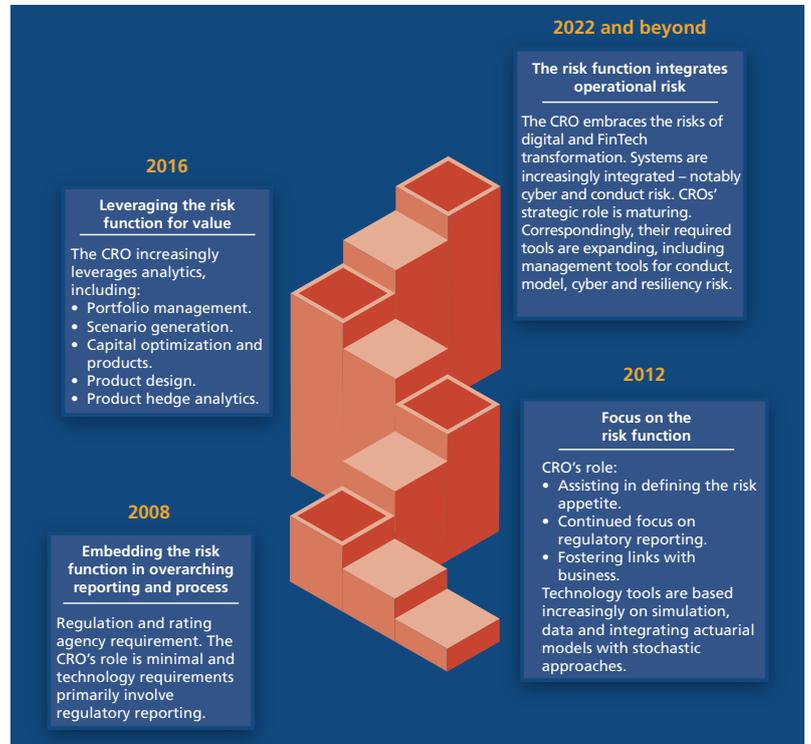
Source: Chartis Research and TCS

Q9: What are the business touchpoints where risk functions can significantly influence associated competitive-advantage KPIs?



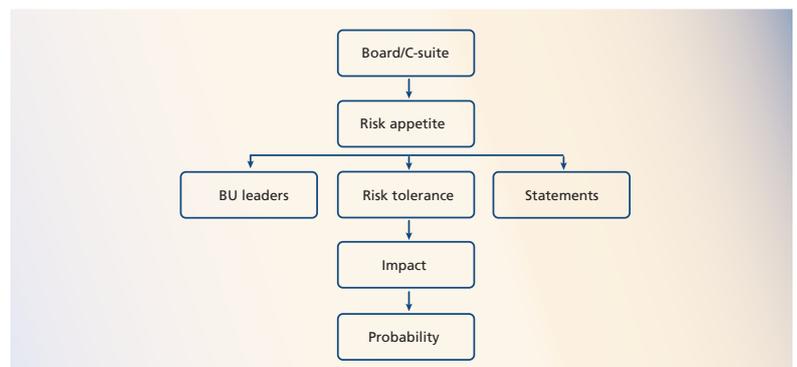
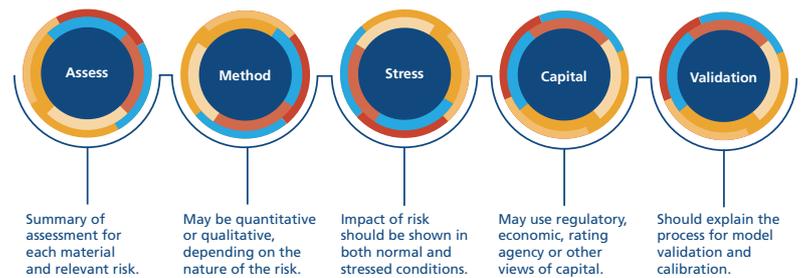
Critically, in this new environment, the CRO now needs to examine the impact of operational risks inherent in new digital strategies and any new infrastructure required, as well as the broad operational risks in such elements as Big Data, including model risk, conduct risk and data privacy issues (see Figure 15).

**Figure 14: The risk function's evolution leads to associated changes in the set of technology tools it requires**



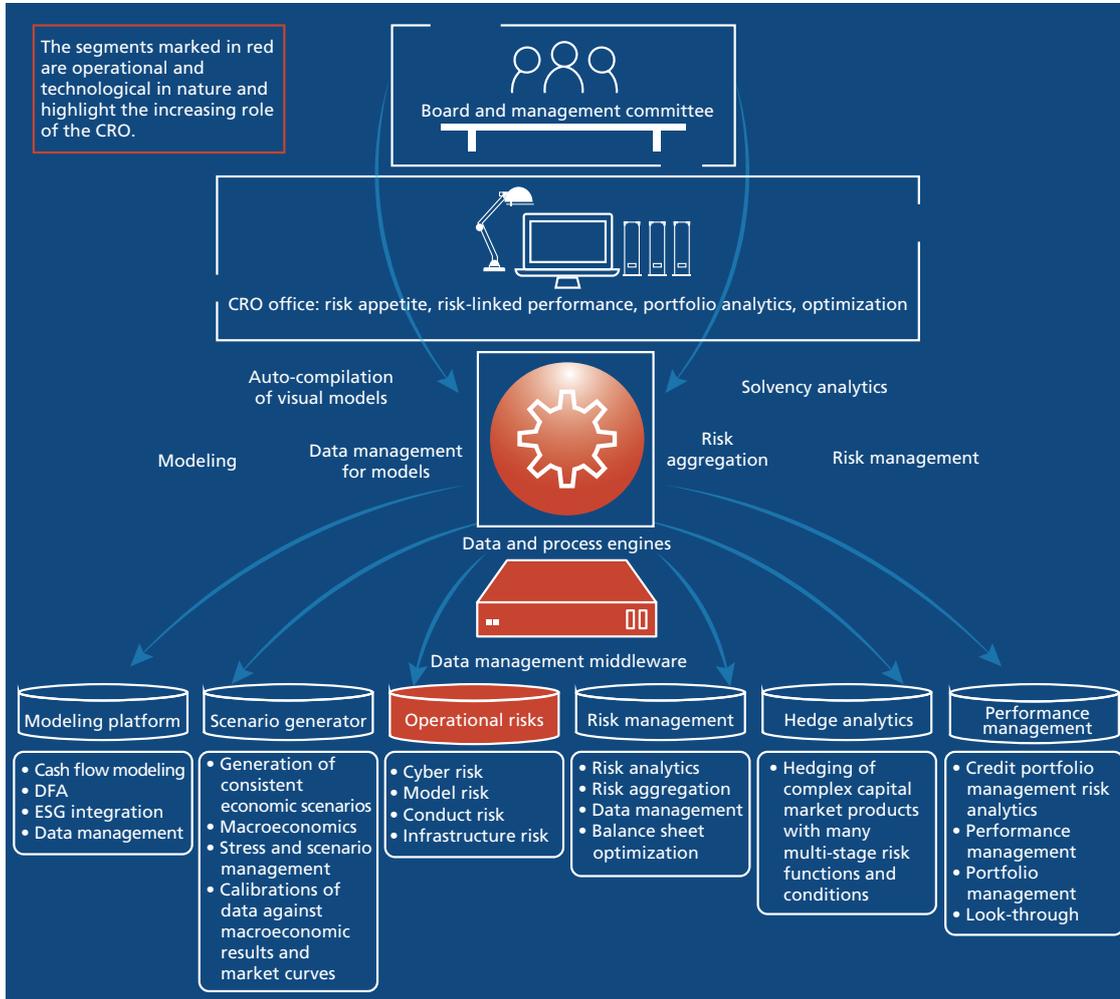
Source: Chartis Research and TCS

**Figure 15: Risk-aggregation mechanisms/tools are a strategic responsibility and opportunity for the CRO**



Source: Chartis Research and TCS

**Figure 16: Aggregating the CRO function's new tools**



Source: *Chartis Research and TCS*

The sub-segments and components of these tools can be aggregated into six major modules or categories (see Figure 16).

**Focus on scenario generation**

The risk function is embracing a variety of leading-edge scenario-generation tools for operational risk. In doing so, it will have to move beyond pure financial and actuarial scenarios to capture the impact of such operational events as cyber disruptions (see Figure 17).

The core scenario-generation engine needs to support a variety of stress-testing processes.

**Simple stress test**

- Define every single risk factor shock; other risk factors remain untouched.

**Historical stress test**

- Use the risk factor changes observed during a historical period.

**Hypothetical stress test**

- Define shocks for core factors; predict shocks for other factors based on regression.

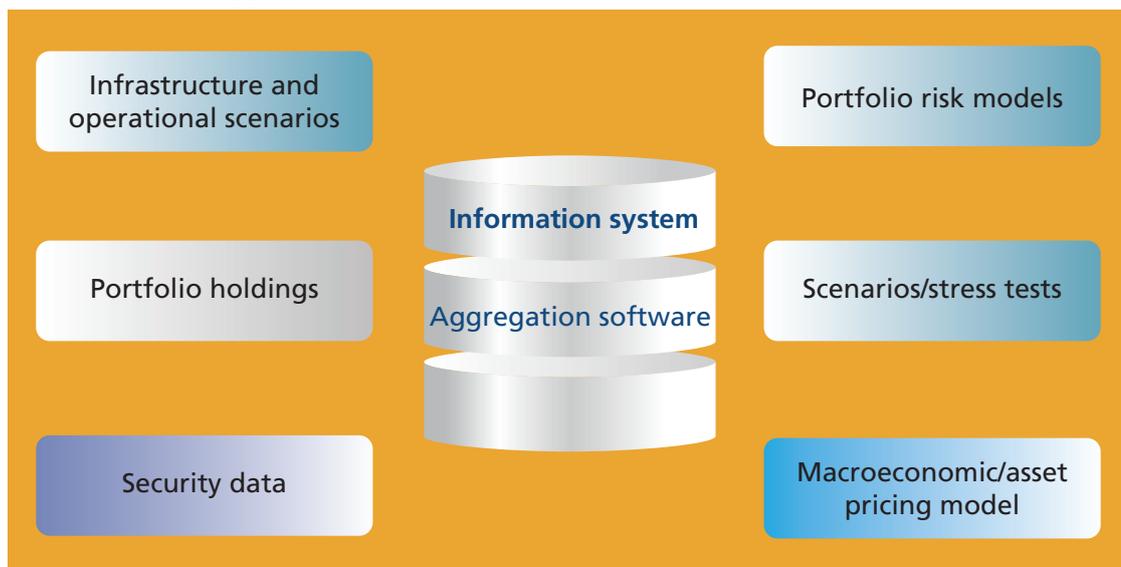
**Reverse stress test**

- Identify the scenarios/stresses that could cause the business to fail.

**Parameter stress test**

- Define a shock on a model parameter.

**Figure 17: Scenario generation – a common quantification tool for diverse risks, allowing sophisticated risk aggregation**



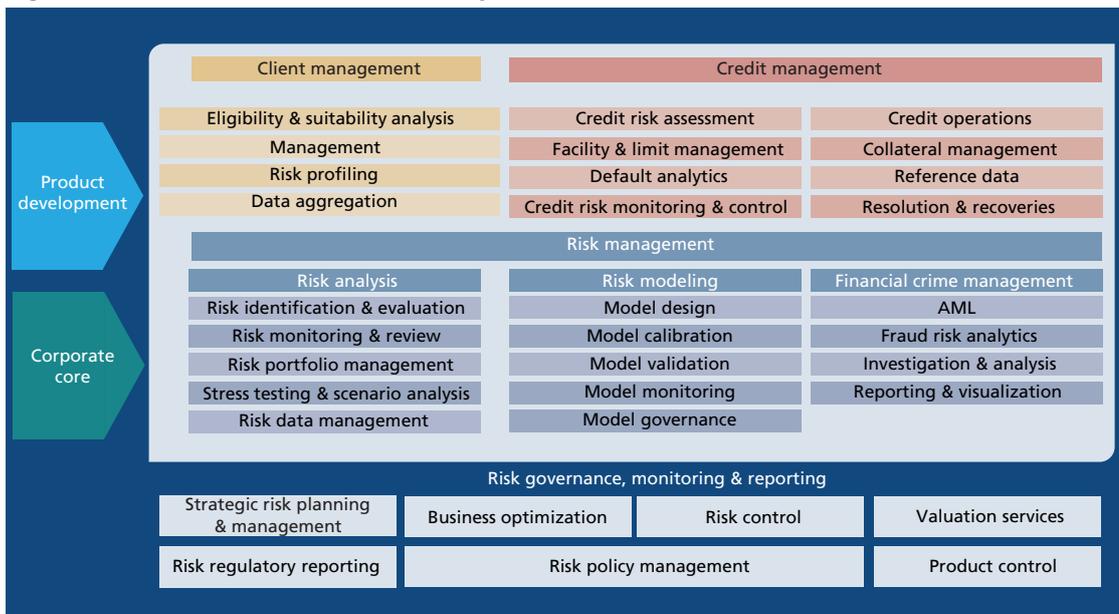
Source: Chartis Research and TCS

## Key theme 5: Structural change is occurring in the risk function

As the risk function changes, several structural shifts are occurring.

- First, it is becoming more **centralized** (see Figure 18). In some cases, the actual risk functions and capabilities themselves are centralizing; in others, it is the relevant infrastructure (the computational engines, for example). So rather than developing a single CRO function, firms are centralizing many of the functional and technological capabilities.
- The risk function is also becoming more **externalized**, particularly in larger institutions, where risk capabilities are increasingly being made available to organizations' client base (or at least the larger clients).
- Finally, the risk function is being **commercialized**, as firms increasingly look to earn revenue from the risk group itself. Some institutions already have fairly substantial risk 'businesses'.

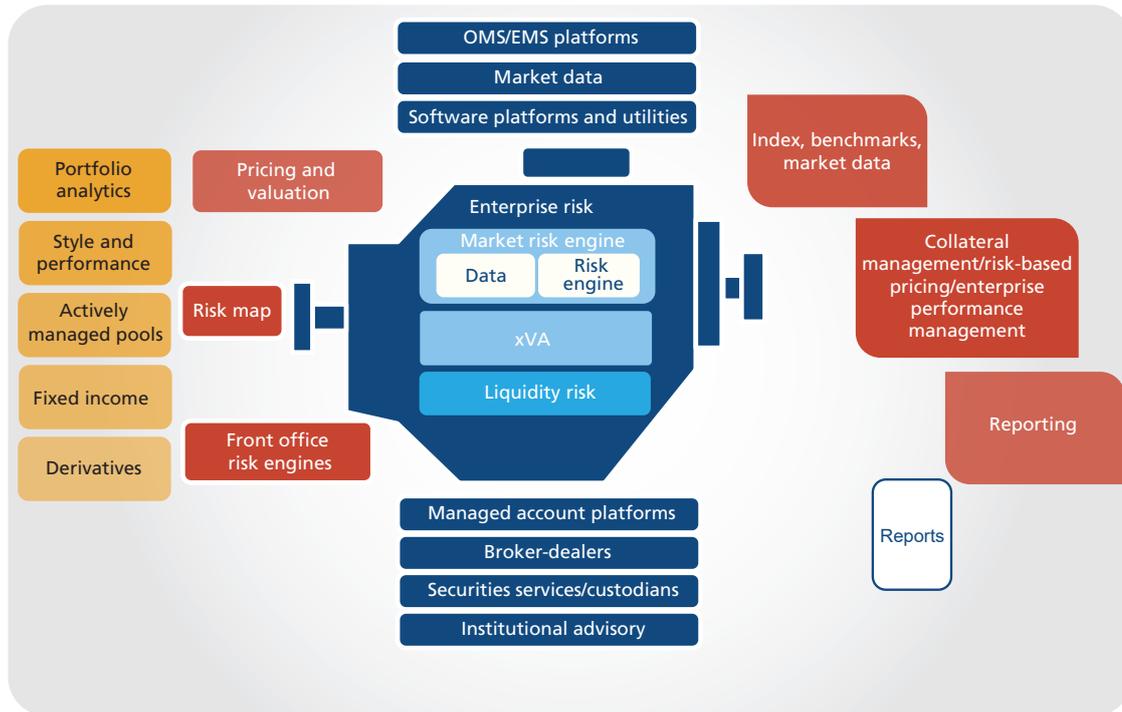
Figure 18: The centralization of the risk capabilities model



Source: Chartis Research and TCS

The second and third developments in particular (see Figure 19) are interesting: many institutions that ceased their externalization and commercialization activity under regulatory scrutiny, concerned that they might be seen as violating their fiduciary duties, are now reintroducing externalization and commercialization in the risk function. Over time, institutions have observed that certain types of externalization seem to attract the eye of regulators, while others do not. This has given them the confidence to pursue a more aggressive commercialization and externalization strategy. Indeed, the example set by insurance brokers and large asset managers has been too strong to ignore.

**Figure 19: The externalization and commercialization of risk services**



Source: Chartis Research and TCS

## 4. Conclusion

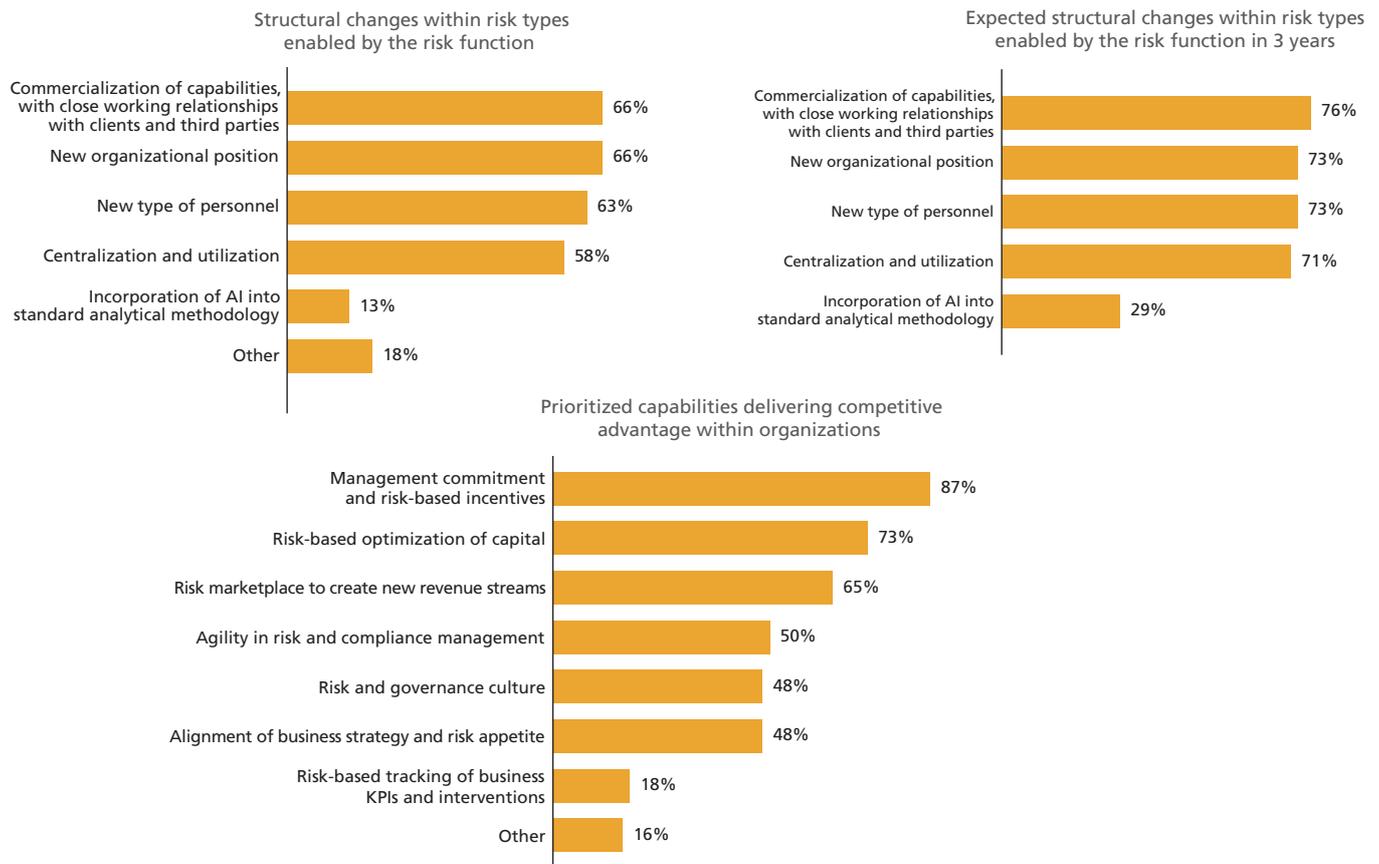
Most of those we interviewed (almost two-thirds) said that they had already built – or were in the process of building – a risk-based analytics platform that would be commercialized and externalized. However, the platform through which externalization would happen, and its ultimate economics, were often unclear. Some of the platforms through which commercialization was occurring at this stage included prime brokerage business units, managed accounts, securities services and institutional advisory units.

that this would happen within the next three years; around a sixth believed it was a reality today. Crucially, the increasing reach of the risk function within financial institutions has overrun its methodological standardization, which we believe presents operational and structural challenges.

### Some skepticism

Nevertheless, while structural changes are happening, our interviewees were skeptical about some elements of the change (see Figure 20). AI, for example, is increasingly seen by many risk practitioners as a statistical process that should be encapsulated within existing methodology, although only a third of interviewees believed

**Figure 20: Risk practitioners’ view of short- and long-term structural challenges**

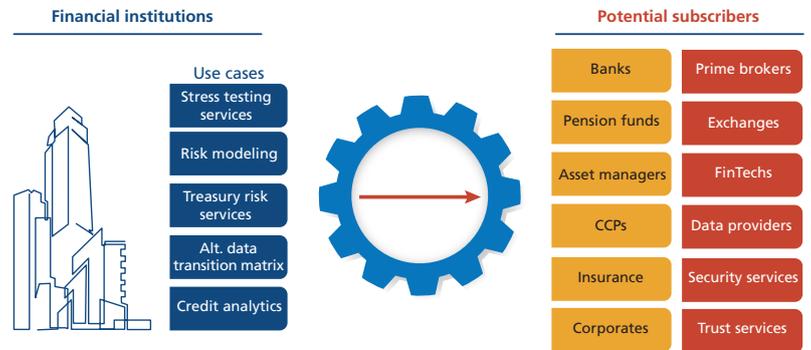


Source: Chartis Research and TCS

### Data externalization in financial institutions

Data externalization – making some form of data available to clients – is probably one of the easier activities open to firms, which is why many have done it. In some ways, it is an extension of the historical research approach, whereby banks would give away some form of research to win clients. From the CRO’s perspective, data giveaway is becoming a relatively widespread phenomenon. Most of the financial institutions we surveyed had some form of data externalization program in place, and the introduction of novel statistical tools and enhanced simulation methodology is seen as central in this strategy (see Figures 21 and 22).

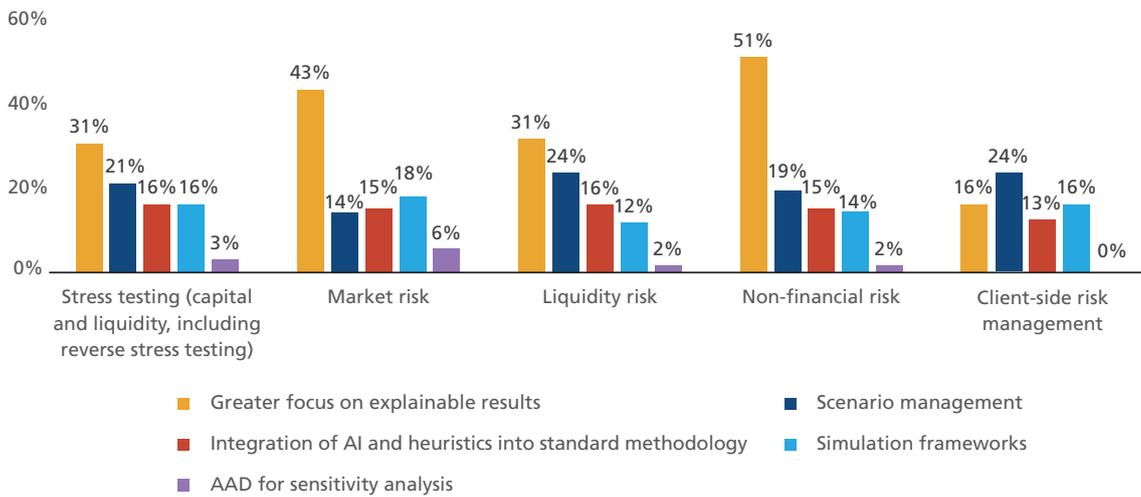
**Figure 21: Data externalization is becoming commonplace**



Source: Chartis Research and TCS

**Figure 22: How to improve data externalization**

Q12: How can the methodological framework for each risk type be improved to deliver competitive advantage?



Source: Chartis Research and TCS

## 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.

### Tools and methodologies

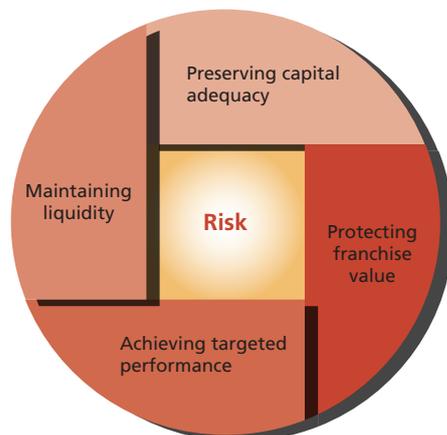
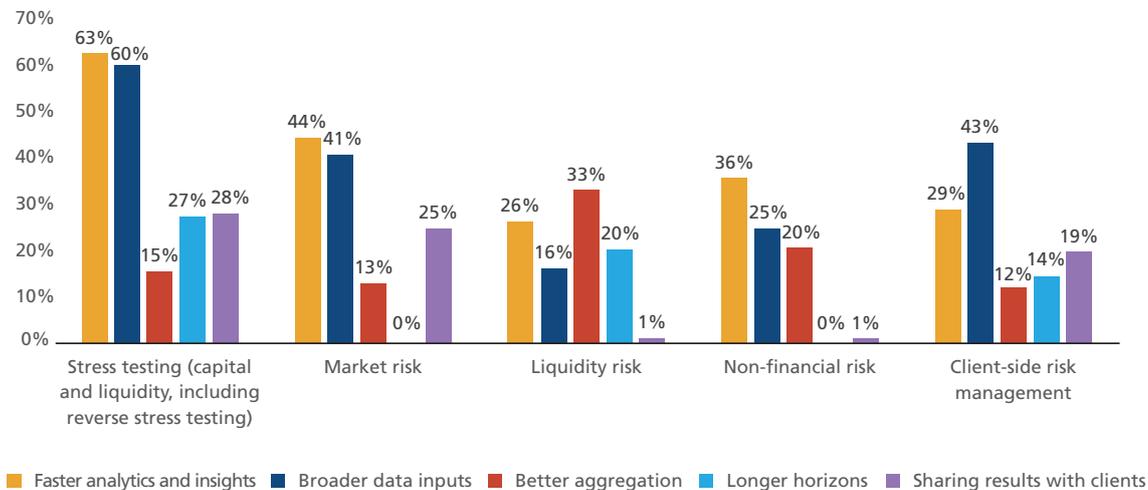
To summarize, without a broad set of tools and methodologies, CROs risk being unable to fulfill their increasingly multidimensional mission within financial organizations. Our surveys and interviews reveal that, to achieve their goals, firms are beginning to develop a new dynamic risk infrastructure and architecture that includes scalable and large-scale data, more rapid analytics and tools capable of dynamic insights (see Figure 23). This, however, is a complex task requiring firms to focus on multiple dimensions that include data architecture (databases, data models and new frameworks to describe data, including graphs), organizational structure and personnel, technology frameworks, and new paradigms for integrating the risk team with different business, support and operating functions, including finance.

While the evolution of the risk function has placed the CRO's office in a privileged position to inform decision-making and strategy at the enterprise level, significant barriers remain. In effect, leveraging risk tools (such as scenario-generation engines) and working toward standardizing quantitative approaches to emerging risks rely in part on a successfully integrated approach. And although an integrated approach can be logistically complicated, the major hurdle that remains is a cultural one. The dissonance between the risk function and the wider business makes it challenging to form the relationships necessary to unify approaches beyond regulatory compliance.

However, as the CRO role has evolved to include expansive responsibilities, with a view into all departments, organizations can no longer afford to manage risk in functional silos. The CRO of

**Figure 23: How to improve the operational framework for risk**

Q11: How can the operational framework for each of the risk types be improved to deliver a competitive advantage?



Source: Chartis Research and TCS

the future is one who embraces a strategic role beyond compliance and takes advantage of potential externalization and commercialization activity.

## **Benchmarking and beyond**

One key takeaway of our research was that in achieving this new environment, very few financial institutions (almost none, in fact) were best in class in all categories, dimensions and lines of business. In a follow-up report to this one, covering benchmarking and analysis, we provide the tools with which financial institutions can analyze and learn from other financial firms, their peers and the rest of the industry, to determine how far along the evolutionary curve their particular risk function has traveled.

In addition, a series of smaller reports considers how the core themes explored here are playing out in five sub-segments of the financial services industry: universal banking, the buy-side, insurance, retail and investment banking.