CELENT

EQUIPPING THE FRONT OFFICE FOR THE NEW RISK ENVIRONMENT

A Survey of Strategic Business and Operational Priorities

Cubillas Ding
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EXECUTIVE SUMMARY

- The nature of regulation has changed: Regulation used to be something firms complied with or reported on, not what they had to contend with directly from a strategy and competition standpoint, which is what the industry is facing with the current onslaught of legislation. Survey respondents cite Basel III CVA, liquidity regulations, and Dodd-Frank derivatives reforms as regulations that will most impact trading desks in the coming years.
- Not surprisingly, 38% of study participants expressed the perception of the aggressiveness of regulatory changes and related uncertainties as exerting the most pressure on trading operations, while 21% of respondents cited constraints on capital as the next important pressure area.
- For tier 1 global institutions, Celent expects Dodd-Frank and EMIR derivatives reforms, as well as Basel III, to individually cost between $150 million and $350 million per firm at least. This is larger than any of the "big" pre-financial crisis change programmes that we have seen for compliance initiatives in the last decade, such as for SOX, AML, IFRS, MiFID I, and Basel II.
- The ongoing impact of regulatory dynamics, in conjunction with the effects of economic deterioration, reputational issues that still plague the financial industry, and "scarcity of capital" effect from regulation specifically related to liquidity, funding, and capital—these are continuing to cause a reduction in risk-taking in the regulated banking sector, where 50% indicate selective reduction in risk appetite, and 33% have indicated "across the board" risk appetite reductions.
- The different dynamics are also expected to have a direct impact on P&L and trading economics, with firms citing capital constraints and increased regulatory capital charges as having a direct impact on most capital markets businesses, in particular credit and rates.
- Celent observes a number of top themes in how firms are responding to mitigate the impact: To reduce and optimize Basel regulatory capital / RWA in existing business lines; to systematically optimize the use and placement of collateral at a firmwide level—across different business lines (securities lending, exchange-traded markets, and cleared OTC as well as in non-cleared OTC arrangements); to prepare processes and systems to move trade to a central clearing environment; and lastly, a general thrust to improve operational efficiency in order to mitigate against the erosion in margins and profitability. In order to underpin and execute these initiatives effectively, firms would require a significant upgrade and/or, in certain cases, a revamp of their trading, risk, and capital management infrastructures.
- For different institutions, the level of ambition for business and infrastructure capabilities may vary, but one area where we see a consistent theme—and where Celent believes future battles are won and lost—is in the manner to which performance and risk measures are deployed and utilized, especially in the front office. Here, 60% of firms believe that bringing performance and risk measures in tandem to the front line can be used to shape and facilitate the right risk-taking culture, behavior, and incentives within a firm's trading operations, therefore facilitating better trading decisions, stronger controls, and a more accurate picture of profitability.

- The gaps and/or barriers between ambition and reality remain formidable. In speaking with firms, the technology and data issues are usually around areas such as: fragmentation of systems and trading risk data sources resulting in technology and operational complexities (70%); achieving an aggregated view across counterparty, desks, products, and geographies (60%); and the need for stronger front office risk tools and controls (42%). Here, Celent believes that, if "legacy baggage" within financial institution is not properly addressed, new capabilities will be increasingly difficult to develop given the growing pace, complexity, and demands of regulations on the horizon.
- Responses also indicate that the majority of firms (60%) have significant manual processes and checks, often with a lack of straight-through and data integration between front office pricing and decision points with middle/back office market, credit and capital management systems, which are required to produce the required performance and risk measures accurately and in a timely manner for the front office.
- In the longer term, whatever the term "real time" means in the context of trading desks at present, the emerging consensus seems to be for firms to have at least an aggregated, near-real time view of positions and exposures; and a timely predeal delivery of risk and capital metrics such that the front line can be sufficiently effective in making risk-adjusted pricing and trading decisions before entering into a deal.
- In the near term, the priorities for risk technology and operations are: For the front office, firms are looking for risk-aligned decision-making tools, analytics, and metrics achieved in an automated manner (>40%). On the other hand, at an enterprise level, firms are looking to achieve tighter alignment with front office processes (80%) and golden sources of data (40%) to ensure greater timeliness and accuracy.
- In the longer run, Celent believes that winners will be characterized by the following principles:
  - Exploitation of next-generation technologies.
  - Coherent risk IT strategy underpinned by strategic principles and sound IT practices.
  - An ecosystem change approach across end-to-end trading and risk workflows.
  - Tight orchestration and improved operational efficiencies.
  - Initiatives catalyzed by regulation, but led by innovation and value.

While the industry anticipates changes and structural shifts in the coming years, individual firms will face a high degree of risk and unpredictability in how the various markets, participants, and end clients will react and respond. Although no one has an absolute insight into how the end game will look, firms would do well to prepare and equip themselves—to perceive and discern risk more clearly in a rapidly changing environment ahead (without a fragmented lens), and to develop sustainable mechanisms that provide the firm with a collective perspective to make decisions on. Firms need to make investments now for new realities emerging on the horizon.

INTRODUCTION TO MARKET STUDY

This study, sponsored by SAP and executed independently by Celent, was conducted to understand how senior executives from global tier 1 financial institutions envisage the future of their capital markets businesses and how their organizations are formulating strategies towards their goals.

This report draws insights based on the changing economics of equities, fixed income, credit and rates businesses, and where trading and risk management needs to evolve due to market structure changes, emerging regulations, and disruptive technologies on the horizon for banks and broker-dealers.

The report specifically aims to provide:

- An overview of the business and technology priorities of capital markets and wholesale banks.
- A snapshot of where firms are focused in their regulatory initiatives.
- Relevant perspectives about the future shape of front and middle office business models/operations around the management of risk.
- Observations on good practices around operations and technology management.

This study focused on more than 15 tier 1 global capital markets and wholesale banks[1], involving both qualitative interviews and quantitative surveys primarily across North America and Europe. Roles targeted include senior executives (in particular VPs, directors, executive directors, business unit leads, and heads of departments) from front office trading, financial risk management, product control, and finance, as well as risk technology and operations.

[1]For this study, our classification of global tier 1 wholesale and capital markets banks covers firms with more than US$500 million in assets.

THE REGULATORY AGENDA IS ENTERING A PHASE WHERE IT IS TIME TO EXECUTE

The past few years have seen intensive discussions and industry debates around regulatory change, market structure reforms, and the impact on a bank's financial resources. Celent believes the industry has reached a pivotal moment where it is now time to execute rather than talk, despite regulatory uncertainties still ahead.

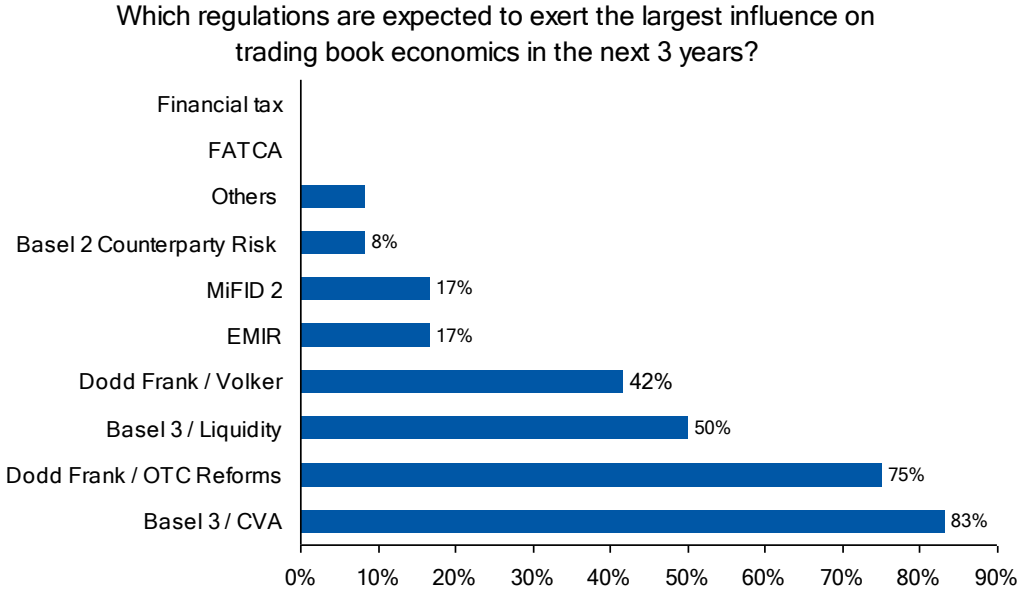
FIRMS BRACE FOR A COMPLEX RISK AND REGULATORY LANDSCAPE IN THE COMING YEARS …

As much as financial firms experiencing regulatory fatigue characterized the market leading up to the crisis, the pace, complexity, and demands of regulatory changes on the horizon are expected to intensify in a post-crisis environment. Moreover, the nature of regulation has changed. Regulation used to be something firms complied with or reported on, not what they had to **contend with directly from a strategy and competition standpoint**, which is what the industry is facing with the current onslaught of legislation.

The individual pieces of regulation look daunting in and of themselves. However, when one considers **the mosaic of regulations as a whole** and with the changes coming to effect in a relatively short period of time, we see a potent concoction of dynamics—what we term as the "cocktail effect"—that cannot be clearly predicted, even though directionally things may be apparent.

We asked survey participants what regulations would exert the biggest influence on the trading book, and not surprisingly, capital and regulation-driven market structure changes are key issues. Respondents specifically cite Basel III CVA, liquidity regulations, and Dodd-Frank derivatives reforms as regulations that most impact trading desks in the coming years.

Figure 1: Expectations of Regulations with the Largest Impact



Source: Celent Capital Markets Trading, Risk Management, and Technology Study

Table 1: Regulatory Catalysts Impacting the Trading Book in the Coming Years

CATEGORY	DESCRIPTION	AREAS OF IMPACT
Capital	Capital type regulations which have implications for the magnitude and type capital or leverage held in an institution's balance sheet.	Counterparty Credit Risk (CCR) enhancements. CVA charges. Securitisation. Leverage ratio. Minimum regulations for swap dealers (SD) and major swap participants (MSP). Exposure and concentration limits. Reliance on external ratings.
OTC derivatives and market reform	OTC derivatives market reforms—rules related to how cleared OTC and noncleared transactions are quoted, executed, cleared, reported, and governed over pre- and post-trade cycles.	Pre-trade transparency. OTC execution. Commodities. Mandatory clearing. Collateral management. Confirms, reconciliation, and compression. Real time reporting
Liquidity	Regulations that have implications for how quickly a loss-making position can be exited, the stability of funding sources, and liquidity stress testing practices and reporting.	Liquidity Coverage Ratio. Net Stable Funding Ratio. Local liquidity regulations. Liquidity stress tests and reporting.
Structural Reforms	Structurally oriented reforms that are not specific to the mechanics of how markets operate, with objectives to ring-fence or insulate taxpayers.	Volcker Rule. Dodd Frank, Swaps Push out. Transaction tax. FATCA. HFT regulations.
Investor and Consumer Protection	Regulations to increase transparency and protect investors and consumers—bring compliance and administrative burdens but have less direct strategic impact.	Business conduct standards. Prospectus Directive; PRIPS. Inducements. Compensation.
Business Standards	Regulations to drive higher business standards—carry additional compliance and administrative burdens but have less direct strategic impact.	Record keeping. Registration.

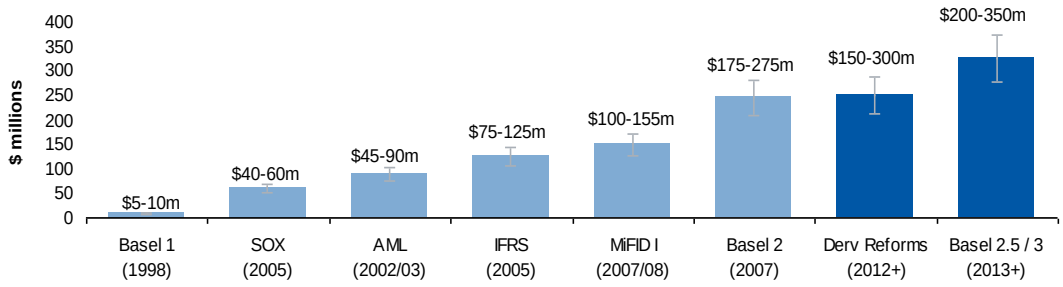
Source: Celent

Implementation Expenditures for Derivatives Reform and Capital Regulations Are Expected to be Significantly High …

In the coming few years, we also expect implementation expenditures for emerging regulations to be highly significant. Figure 2 provides some data points around expected costs for regulatory projects for larger global institutions.

To understand the investment required: If we compare regulations of the past 10 years, we see that Dodd-Frank and EMIR derivatives reforms, as well as Basel III, are expected to individually cost at least between $150 million and $350 million on average per firm for a global tier 1 institution. This is larger than any of the big pre-financial crisis change programmes that we have seen in the past such as for SOX, AML, IFRS, MiFID I, and Basel II.

Figure 2: Implementation Costs for Risk and Regulatory Initiatives for Tier 1 Global Institutions



Source: Celent, Oliver Wyman

For banks with capital markets businesses especially, technology spending will go into areas such as connectivity to new market infrastructures, OTC client clearing initiatives, efficient collateral management / optimization, upgrades to pricing and risk systems, customer / legal entity taxonomy changes, and regulatory capital/CVA management, as well as enhancing decision support capabilities in the front office.

Hence, the weight of regulation is highly significant as both a direct catalyst and the cause of second and third order effects.

… with Market Dynamics and Business Priorities Being Shaped by an Aggressive Regulatory Agenda

Not surprisingly, 38% of study participants expressed the perception of the aggressiveness of regulatory changes and related uncertainties as exerting the most pressure on trading operations, while 21% of respondents cited constraints on capital as the next important pressure area.

With most global institutions already progressing in their regulatory responses activities, bear in mind that firms are getting down to the business of optimizing regulatory activities and capital while emerging regulatory consultations[2] are happening "in flight." Hence, firms are expecting more uncertainty and change.

Elements of regulatory uncertainty also include issues around:

- The continued evolution of funding rules and costs.

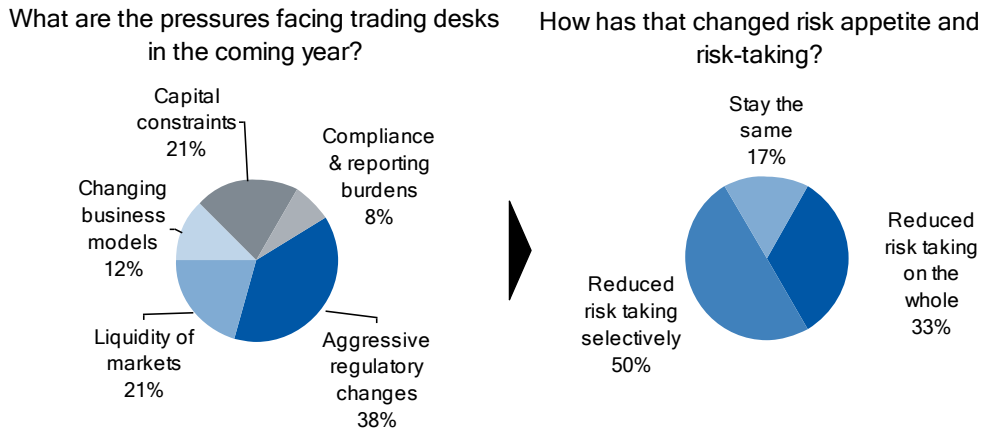
[2]For example, Basel Committee's "Fundamental Review of the Trading Book" and "Principles of Risk Aggregation and Reporting" consultation periods ended in September 2012.

- An uneven playing field in required capital across different countries, which may limit a firm's flexibility to deploy business activities and capital across different jurisdictions.
- The possible separation of what were "integrated" entities/businesses (e.g., prop trading, retail vs. wholesale parts of the bank, trading vs. deposit-taking operations[3]).

It is also worth noting that even the trajectory of what seems to be "set in stone" regulations may be subjected to bigger economic and political forces (e.g., severe economic scenarios or changes in government that result in the dampening down or perhaps even a radical overhaul of regulatory emphasis).

In terms of the second pressure point on capital constraints, cheap funding is no longer as readily available as before. Coupled with that, expenditures to navigate changes toward a new market environment from regulations are increasing, with capital charges from Basel 2.5 and III (for instance) consuming and, in one sense, **trapping what is productive capital**; e.g., a sharp rise in regulatory implementation expenditures and an increase of 2—3X existing Tier 1 capital (e.g., from $200 billion to $450 billion). In Europe, for example, Basel III will create the need for €2.7 trillion in stable funding.[4] In the coming years, the move to central clearing will also require more collateral and capital to be posted.

Figure 3: Market Pressures and Business Priorities



Source: Celent – Capital Markets Trading, Risk Management and Technology Study

Market structure, liquidity, and capital regulations do not just translate to compliance overhead but are directly changing the dynamics of competition, risk-taking, and profitability.

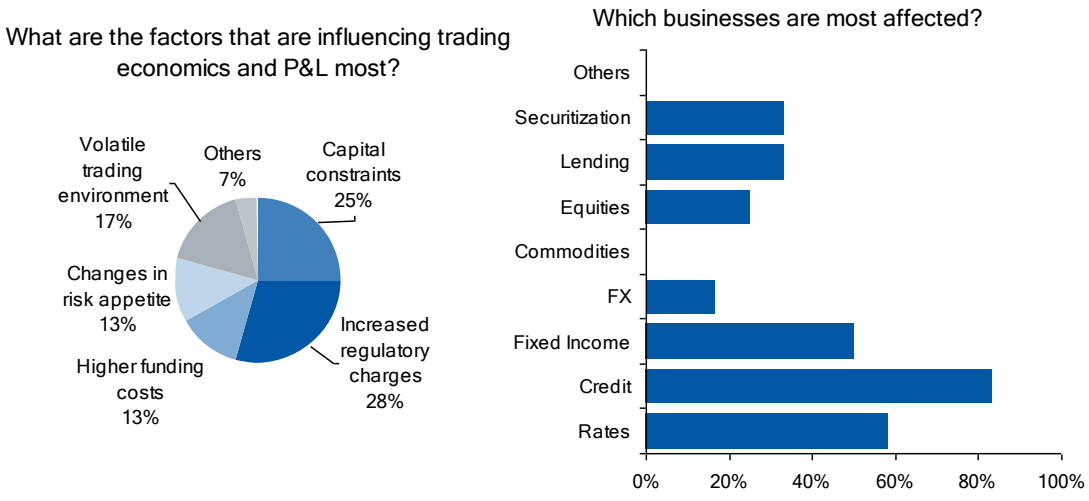
The ongoing impact of regulatory dynamics, in conjunction with the effects of economic deterioration, reputational issues that still plague the financial industry, and "scarcity of capital" effect from regulation specifically related to liquidity, funding, and capital—these are continuing to cause a reduction in risk-taking in the regulated banking sector, where 50% indicate selective reduction in risk appetite, and 33% have indicated "across the board" risk appetite reductions.

[3]See US Dodd Frank Act swaps spin-off provision (Section 716) and Volcker rule; UK Independent Commission on Banking (ICB)/Vickers; and EU Liikanen report recommendations.
[4]Source: Oliver Wyman, "The State of European Bank Funding."

From these results, we can see that the balance sheet of the banking sector is shrinking, and we expect this to continue. Celent also expects the changing dynamics within the sector to have knock-on effects and implications beyond the immediate vicinity—for instance, with entrants (such as insurers, hedge funds, and asset managers) stepping into areas where banks are retreating (for example, structured finance, structured investments, and other specialized lending activities).

The different moving parts are expected to have a direct impact on P&L and trading economics, with firms citing capital constraints and increased regulatory capital charges as having a direct impact on most capital markets businesses, in particular credit and rates.

Figure 4: Direct P&L Impact on Capital Markets Lines of Business, Particularly Credit and Rates



Source: Celent Capital Markets Trading, Risk Management, and Technology Study

For these businesses, industry estimates put return on equity (ROE) reductions for credit and rates (prior to any mitigation efforts) to range between 50% and 75%, while FX and equities are expected to experience a 25–35% drop.[5]

This is the scale of impact which the industry is expecting to come in the years ahead if no action is taken. Of course, institutions which can/have seen this coming have not been standing still, and the actual work to mitigate the effects of this impact has begun in earnest for more progressive firms through regulatory response activities, often initiated from the top down.

[5]Estimates from Oliver Wyman, Morgan Stanley studies

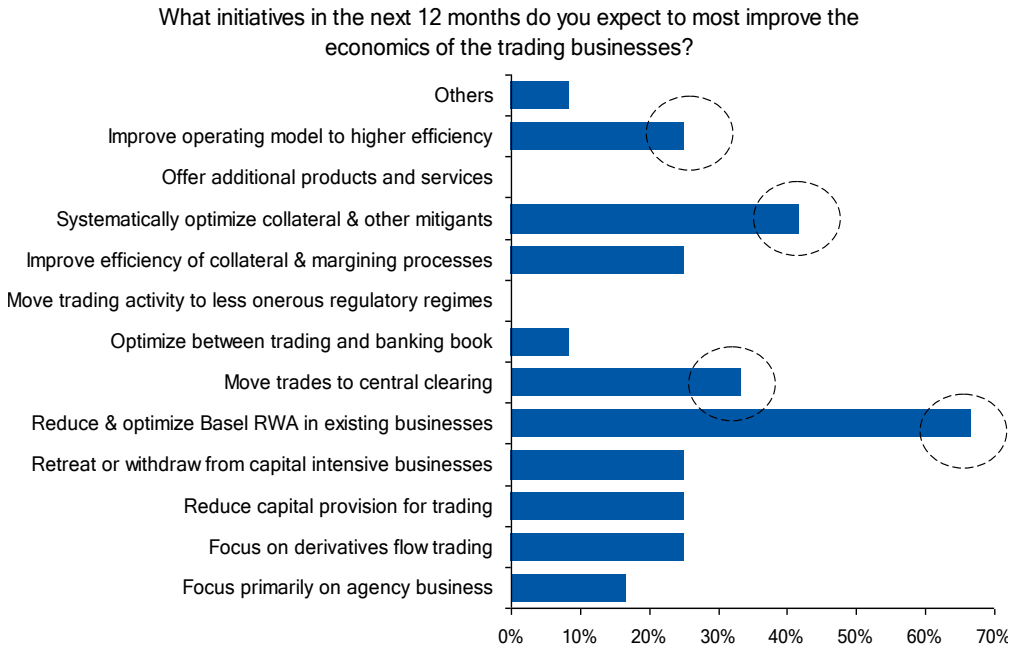
INDUSTRY, BUSINESS, AND REGULATORY RESPONSES

BUSINESS AND RISK MITIGATION EFFORTS IN RESPONSE TO NEW MARKET PRESSURES …

Celent observes a number of common themes in how firms are responding to improve the economics of their trading businesses. These are shown in Figure 5. In our study, the top four initiatives cited are:

- First, related to Basel III—to reduce and optimize regulatory capital / RWA in existing business lines (with more than 60% pursuing this avenue).
- Second, to systematically optimize the use and placement of collateral at a firmwide level—across different business lines (securities lending, exchange-traded markets, cleared OTC, and non-cleared OTC arrangements);
- Third, to prepare processes and systems to move trade to a central clearing environment—in the context of the conservation of capital, as well as to offer OTC clearing access to institutional clients;
- Last, a general thrust to improve operational efficiency to mitigate the erosion in margins and profitability.

Figure 5: Initiatives Firms Expect to Improve the Economics of Trading Businesses



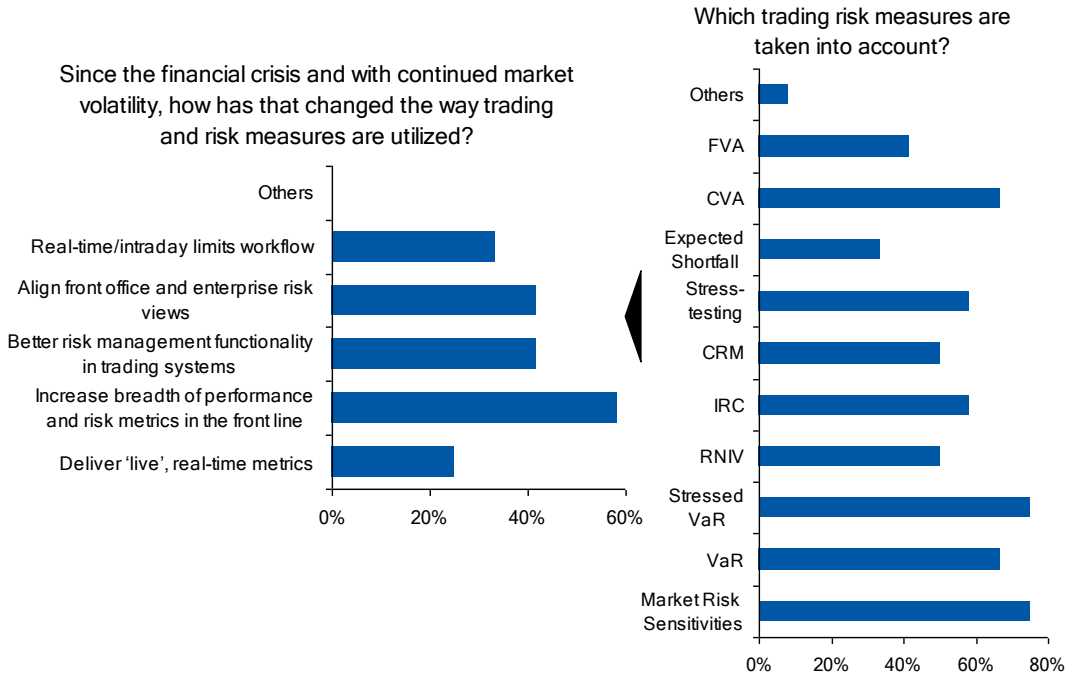
Source: Celent Capital Markets Trading, Risk Management, and Technology Study

If one considers the above mentioned four responses, it is not difficult to come to the conclusion that in order to underpin and execute these initiatives effectively, firms would require a significant upgrade and/or, in certain cases, a revamp of their trading, risk, and capital management infrastructures. Hence, we expect a significant degree of work ahead as regulations become concrete and firms move from planning stages to execution mode in the next few years.

… Calls for Real Time Views of Risk, Operational Alignment, and Decision Metrics in the Front Line

For different institutions, the **level of ambition** for business and infrastructure capabilities may vary, but one area where we see a consistent theme—and where Celent believes future battles are won and lost—is in the manner to which performance and risk measures are deployed and utilized, especially in the front office.

Figure 6: Ambitions for Trading and Risk Measures in the Front Office



Source: Celent Capital Markets Trading, Risk Management and Technology Study

In Figure 6, we observe that the most pertinent themes financial institutions are aiming for in our recent survey include the following:

- First, 60% of respondents cited an expansion in the breadth of performance and risk metrics delivered in (and to) the front line to enable decision-making at the point of risk-taking.
- Second, 40% stated changes towards stronger transactional, pricing, and risk data alignment between front office and enterprise views of risk, as well as better risk management functionality "embedded seamlessly" as part of front office trading workflows.
- Third, to achieve a real time view of risk where risk and limits usage are registered and monitored in real time (or near real time), ideally on a firmwide basis.
- In our study, Celent also asked firms which risk measures are taken into account in the front office. Here, there are metrics one would typically expect: for example, VaR, Stressed VaR, and market risk sensitivities; however, increasingly we also see credit value adjustments (CVA) and funding value adjustments (FVA) now being reflected in front line decisions and pricing.

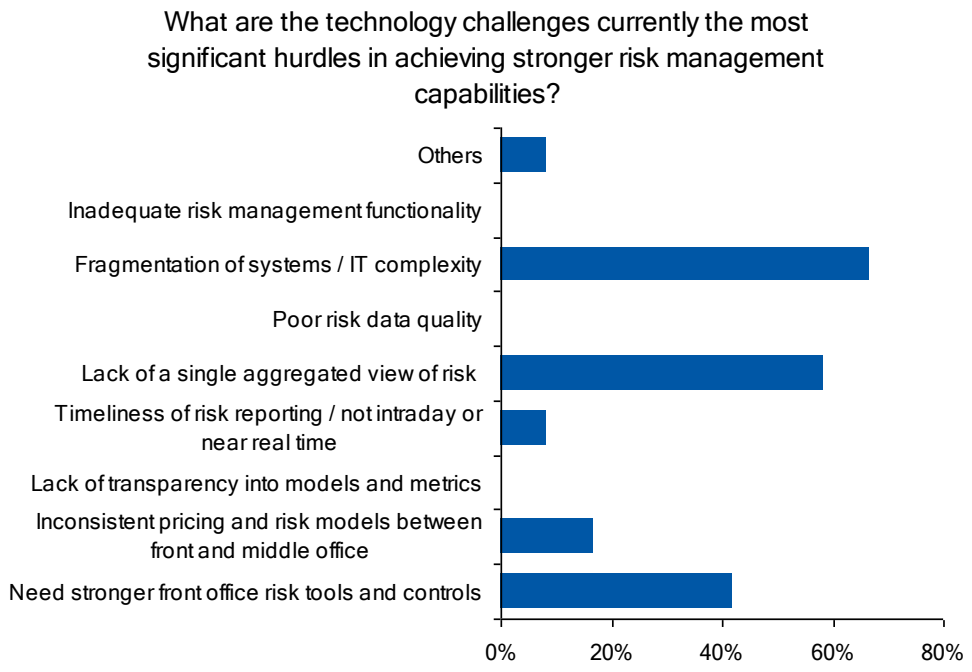
The key takeaway here is that firms believe that bringing performance and risk measures to the front line can be used to shape and facilitate the right risk-taking culture, behavior, and incentives within a firm's trading operations, therefore facilitating better trading decisions, stronger controls, and a more accurate picture of profitability.

And indeed, forward-thinking firms are already beginning to make these investments in their technology infrastructure, not necessarily merely led by regulations, but in anticipation of the strategic changes to their industry in the longer run and to achieve a competitive edge.

Despite Strong Ambitions for the Future, Significant Systemic Challenges Remain in Relation to Systems and Data Fragmentation

Based on the survey, firms have come to terms with how the business is impacted and are formulating appropriate responses. However, if we look at the *reality of where things are*, despite the improvements which have been made so far, there are systemic challenges that remain to be addressed.

Figure 7: Technology Hurdles to Stronger Risk Management



Source: Celent Capital Markets Trading, Risk Management, and Technology Study

The gaps and/or barriers between ambition and reality remain formidable. In speaking with firms, the technology and data issues are usually around areas such as:

- In many instances, trading risk capabilities are hampered by fragmentation of systems and trading risk data sources, as well as technology and operational complexities that arise as a result from this fragmentation and overlap (70% of respondents state this as a key challenge).
- Second, there are also challenges around achieving an aggregated view across counterparty, desks, products, and geographies (around 60%).
- The need for stronger front office risk tools and controls—these include new capabilities such as flexible scenario analysis / “what if” functionality, real time limits monitoring, and risk-based pricing by specific counterparties, etc.

There are a number of key takeaways in these results. The first two are perennial issues that have not gone away over the years. These are, in one sense, legacy barriers rather than new functional gaps.

On one hand, fundamental legacy issues to do with systems fragmentation and firmwide aggregation of data need to be dealt with (and firms have had mixed outcomes in addressing these issues over the years). On the other hand, the new market and regulatory environment is driving requirements for **enhanced capabilities in the front office** which are highly **dependent on addressing these legacy issues**, under more accelerated and pressing conditions.

Hence, what this says is that if “legacy baggage” within financial institutions is not properly addressed, new capabilities will be increasingly difficult to develop given the growing pace, complexity, and demands of regulations on the horizon. There are implications here also for a firm’s go-to-market strategy to defend, sustain, and grow its competitive advantage in a “yet to be defined” future landscape.

EXECUTING FOR THE FUTURE

THE NEED FOR A TOP-DOWN OPERATIONAL ORCHESTRATION…

Since the 2008 financial crisis, there has been a relentless focus on risk governance, the realignment of risk appetites top down, and the efficacy of controlling activities and "checks and balances" made in frontline risk-taking activities.

In general, we are finding that there continues to be a strong concern from senior executives that their capital markets business and trading desks are failing to fully load all the new costs resulting from increases in things like CVA, liquidity premiums, and other risk-weighted assets (RWA) when writing new business.

Here, in order to improve governance and align risk appetite at various levels within the organization, firms need to structure and agree on metrics reflecting growth and other strategic considerations, initiated top down from the Board and senior management levels. A statement of risk appetite and the final list of metrics need to reflect strategic objectives, which in turn needs to be "cascaded down" and translated into operational limits in products, markets, and geographies in business lines.

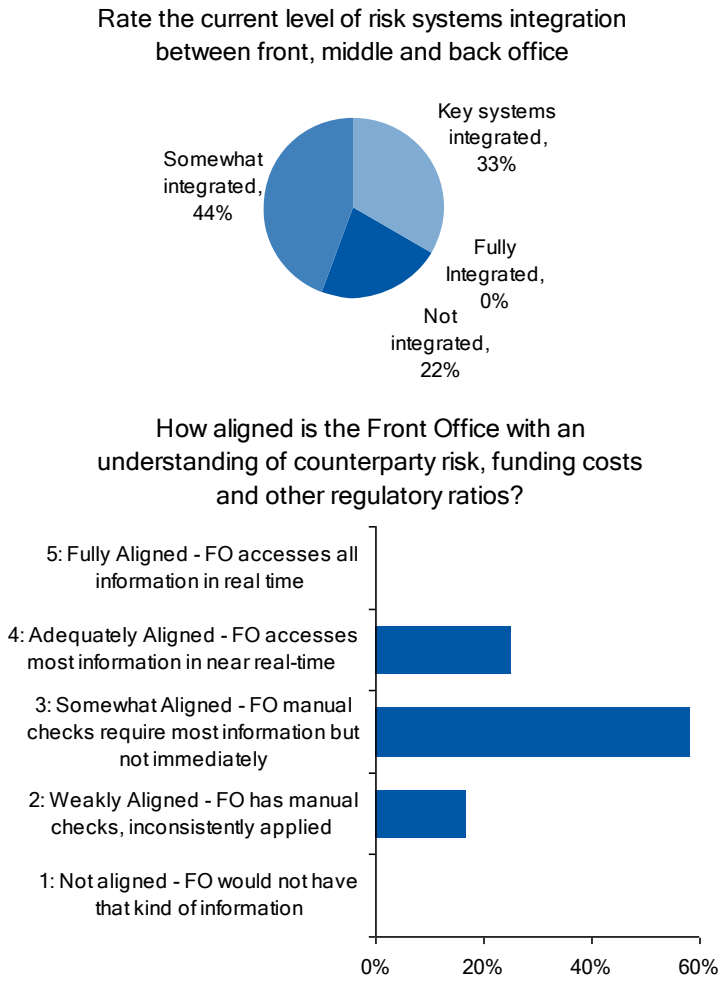
One critical factor for success in achieving operational orchestration entails developing and implementing the technology and operational infrastructure to deliver and embed requirements in day-to-day workflows. These requirements need to be embedded in a dynamic and "easily changeable" manner in technology applications that are developed to support the front office and other risk related processes.

Nevertheless, in our experience, this area is where risk appetite and strategic objectives/measures get lost in translation, and where strategic ambitions are misaligned with execution in the front office.

… REQUIRES STRAIGHT-THROUGH INTEGRATION, INTRADAY CAPABILITIES, AND TIMELY DEAL TIME DELIVERY OF DATA FOR RISK, CAPITAL, AND REGULATORY OPTIMIZATION

Despite financial institutions' stated ambitions towards achieving "real time" risk management capabilities, in reality, the journey towards an end goal of straight-through integration of trading and risk management processes, intraday limits capabilities, and timely pre-deal / deal time delivery of data for risk, capital, and regulatory optimization purposes very much continues.

Figure 8: Integration of Risk Capabilities across Front, Middle, and Back Office



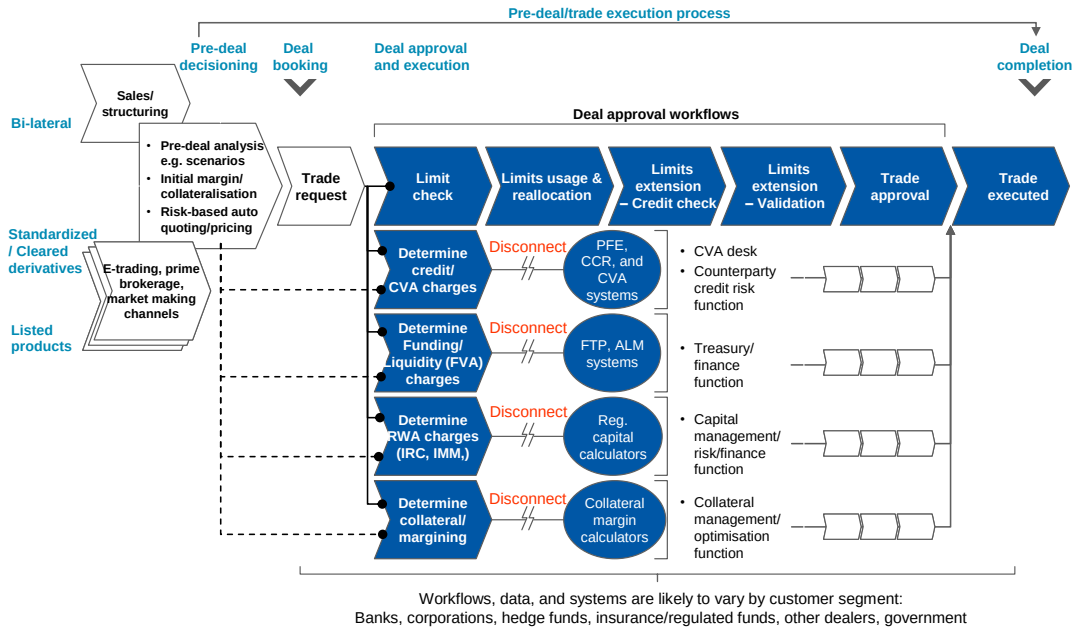
Source: Celent Capital Markets Trading, Risk Management, and Technology Study

When asked, *"How aligned is the front office with an understanding of all these additional costs related to counterparty risk/CVA, liquidity, funding costs, and other regulatory ratios?"* the majority of surveyed firms (60%) responded that they have only have a partial alignment, with significant manual processes and checks, often with a lack of straight-through and data integration between front office pricing and decision points with middle/back office market, credit, and capital management systems, which are required to produce the required performance and risk measures accurately and in a timely manner for the front office.

Optimizing Resource Usage and Addressing the Disconnect in Risk Workflows

One example of this is in the area of controlling and optimizing financial resource and capital usage in the frontline. Figure 9 provides an illustrative example of a pre-deal/deal approval process within a context of fixed income/credit operations, with considerations given to credit value adjustments, funding costs, collateral optimization, limits checking, and trade approvals through these workflows.

Figure 9: Embedding Risk and Capital Management Processes in the Front Line: The Need to Address the Disconnect (Illustrative)



Source: Celent

The first point to make is that: In most firms, these workflows are often disconnected—where data and systems are likely to vary by the customer segment: whether it is another financial institution, a corporate client, hedge fund, insurance/regulated fund, or government entity.

Secondly, whatever the term "real time" means in the context of trading desks at present, the emerging consensus seems to be for firms to have at least an **aggregated, near-real time view of positions and exposures**; and a **timely pre-deal delivery of risk and capital-related metrics** such that the front line can be sufficiently effective in making risk-adjusted pricing and trading decisions before entering into a deal.

In order to achieve these objectives, a number of enhancements will need to be made to existing processes, which include trade pricing/approval (shown in Figure 9), but also performance evaluation of businesses and strategic planning processes involving the business, risk, and finance function in both a qualitative and quantitative manner.

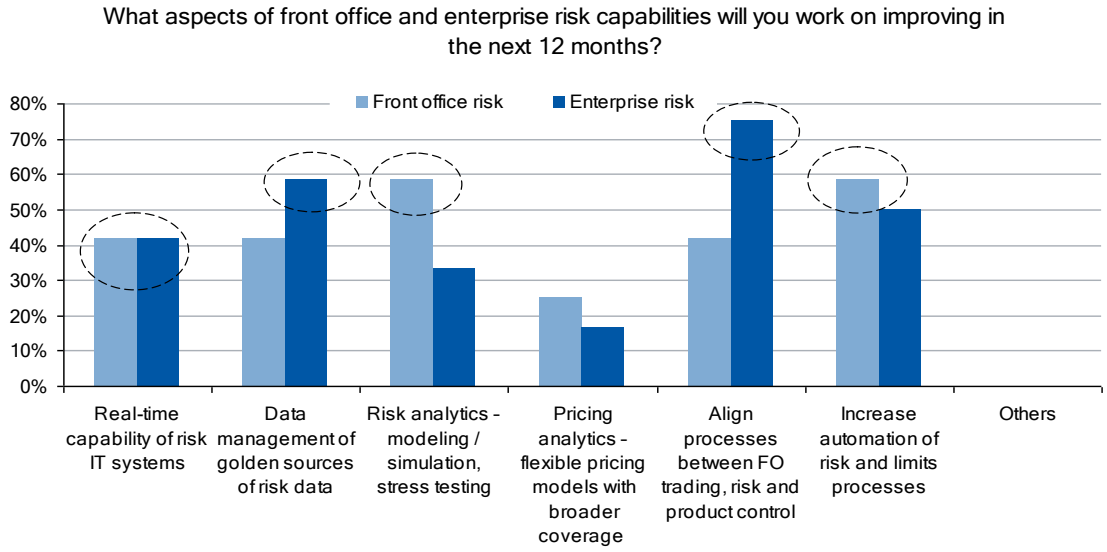
For example, implementing the infrastructure to incorporate the management and pricing of CVA risks "front to back" in an aligned manner requires significant organizational, operations, and technology investment, involving multiple internal stakeholders—from the main dealing and CVA desks, to treasury, risk, and capital management groups as well as collateral optimization/management functions.

Overall, Celent notes that, with the way industry executives envisage the future shape of the front office in the longer run, this would require a significant degree of **orchestration** from a workflow, data, and systems integration perspective.

NEAR-TERM TRADING AND RISK TECHNOLOGY PRIORITIES

So where are firms focused in the near term? We asked this question for both front office risk management and enterprise risk management priorities.

Figure 10: Front Office and. Enterprise Risk Management: Where Firms Are Improving Capabilities



Source: Celent Capital Markets Trading, Risk Management and Technology Study

For the front office, the top two priorities are:

- Having more complete analytical tools for risk measurement/simulation, what if scenario analysis, and stress testing (55%).
- Improving automation of risk and limits management processes as part of the front office trading workflow (>40%).

At an enterprise level, two focus areas stand out:

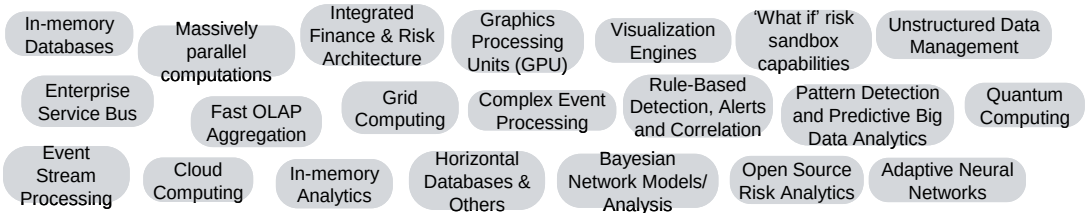
- To align processes between front office trading, risk and control activities more tightly (>80%).
- To streamline and improve management of golden sources of data for risk (55%).

The conclusion here is that, for the front office, firms are looking for risk-aligned decision-making tools, analytics, and metrics achieved in an automated manner. On the other hand, at an enterprise level, firms are looking to achieve tighter alignment with front office processes and golden sources of data, in order to ensure greater timeliness and accuracy.

THE LONGER JOURNEY AHEAD: ACHIEVING BREAKTHROUGH RESULTS

Celent makes the following recommendations on how firms need to prepare and equip themselves as we head towards changes on the horizon.

Principle 1: Exploitation of Next Generation Technologies



In speaking with both financial firms and the broader vendor community, there is literally a myriad of technologies which are interesting from a trading and risk management standpoint. Some technology advancements are still emerging, while others have been used in early adopter firms for a few years now. These include hardware-based performance enhancers like graphics processing units (GPU), in-memory databases/analytics, the exploitation of hardware and software-based parallel computing, and complex events processing technologies applied to a risk management context, to next-generation pattern detection and surveillance algorithms applied to mine structured and unstructured data in the Big Data themes emerging in the broader market environment.

One possible application of these technologies is in the area of being able to detect trading sentiment based on a combination of social media, news, economic/social indicators, and reputational proxies and subsequently factoring this into front office and market risk models. Here, Celent notes that the idea is certainly not a new one, but the technology has come of age to be able to achieve such ambitions, where previously this was beyond the bounds of possibility.

Principle 2: Coherent Risk IT Strategy Underpinned by Strategic Principles and Sound IT Practices

At the stage where most firms are at, Celent believes that incremental changes and quick fixes are not likely to enable firms to deliver the kind of breakthrough results that risk practitioners, senior executives, and regulators would like to see. Change is difficult, and on this front we find that firms that are achieving real transformation are doing it through a disciplined adherence to strategic principles underpinned by the right IT practices rather than quick fixes which are unsustainable.

We have listed a few areas in speaking with firms and believe these to be necessary in building out next-generation risk management capabilities.

- Standardizing components, information definitions, and workflows.
- Reducing the complexity of fragmented applications.
- Addressing quality issues in the trading and risk data "supply chain."

- "Right speeding" latency[6] in accordance with the velocity of risk in different parts of the firm's portfolio and under different conditions (e.g., normal vs. stressed).

Principle 3: Ecosystem Change Approach across End-to-End Trading and Risk Workflows

Celent observes that firms adopting a more strategic posture are making improvements throughout the trading and risk workflow, at all stages of the process in an orchestrated manner, rather than in isolated parts of the chain in order to achieve tangible step change improvements.

Principle 4: Tight Orchestration and Improved Operational Efficiencies

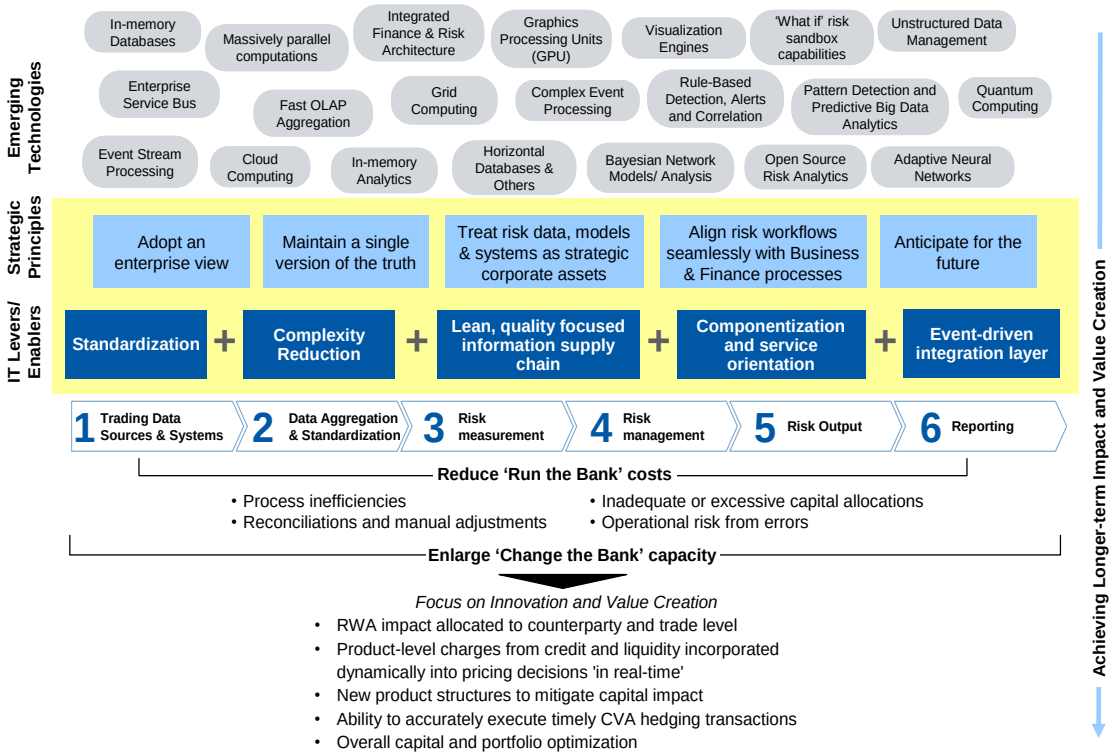
Beyond aspects of technology management and orchestration of processes, multi-faceted changes on the business front are required. In a time when budgets are squeezed, firms need to be cognizant of addressing operational inefficiencies and ongoing "run the bank" costs, while "change the bank" type activities that focus on innovation and value creation need to be expanded.

Principle 5: Catalyzed by Regulation, But Led by Innovation and Value

With firms heavily involved in compliance-led initiatives characterized by tight deadlines and reporting obligations, it can be convenient to overlook key elements of innovation and value. We have observed this for Basel II programmes, where tangible ROI from significant investments made may not have been realized appropriately. Firms should learn and draw lessons from that period.

[6] Celent notes that there is prevailing hype in the industry for everything to be "real time." We believe that firms need to decide the "right timing" that is most appropriate for specific risk-taking, risk control processes, and reporting activity. This could certainly be a real time or near-real time delivery of information, but it also could be intraday snapshots or even the conventional end of day or overnight risk reporting that most firms currently have.

Figure 11: Achieving Breakthrough Results



Source: Celent

In the last financial crisis, anecdotal evidence showed us that **risk infrastructure and data,** when done correctly, was one of the **key differentiators** between banks that lost a lot of money during the crisis and those that came out untouched.

Celent believes that the winners from that time, and those whom we consider forward thinking, are adopting one of more of the above-stated principles and practices from an infrastructure and technology management standpoint. These points are not likely to be new or groundbreaking conceptually; nevertheless their value manifests in the degree to which these practices are mature, and done on a "business as usual" basis within different parts of an organization. Only then can firms achieve and sustain the kind of breakthrough results that are game changing in the longer term.

FINAL THOUGHTS

While the industry anticipates emerging changes and structural shifts in the coming years, individual firms will face a high degree of risk and unpredictability in how the various markets, participants, and end clients will react and respond.

Although no one has an absolute insight into how the end game will look, firms would do well to prepare and equip themselves: to perceive and discern risk more clearly in a rapidly changing environment ahead (without a fragmented lens), and to develop sustainable mechanisms that provide the firm a collective perspective for decision-making.

In the longer run, we believe that the strategic value of cohesive risk technology and infrastructure in navigating the pressures ahead will grow dramatically in line with greater electronification of markets, the move to central clearing, and more onerous requirements for real time transparency reporting.

As we reflect backwards and now look forward, we consider the degree to which the financial industry, both firms and regulators alike, have moved on to employ coordinated strategies, approaches, tools and, most importantly, the resolve to anticipate the next financial crisis. Thinking along these lines, and based on what we are finding so far, we believe there is still plenty of work to do. Firms need to make investments now for new realities emerging on the horizon.

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