

Research partner



Investment Banking: The Evolution of the Commercial CRO

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





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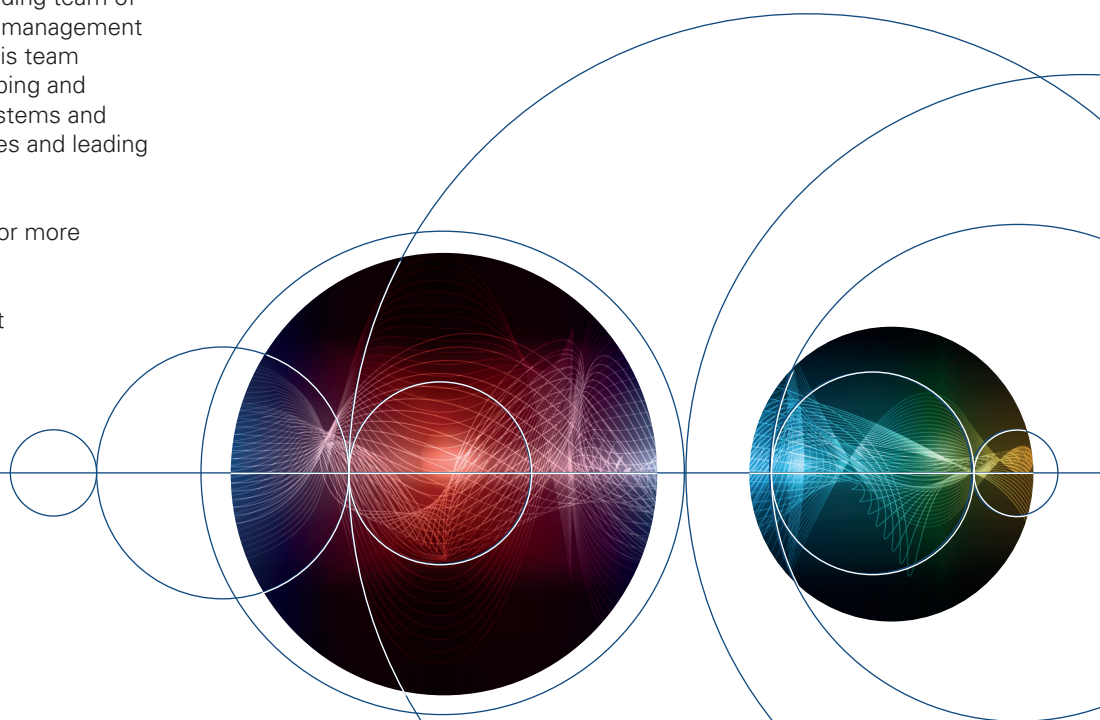
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Using expertise gained from working with global banks and insurers and regulatory and development institutions, as well as specialty firms, TCS has developed customizable solutions to help global BFSI organizations manage risks better, leverage ecosystems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

For more information, contact:

bfsi.marketing@tcs.com

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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 function¹ (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.

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 unit as a whole.

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 finance 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 financial institutions 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 and context

Considering investment banking and traded markets as a whole, the risk function has expanded, albeit with some rebalancing, and an evolving risk culture is emerging (see Figure 1). Some elements of the risk function are now expected to be more commercial, earning money or helping firms retain their customers, in a way similar to how enterprise research entities used to operate.

Several forces and dynamics are helping to reshape this evolving risk culture. Driven largely by regulations such as Fundamental Review of the Trading Book (FRTB), as well as market risk and its pricing and analytics, risk culture is becoming more data-focused. On the buy-side, market risk management is almost entirely provided as risk as a service (RaaS).

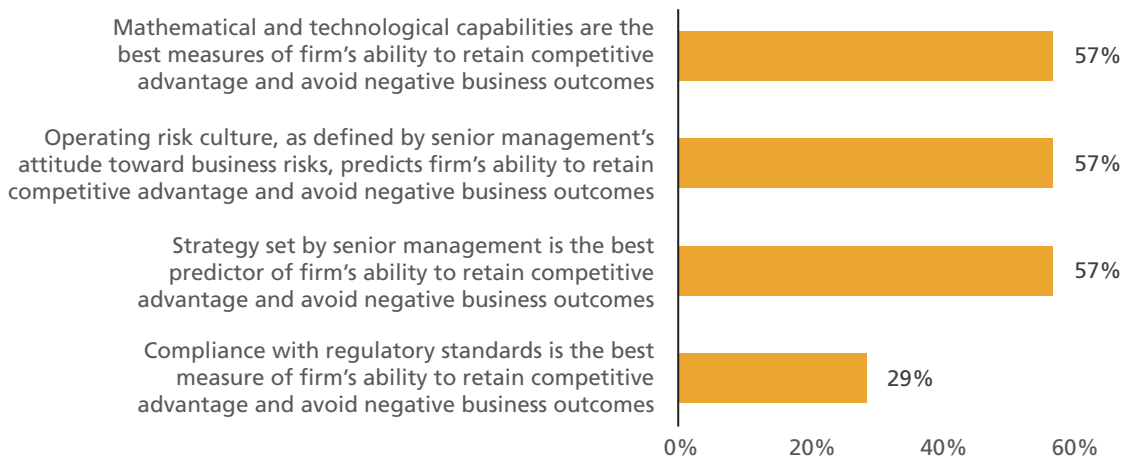
Meanwhile, front-office risk technology is being rebuilt around xVA solutions, as classical front-to-back offerings increasingly give way to more flexible frameworks, including dependency graphs. There is also a strong move by banks with significant trading businesses toward analytical and application frameworks. And the involvement of buy-side firms in credit markets is fundamentally reshaping the structure of those markets, with significant implications for securitized markets globally, and especially the commercial mortgage-backed securities (CMBS) and collateralized loan

obligation (CLO) sectors in the US. This and other shifts are being enabled in large part by Python and its ecosystem. Thanks to Python, everyone is now a programmer, in charge of far more sophisticated tools than the spreadsheets of old.

In the trading book, the most significant shift has been a renaissance in fixed-income analytics, as a more diverse ecosystem of providers is increasingly sustained by substantial growth in demand across asset classes and risk types (notably, evaluated pricing and securitization markets). We are also seeing a substantial restructuring of fixed-income markets, especially in securitized areas – a change accelerated by the COVID-19 pandemic. While rapid growth in fixed-income data and analytics will continue, it will increasingly interact with credit and behavioral components.

Figure 1: Risk culture – operational and evolving

Q7: What is the role of risk culture in driving competitive advantage and avoiding negative business outcomes?



Source: Chartis Research and TCS

3. The evolving role of the CRO function

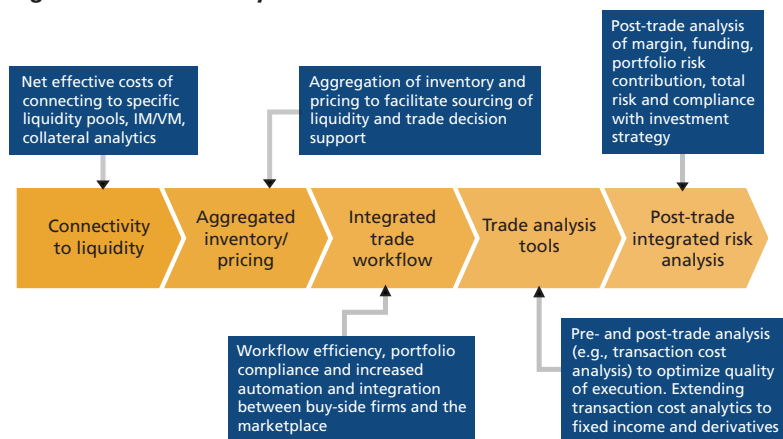
Fulfilling key technology requirements

How this change is affecting the risk function depends on where a firm operates. In the equity and futures and options markets, many elements of the risk management process are becoming embedded in larger trading and trade-processing platforms. Platforms such as Fidessa have provided a point of re-integration, bringing together a variety of risk analytics, transaction processing and market data into a single platform. We believe that similar developments and features are emerging for broader buy-side risk management firms as the over the counter (OTC) market unbundles. As a result, the CRO needs to be able to understand and optimize the technological infrastructure and ecosystem in which the trading business operates.

However, achieving this requires some key technological capabilities:

- Firms must be able to invoke risk management as a service on demand in near-real-time.
- Analytical libraries should scale as linearly as possible.
- Firms must be able to manage portfolios independently of scale.
- Internal components should communicate largely on a message-oriented basis with a well-defined internal messaging architecture that can map easily to external messaging and delivery models.
- All pricing and curves data should be held in high-performance array-oriented databases, linked using some form of data grid.
- Support should be provided for multiple types of risk analytics (ranging from market risk and credit risk to initial margin (IM) and valuation margin (VM) calculations, and ranging from pre-trade analytics to transaction cost frameworks). This can be achieved using relatively consistent technology components (such as common databases, analytics definition languages, interfaces and application programming interfaces [APIs]).

Figure 2: The risk analytics value chain



Source: Chartis Research and TCS

- Supporting the full value chain of risk analytics is critical in providing a fully re-integrated view of the unbundled OTC marketplace (see Figure 2).

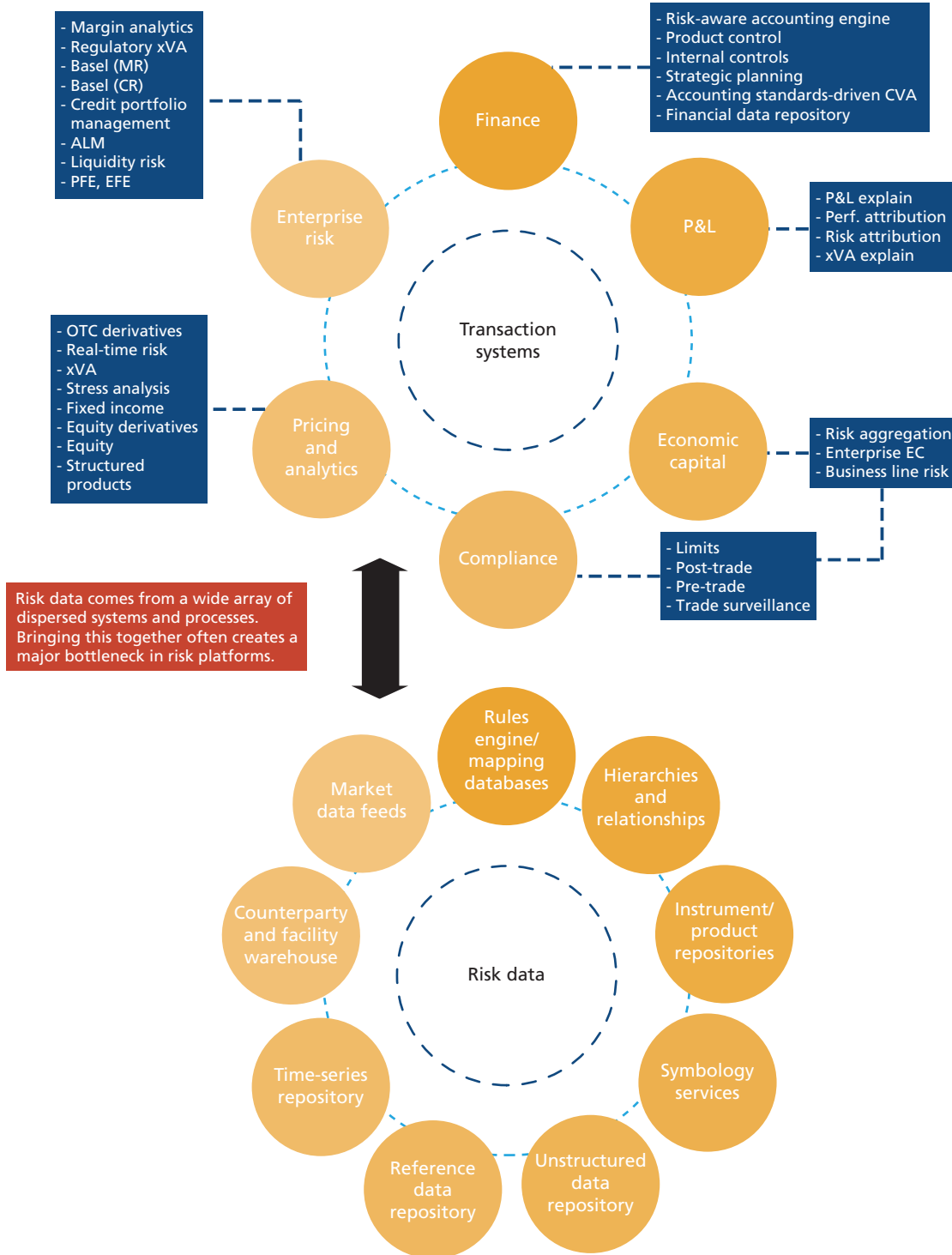
Externalization of the risk function

To evolve with the market, firms are focusing more strongly on the externalization of risk services, and making those services available to investment banking customers. Movement in this area has fluctuated – some institutions that are now leaders in externalization activity either sold their businesses or scaled them down, largely because they were concerned about fiduciary risks as investigations into index construction activity intensified. Then, a few years ago, some institutions began rebuilding their externalized systems and services.

The drive toward cohesive data frameworks

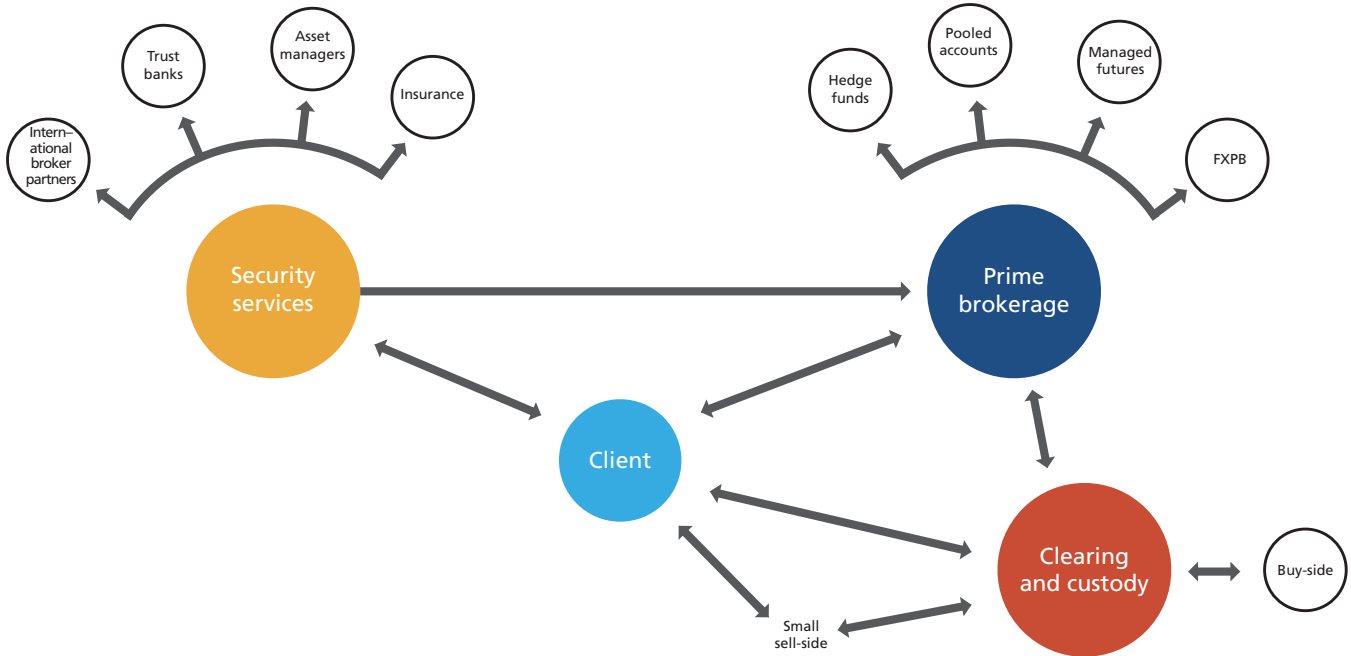
Increasingly, financial institutions are developing data standards that are cross-functional, cross-asset and cross-business line. However, the idea that only one 'type' of data standard should exist across the organization is not feasible, and the current best practice is to have multiple but linked data standards rather than a single universal one. These include messaging standards, standards for data models, storage frameworks and relational-store standards to enable flexible but well-defined data frameworks (see Figure 3).

Figure 3: Transaction systems and risk data



Source: Chartis Research and TCS

Figure 4: Increasing risk externalization across banking



Source: Chartis Research and TCS

Beyond prime brokers and future commission merchants (FCMs)

Some business units have been key to the externalization of risk services. Of the prime brokers we assessed (around 140), all of them have an externalized risk function. What we are seeing is a growing push by firms for the risk function to help the business retain customers or improve the firm’s reputation.

But while the institutional department that provides an externalized function in most banks is the ‘prime brokerage unit’ (including FX primes, prime of primes and FCMs), we also believe that other services-oriented units in the banking infrastructure will increase their investment in externalized risk platforms (see Figure 4).

Securities service providers, as well as those providing clearing and custody, are natural candidates for this expanded institutional universe. Of course, a broad section of large clearers/ custodians are already prime brokers or have prime brokerage arms. The overlap, however, is not perfect.

Reform of the OTC derivatives space has supersized this category and made the corresponding risk requirements more complex. Many banks have to carefully assess how they manage their externalization activity, and how

much importance they give it. While most firms have a program, the vast majority that responded to our survey did not believe that a coherent business model was in place. Even firms with prime brokerage units with commercialization in place did not believe that a single integrated commercialization strategy existed across the institution. Most institutions believed that best practices in commercialization, and the corresponding regulatory boundaries, were still evolving.

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.

Investment banking: strong demand for commercialization/externalization

Demand for externalization and commercialization of the risk function is greater in investment banking and trading/intermediary-oriented activities, because providing risk capabilities to end business lines can be a very powerful tool in managing a firm's own risk.

Investment banks have enjoyed strong profits and a mild operating environment for the past couple of years, as markets have been boosted by sharp and very significant government interventions. Nevertheless, lessons learned in the past decade have not completely hardened. There is a very strong trend for firms to reduce their capital usage and work to provide as much agency-oriented service as they can. As a result of this structural shift, the CRO's role has increasingly moved into a more active commercial framework. In addition, the incident involving Archegos Capital Management² has highlighted how vital it is that investment banks understand the risks their clients are taking (and ideally provide technology to manage these issues). Given that many prime brokerage platforms now provide some form of client risk analytics, it would seem that this trend is well underway.

² See, for example, <https://www.reuters.com/article/usa-markets-blocktrades-timeline/timeline-diary-of-a-meltdown-how-the-archegos-capital-fire-sale-went-down-idUSL1N2LS332>