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**The future of risk in
financial services**

Risk Advisory ●

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Six imperatives



Increase focus on strategic risk



Rethink the three lines of defense and risk alignment



Do more with less



Establish a formal conduct and culture program



Enhance the structure and capabilities of risk management



Strategically manage capital and liquidity

Executive summary

The future of risk management will look dramatically different than the current risk capabilities many are familiar with. Business units will have clear ownership for the risks that they take. Conduct and culture management will be pervasive throughout the organization. The role of the risk management function will also be clear — oversight and challenge. The risk function itself will be streamlined and much slimmer with a rationalized risk infrastructure that uses location and delivery models for cost optimization and leverages the power of digital for both efficiency and effectiveness.

The digital tools will include cognitive agents scanning a wide range of signals in the internal and external environment to identify new risks, emerging threats, and potential bad actors. These digital tools will not only strengthen the risk function but provide additional insight to the business and to strategy and strategic execution. Big data analytics will be used to provide deeper insight into the interactions of risks and causal factors. Robotics and process optimization will restructure processes and automate many of the processes that remain to dramatically reduce both operational risk and also improve quality of risk management — including reviewing conduct and culture risks.

Automated risk triage will occur continuously to elevate risks to risk analysts for further assessment and treatment where warranted of the more significant risk issues. To the extent that reports are needed to summarize the risk activity, natural language generation techniques will prepare draft reports, with only review and selected input performed by the risk analyst. This paper from Deloitte Global describes the challenges facing financial institutions and the approaches they can use to move to this new future of risk management.

The regulatory and business environments have become more volatile and unpredictable than in recent memory. The wave of ever-stricter regulatory requirements appears to have crested, and may even abate in some areas. Geopolitical risk has increased with the United Kingdom's planned exit from the European Union and the potential that the United States may renegotiate trade agreements and review alliances that previously have gone unquestioned. FinTech startups are threatening to disrupt traditional financial services business models.

In the years since the financial crisis, financial institutions have faced a tsunami of new regulatory requirements. The new regulations have driven up compliance costs, while increased capital and liquidity requirements have reduced returns. These new regulations have come in a period of slow economic growth, historically low interest rates, and limited revenue opportunities, which have further reduced returns on equity and led institutions to seek to reduce operating costs including risk management costs.

Today, risk management is at a crossroads. Financial institutions need to decide if they will continue with business as usual or instead fundamentally rethink their approach to risk management. To date, most institutions have responded piecemeal to new regulatory

requirements, resulting in a disjointed and inefficient structure. Activities often take place in silos, making it difficult or impossible to gain a comprehensive view of risk management across the organization, while increasing cost and complexity. The current volatile business environment has made it more difficult than before for risk management capabilities to keep up.

The new environment provides strong incentives for financial institutions to transform how they manage risk to become substantially more effective and efficient. This will require institutions to seize opportunities related to strategy, people, the three lines of defense model, and technology in a coordinated way. Institutions will need to embrace emerging technologies — such as robotics process automation, artificial/cognitive intelligence, natural language processing, and machine learning — that can reduce costs, while also offering foresight into emerging risk issues.

As they plan for the new era of risk management, institutions should consider the following six imperatives:



Increase focus on strategic risk. With greater uncertainty over the direction of regulation, the future of trade agreements and alliances, and the potential for FinTech startups to disrupt traditional financial businesses, strategic risk will demand more attention from senior executives, supported by an improved ability to identify strategic risks and analyze their potential impact on the organization. These improved capabilities will not only help the institution manage strategic risk, they will also provide insights to help the institution achieve its strategic goals and objectives.



Rethink the three lines of defense and risk alignment. Institutions should consider restructuring and eliminating overlapping responsibilities across the three lines of defense. In particular, they should ensure that business units take full ownership of the risks in their area, while the risk management function focuses on its risk control role through oversight and challenge.



Do more with less. With limited revenue growth and compressed margins, institutions need to find ways to reduce the costs of managing risk while also increasing effectiveness in order to meet regulatory and broader stakeholder expectations. In addition to traditional process reengineering, substantial efficiency increases can be achieved by leveraging RegTech solutions. Deeper and more sustainable cost efficiency and improved return-on-investment performance can be realized by leveraging new capabilities such as using business decision modeling to assess the cost of change, cost mutualization, and cloud-based services such as platform as a service.



Establish a formal conduct and culture program. Recent instances of inappropriate behavior by employees at financial institutions have led to an increased focus by senior management as well as by regulatory authorities on the importance of instilling a risk-aware culture and encouraging ethical behavior by employees. Efforts in this area will need to be enhanced to demonstrate a programmatic and sustainable approach to conduct risk.



Enhance risk management capabilities. Institutions will need to integrate their siloed responses to the many regulatory requirements that have been introduced in recent years. At the same time, they will need to leverage the power of RegTech solutions to increase their agility in responding quickly to new developments, while providing the analytics that support more effective risk management.



Strategically manage capital and liquidity. Recent regulatory requirements have significantly increased capital and liquidity requirements. In the current low-revenue environment, institutions will need to consider carefully the impacts of their business strategy on capital and liquidity so they can improve their returns on equity by optimizing the use of these scarce resources.

To be effective, institutions will need to address these six imperatives in a coordinated program so that they do not work cross-purposes on individual initiatives. An integrated risk and regulatory change portfolio management approach will be required to advance simplification and modernization efforts yet make sure that underlying capabilities are not compromised. Institutions have the opportunity to reimagine and re-architect the risk management capability of the future.

Evolution of risk management

Over the past two decades, risk management has gone through several distinct phases in response to changing business conditions and regulatory requirements.

Pre-crisis period. In the years before the global financial crisis, financial institutions benefited from generally strong global economic growth and enjoyed significantly higher returns than are available today. There was a broad consensus among the industry and regulators that risk management appeared well equipped to identify and mitigate risks affecting individual institutions and, by extension, the financial system as whole. Given this consensus, the extent of risk-focused regulatory requirements was more modest than it would become after the financial crisis.

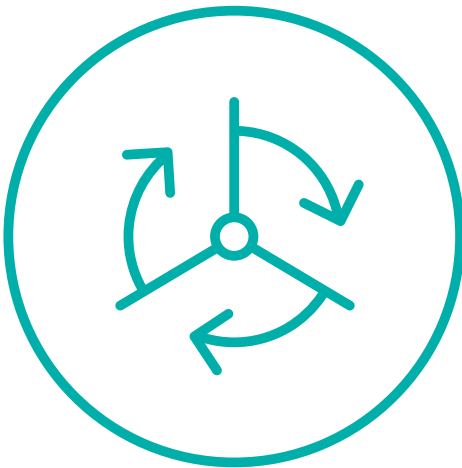
Financial crisis period. The global financial crisis led to the need for governments and regulatory authorities to provide additional capital to stabilize the financial system. Risk management during this period was largely engaged in tactical responses needed to maintain orderly operations during the capital and liquidity crisis. These tactical responses included responding to urgent requests by management, boards of directors, and regulators, and often quickly assessing risk exposures to areas of concern such as specific markets or counterparties.

Post-crisis period. The financial crisis led to a period of “re-regulation,” with governments and regulatory authorities issuing a wide variety of new or stricter requirements. Among the many regulatory developments were expanded capital and liquidity requirements by the Basel Committee, which revised and ratcheted up capital and liquidity requirements; the Dodd-Frank Act in the United States, which had sweeping implications across financial institutions; expanded stress testing requirements in the United States under Comprehensive Capital Analysis and Review (CCAR), which introduced a stringent stressed capital assessment regime; greater focus on risk data driven by the Basel Committee on Banking Supervision BCBS 239, which caused a significant focus on risk data quality and data management; and new requirements and proposals by the Basel Committee for key risk types including credit, market, liquidity, and operational risk that seek to wholly revise risk-based capital calculation methodologies. To comply with these and other new regulatory requirements, institutions have dramatically expanded their risk management function and budgets.

But risk management has now reached an inflection point, presenting financial institutions with a fresh set of demands.



Risk management enters a new era



Today's environment presents risk management with a unique set of demands. Slower economic growth and declining margins have placed a premium on increasing the efficiency and reducing the cost of risk management. Due to the increased regulatory requirements, the implications of an institution's business strategy on capital adequacy and liquidity demand greater attention. Geopolitical developments and competition from FinTech startups have made strategic risk a greater concern. The march toward ever-greater regulatory oversight may be coming to an end, with the potential that some requirements may be rolled back. Characterizing all the developments is a heightened level of volatility and uncertainty in the business, geopolitical, and regulatory environment.

In this new era, institutions will need to decide whether they will continue with their traditional methods or instead rethink their approach to risk management. To keep up with the breakneck pace of regulatory change since the financial crisis, institutions have often implemented a number of systems to address specific regulations, rather than taking a holistic view of the risks and regulatory requirements facing the organization. The result has been a disjointed structure with activities conducted in silos, making it difficult to gain a clear view across the entire risk management value chain. At some institutions, business units have not taken full ownership for managing risks in their

area, and the responsibilities between the business and risk management are not defined clearly. A legacy risk technology infrastructure and the difficulty in gaining access to timely, accurate, and aggregated risk data create complexity and additional costs. Efforts to restrain compliance spending have consisted of headcount reduction, offshoring, and traditional process re-engineering, typically achieving only modest savings that are difficult to sustain.

Competing in the new environment requires financial institutions to rethink how they manage risk. Institutions will need to make sure risk management is an active participant in setting strategy, that there is an effective program to create a risk-aware culture and manage conduct risk, and that risk management responsibilities are clearly defined across all three lines of defense. In addition, they need to leverage the new technologies available to substantially reduce costs by automating repetitive manual activities, while simultaneously improving monitoring and response.

Rather than engaging in an expensive, multi-year transformation program, institutions can instead employ an agile approach, by first addressing the highest priorities.

To move forward, institutions should ask themselves the following questions. (see Figure 1)

Is risk management doing the right things? Institutions should consider whether they have clearly defined the scope of the activities that risk management performs, aligned the responsibilities of the lines of defense and the business units, assessed whether additional activities should be provided, and considered whether there should be increased transparency of risk management.

How should risk management be organized to deliver effectively? As institutions examine their organizational structure for risk management, including resources allocated to risk management and the business units, they should also assess whether increased efficiencies can be achieved through such strategies as shared services or centers of excellence for some capabilities, or by moving some activities to lower-cost locations or outsourcing them to third-party service providers.

How can transformation be delivered through digitization and ecosystems? Institutions should examine how they can employ digital technologies—such as robotics process automation, cognitive analytics, advanced analytics, and big data—to automate repetitive manual tasks, provide decision support, and improve the ability to proactively identify and manage risks.

Figure 1



Imperatives for managing risk in the future

Effectively managing risk in the current uncertain and volatile environment will demand new capabilities and a rethinking of how risk management operates. No two financial institutions will take the same approach since each organization has a distinctive business strategy, geographic footprint, organizational structure, and level of maturity.

As institutions consider how to enhance their ability to manage risk effectively in today's environment, they will benefit by considering the following six imperatives for the future of risk. (see Figure 2)



Increase focus on strategic risk

The drivers of change in the external environment that can impact financial institutions have become more uncertain than ever. In these volatile and uncertain times, financial institutions need to assess and understand their impact and then model potential outcomes as these drivers interact. While strategic risk is not easily measured, it is necessary to understand the potential impact of strategic uncertainties since they provide an opportunity for financial institutions to differentiate themselves as they plot their course through an uncertain future.

Institutions are entering a period of substantially greater strategic risk from a number of sources.

- **Geopolitical risk** has increased with the Brexit vote in the United Kingdom to leave the European Union, the potential that populist parties in other EU countries may gain power and seek to withdraw from the

European Union, and uncertainty over whether the Trump Administration will seek to renegotiate trade agreements and other alliances.

- **The direction of regulation** is more uncertain given recent developments in Europe and the United States. Some European regulators and financial institutions have criticized the plans of the Basel Committee to institute a regulatory capital floor and implement so called Basel IV updates. In the United States, President Trump issued executive orders calling for review of financial regulations to determine whether they are consistent with administration goals such as enhancing competitiveness of US companies,¹ the Orderly Liquidation Authority (OLA) under Title II of Dodd-Frank, and the Financial Stability Oversight Council's (FSOC) processes for designating companies for enhanced supervision and regulation². In the post-crisis environment, country regulators have also increasingly moved to protect their own national interests resulting in regulatory fragmentation due to increasingly divergent regulations which increases the complexity and costs for global financial institutions.

- **FinTech startups**, which leverage technology capabilities to compete with traditional financial institutions, threaten to disrupt the industry in areas such as loans, payment products, wealth management, and property and casualty insurance. In addition, there is increased competition between banks and non-banks, for example in areas where non-banks "own" the customer relationship and can leverage this relationship to provide an integrated customer financial experience.

At the same time, the ongoing low-growth, low-interest rate economic environment is putting pressure on traditional sources

of profitability. Financial institutions are increasingly searching for new avenues for growth — developing increasingly customer-centric service strategies including leveraging new technologies to provide a more targeted and pervasive customer experience. While failing to innovate in this environment may place financial institutions at a competitive disadvantage, pursuing innovation without aligning business strategies with sound risk management capabilities may also heighten strategic risks.³

In addition to having integrated strategic thinking and risk awareness, regulators expect institutions to have formalized processes to assess strategic risks to the business model stemming from technology and other changes in the external environment, as well as from their strategic choices.

Effectively managing strategic risks requires financial institutions to better integrate the stakeholders responsible for strategy and risk management; put in place processes that allow for independent oversight and challenge of strategies; train risk leaders in forward-looking risk management approaches; and implement frameworks to understand how change and uncertainty will impact key business attributes.

Financial institutions will need to conduct flexible planning including analysis of "what if" scenarios that consider the potential impact of strategic risk events on revenues and capital, and how the institution would respond. The ability to act timely on the results of the "what if" scenarios will require sufficiently nimble risk infrastructure capabilities. Institutions should also consider establishing "owners" of specific strategic risks such as geopolitical, economic, and FinTech risks, who are responsible for tracking and managing these risks.

Figure 2

The new environment provides strong incentives for financial institutions to transform how they manage risk to become substantially more effective and efficient. As they plan for the new era of risk management, institutions should consider the following six imperatives.





Rethink the three lines of defense model and risk alignment

Emerging technologies for testing, monitoring, and surveillance present the opportunity for a more integrated and effective model of oversight. Financial institutions that truly embrace the next generation of technology and analytics will be able to not only automate existing activities but also build in controls and monitoring in a new structure optimized around the data and analytics rather than traditional front to back process flows. There could be a future where the three lines of defense model as we know it looks dramatically different.

Under the three lines of defense model employed by most financial institutions, business units own and manage their risks; the risk management function provides independent oversight and challenge; and internal audit reviews the effectiveness of the risk and control framework. Even if the three lines of defense model is conceptually sound, many institutions have faced practical challenges in implementation resulting in gaps in risk coverage and also duplication and inefficiencies.

In particular, business units may fail to take full ownership and management of their risks. Although this improves the effectiveness of risk management and is a regulatory expectation, it may not occur for a variety of reasons including the demands to meet business targets and the difficulty in hiring a sufficient number of professionals that possess skills in both risk management and also in the business. Institutions will need to clearly communicate the risk management responsibilities of business unit

executives and consider how to incorporate these expectations in planning and in performance reviews.

In addition, at many institutions duplicative responsibilities result in an overly complex and inefficient structure, with a lack of clear accountability. For example, some institutions have in effect split Line 1 into business unit risk management activities (Line 1A) and testing activities (Line 1B), and similarly split risk management activities into Line 2A and Line 2B. The effect of this structure results in what some call the five lines of defense. In addition, there are other approaches being adopted by some institutions. In short, there is no universal model for implementing the three lines of defense.

While most financial institutions face the same need for increased efficiency and effectiveness of risk management, the responses of individual institutions vary based on their needs. For each institution moving staff from the 2nd line into the 1st line for strengthened 1st line ownership of risk, there is another institution that is rethinking the role of risk professionals in the 1st line and whether the 2nd line should be strengthened.

A common overall sentiment is frustration that the current investment in risk and compliance is not delivering intended results. For some institutions, the effectiveness of risk has been weakened, even as the resources devoted to it have increased.

While different institutions may move to different risk management structures, a common focus remains— institutions need to reassess the roles and responsibilities of each of the three lines of defense to reduce unnecessary complexity and redundancy, reduce costs, and increase risk management capabilities.



Do more with less

Financial institutions are competing in a low-revenue environment due to slow economic growth coupled with historically low interest rates and restricted revenue opportunities. An analysis by the International Monetary Fund (IMF) found that return on average equity for European banks in the euro area plummeted from 15.2 percent in 2006-2007 to 3.7 percent in 2012-2015, while during the same period the returns for US banks fell from 12.2 percent to 9.3 percent and those for Japanese banks dropped from 8.6 percent to 6.9 percent.⁴ Yet, at the same time that returns are decreasing, risk management budgets have increased dramatically in response to the many new regulatory requirements put in place since the financial crisis.

Driven by these pressures, financial institutions are seeking strategies to reduce risk management costs without impairing effectiveness. It is important that these cost control efforts are done in a strategic manner so that they do not impair the risk management capabilities required. Institutions are employing process reengineering to rationalize, standardize, and consolidate their processes, including identifying overlapping and redundant responsibilities across business activities and functions. However, reengineering efforts often focus on reducing “Run the Bank” cost and miss addressing “Change the Bank” and “Change Control” cost, which have become the faster growing cost for the industry. There are multiple levers to lower cost of change such as model-driven development, central change governance, zero-based budgeting, project portfolio management, agile

development, and automated testing. Institutions can also consider employing centers of excellence and resource sharing such as establishing consolidated centers for activities like testing, reporting, or model validation. Some institutions have achieved cost savings by outsourcing some processes to third-party service providers or locating them offshore.

Yet, even greater cost savings can be achieved by employing robotics process automation to automate repetitive manual activities such as regulatory reporting, assembling model validation documentation, or aspects of credit scoring. As an added bonus, automation can also reduce error rates from manual processes. (see Figure 3)

Beyond automation, advances in artificial intelligence, cognitive technologies, and data analytics can also provide greater efficiency by focusing the work of risk analysts on assessing more complex risks instead of simply sorting through and manipulating data. These technologies can provide automated decision support and data filtering to improve an organization's ability to detect, predict, and prevent risks. For example, robots and cognitive agents can be taught to automatically scan for new risks, raise alerts for areas of concern, and perform automated triage so that risk analysts focus on the risks that really matter.

There are numerous examples of the power of the latest technologies to improve the efficiency and effectiveness of risk management including: natural language processing, cognitive analytics, and pattern detection that can improve the monitoring of compliance risk by identifying suspicious behavior patterns for further review and inquiry; cognitive automation can enhance credit underwriting; and cognitive voice recognition can be employed in monitoring trading desk or call center activity.

In an increasingly complex, volatile, and uncertain world, financial institutions will need to fully leverage these new technologies to deliver on stakeholder expectations given the resource constraints inherent in the current environment.



Establish a formal conduct and culture program

The numerous instances of poor business practices within the financial services industry that have been exposed across the globe have resulted in clients' interests being disregarded, unfair, and inequitable outcomes, considerable financial impact for customers, and damage to the integrity of the market. Institutions are facing enhanced regulation, hefty penalties, and substantial remediation costs as a result. Instances of inappropriate behavior by employees have led to 'conduct costs' in fines, legal bills, and customer compensation of US\$324 billion at the 20 largest banks in recent years.⁵

Due to these instances of unethical behavior, encouraging ethical conduct among employees and infusing a risk management culture throughout the organization has become an increasing focus of regulatory authorities around the world. For example, the Senior Managers Regime in the United Kingdom, which commenced on 7 March 2016, focuses on individual responsibility and requires senior managers to take reasonable steps to prevent regulatory breaches from occurring, or continuing to occur, in their area of responsibility.⁶ Conduct risk has been included in stress test scenarios by the European Banking Authority and the Bank of England.

The impact of instances of misconduct has not only been felt on bottom lines and through increased regulation; it has also caused a significant loss of trust among customers and the public more broadly. Improving conduct within industry is an essential part of rebuilding trust and supporting future sustainable growth. The trust that financial institutions historically provide is a key potential differentiator as they compete with FinTech disruptors that lack a history of customer trust. Trust is also necessary for executing on the customer centric strategies many financial institutions are focused on.

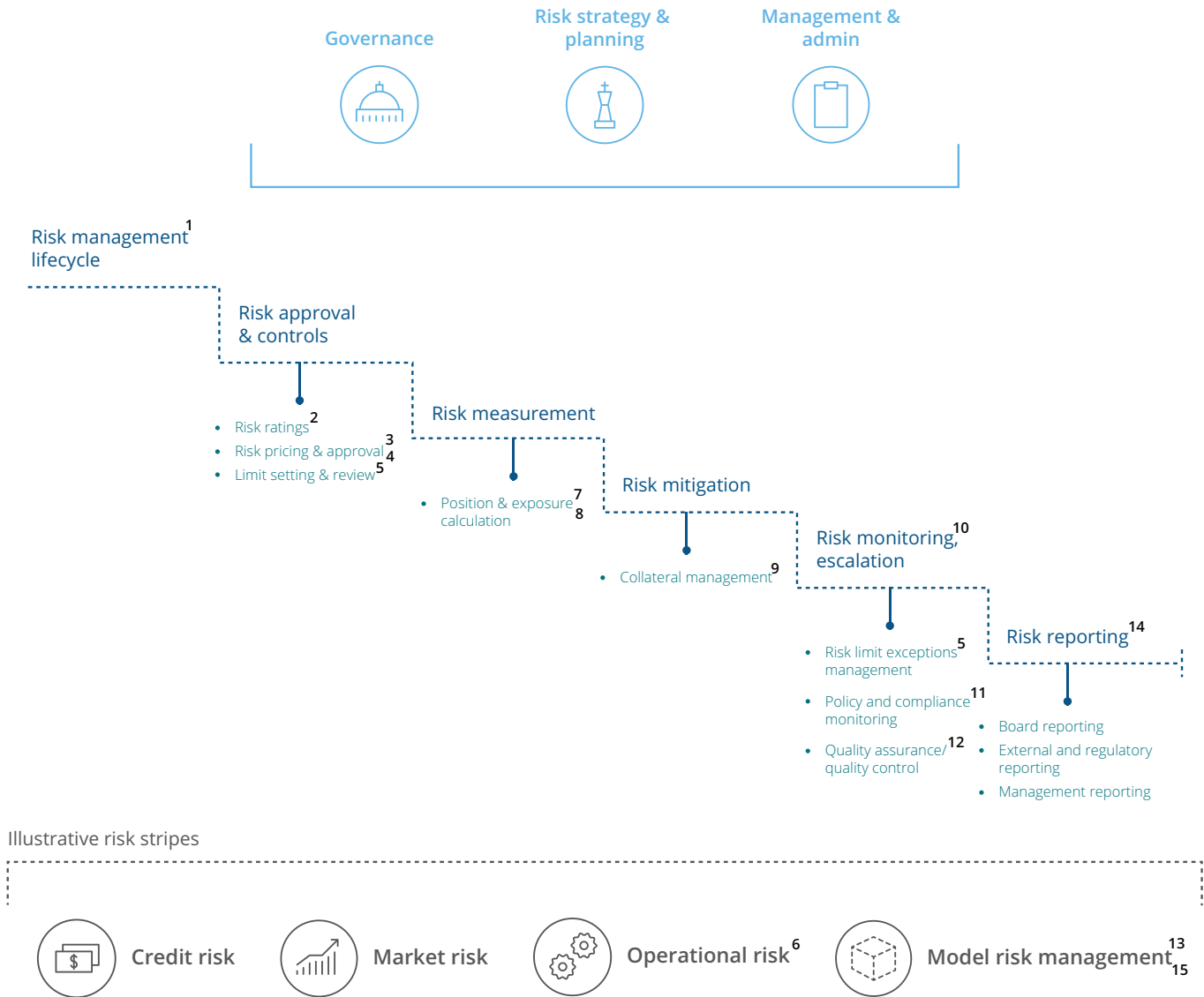
In the battle between incumbents and challengers, those who build (or re-build trust) faster and more effectively will gain a clear strategic advantage. Institutions that convince their shareholders that good conduct is not only ethical but also good for shareholder value in the long run will be well placed to win.

Many institutions will need to increase their attention to conduct and culture. Communicating to employees the expectations regarding ethical behavior and their responsibilities for risk management is essential, but is only a first step. Institutions should also ensure their risk control self-assessments (RCSA) and that enterprise governance, risk, and compliance (eGRC) tools address conduct risk including designing metrics to catch and/or prevent misconduct and assessing cultural challenges to identifying and preventing misconduct.

Institutions should examine all the various ways in which conduct and culture can affect the business. Examples include the governance processes on key decisions, who is involved in the processes for accepting new clients or introducing new products, and whether controls are in place to help

Figure 3

There are a number of automation opportunities along the entire risk management lifecycle



Example automation opportunities

- | | | |
|----------------------------|--|------------------------------------|
| 1. Risk identification | 7. Counterparty/Product/Position risk exposure | 11. Compliance testing |
| 2. Credit rating/scoring | 8. Limit management | 12. Loan review |
| 3. Product pricing | 9. Collateral management | 13. Model validation documentation |
| 4. Product P&L attribution | 10. Automated risk monitoring | 14. Risk reporting |
| 5. Limit setting & review | | 15. Model governance and reporting |
| 6. Vendor risk management | | |

ensure that only appropriate products are offered to each customer. Conduct risk, and the controls in place to manage it, should be assessed when approving new products, especially high-risk products that may be sold inappropriately to some customers. While much has been done to set standards and restore trust, there is much more to do, and a desire to improve capabilities and cost effectiveness in meeting expectations around managing conduct. With this in mind, there are ways in which innovative technologies might be employed to manage these risks.

Robotics automation can limit the possibility of conduct risk by reducing the number of manual activities and making routine procedures more consistent. Beyond this, cognitive technologies and data analytics can analyze employee communications, such as emails and text messages, to identify patterns of behavior that may be inappropriate and warrant additional investigation. However, automation and analytics can also create conduct risks if the right types of rules are not programmed into the robot's procedures or into the analyses performed. Building conduct risk management into automation and analytics is imperative. Innovation that can help to improve the effectiveness and efficiency of conduct management programs will in turn create better customer and regulatory outcomes.

Financial institutions will need to embed conduct and culture efforts throughout the organization and throughout their processes and governance structure, and especially at key influencing points such as customer onboarding, new products, sales practices, training, and incentive compensation. Financial institutions may also begin to use a "carrot and stick" approach to drive behavior. It is clear that the stakes are too high and that business as usual will no longer work.



Enhance risk management capabilities

Since the fiscal crisis, there has been a wide variety of regulatory requirements and guidance addressing specific risk issues such as capital adequacy, conduct risk, third-party/supplier risk, cybersecurity, and the quality of risk data quality, to name but a few. Institutions have often built separate processes, data bases, or reports for each new requirement. As a result, while specific risk needs may have been addressed, the ability to manage risk correlation and interactions from unexpected consequences of these risk issues has not been built into the risk infrastructure or governance process. In many cases, investments have often been driven solely by a need to comply with regulations rather than to provide business value. The regulatory and compliance approach may include labor intensive or convoluted processes and procedures that increase the chance of error and give people the incentive and opportunity to ignore controls that are designed to prevent misconduct.

To restrain costs while maintaining effective regulatory compliance and risk management capabilities, institutions will need to embrace emerging technologies such as robotics process automation for control checks and regulatory reporting, artificial/cognitive intelligence in stress tests, natural language processing for anti-money laundering case/Suspicious Activity Report investigation narratives, know your customer risk summary memos, and model validation reports. Other opportunities would include automatically aggregating data to assess capital and liquidity for use in internal models and in reports to regulators,

and in monitoring employee behavior.⁷ In many cases, RegTech provides the ability to not only reduce costs but also provide more timely and nimble analysis required in the new more uncertain environment. For example, by building controls into a new, reengineered and automated environment, the need for additional testing may be eliminated and the data may be more immediately usable. RegTech can also increase the scope to provide more robust analysis at a reduced cost, for example through the use of big data analytics to perform a full population assessment instead of sample analyses.

Financial institutions will also need to continue efforts on data management programs such as those spurred by the BCBS 239 risk data requirements. While a regulatory requirement, and a work in progress for many, these requirements represent a type of leading practice standards for risk data which has the capability to improve the effectiveness, timeliness, accuracy and completeness of risk analytics and information for decision making.

Rationalized risk management processes will need the capability to comply with the different regulatory requirements in different markets. This is increasingly important in a world where greater regulatory fragmentation is now the base case. Even under the global ideal of Basel III, fragmentation was already a reality. But with the increased likelihood of jurisdictions going their own way regarding the application of models, rethinking existing regulations, and developing jurisdiction-specific stress tests, recovery planning, and conduct reforms, the challenge of managing an international firm has become that much more complex. Agile and adaptable systems, controls and governance will be critical. The corporate headquarters will require consistency of



approach and frameworks, while allowing for varying local application that can still be assessed in a holistic manner.



Strategically manage capital and liquidity

The years since the fiscal crisis have seen a significant increase in regulatory requirements for capital and liquidity. Capital requirements include Basel 2.5, Basel III, and the US Federal Reserve's capital plan rule. From mid-2011 through the end of 2015, 91 leading banks around the world increased their common equity by US\$1.5 trillion, with the ratio of equity to risk-weighted assets rising from 7.1 percent to 11.8 percent.⁸

Many financial institutions have also faced new liquidity requirements including the liquidity coverage ratio and the net stable funding ratio introduced in Basel III and additional liquidity reporting requirements under the US Federal Reserve's enhanced prudential standards.

Complying with regulatory requirements for capital and liquidity is more than simply a compliance issue. Instead, it has an important impact on the financial performance of the institution, given higher capital and liquidity requirements in tandem with the current environment of lower revenues and returns. Regulatory capital requirements are now a binding constraint and need to be managed effectively for

institutions to improve their returns on equity. Additional regulatory requirements on institutions that are determined to be systemically important are leading them to restructure their legal entities, which can drive further capital and liquidity inefficiencies including trapped capital, and also increased costs.

The first requirement is to develop a robust capability to measure capital and liquidity, ideally on a daily basis. The analysis should go down at least to the level of the business unit, so the institution can understand the relative capital and liquidity needs of each business unit and how the business unit contributes to the institution's overall capital and liquidity profile.

Supported by these measurement capabilities, institutions need to strategically manage capital and liquidity and do so more dynamically than they have in the past. This will necessitate including regular capital and liquidity management evaluation into governance structures and decision-making processes. Institutions will need to build capital and liquidity measures into their strategic plans and management approaches and reevaluate them periodically. The impacts on capital and liquidity have become key considerations when institutions are deciding which businesses to compete in or which products to offer.

The six imperatives for risk management outlined above touch almost every part of an institution. The effort to transform and modernize risk management will need to be based on the following four foundational areas.

Levers to drive change

Infuse risk management into strategy. Risk management should be an active participant in setting the institution's business objectives and strategic plan, assessing the impact of new products and markets on the organization's risk profile as well as on its capital and liquidity position.

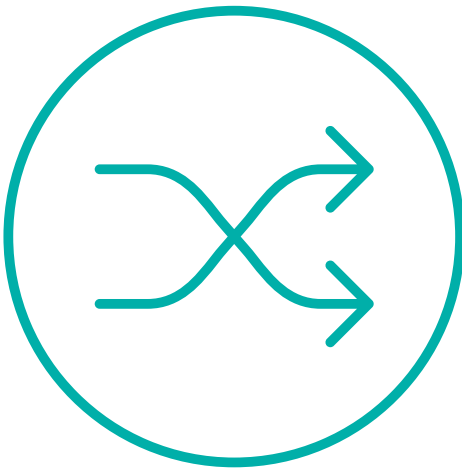
Focus on people. Institutions should work to ensure they have sufficient specialists with subject matter expertise on high-risk and complex activities and provide adequate training to continually upgrade skills. At the same time, they need an active program to infuse a risk aware culture in the organization, encourage ethical behavior by their employees, and monitor and manage conduct risk. Risk needs to move from having a reactive role to a proactive role. There needs to be a shift away from a compliance-oriented risk mindset to that of a strong and proactive risk culture. Risk practitioners across all three lines of defense need to work more closely with senior leadership to drive cultural changes across the organization that encourage constructive challenge, ethical decision making, appropriate incentives, openness, and transparency.

Enhance three lines of defense. Institutions should clearly define the risk management responsibilities of each line of defense, streamline the governance structure by eliminating overlapping responsibilities, and ensure that business units take full ownership of the risks in their area. Too often previous risk structure efforts have been focused on process, not making sure that the right outcomes are delivered. Risk functions are being called to do more, but they should work to rationalize their capabilities using common infrastructure, data, processes, and governance and where possible leveraging these across both risk and finance.

Leverage emergent technologies. The latest technologies have the potential to fundamentally transform risk management. In addition to substantially reducing operating costs, these and other technologies can provide risk management with new capabilities including building controls directly into processes, prioritizing areas for testing and monitoring, deploying automated monitoring of limits with defined escalation, addressing issues in real-time to improve the enterprise-wide view of risk, and providing decision support.

These levers should not be addressed in isolation, but instead need to be pulled in a coordinated way. For example, the business strategy established will have important implications for the potential for conduct risk, while the responsibilities assigned to business units will determine the types of risk management skills they require. An overall risk management approach needs to be developed that harmonizes the steps taken to address each of the four levers and considers their interaction.

Conclusion



In today's environment of volatility and uncertainty, risk management is at an inflection point. Will financial institutions continue with their traditional methods or instead fundamentally rethink how risk is managed? Institutions content with their existing approach will suffer from inefficient processes, lack the capability to proactively identify and manage risks, and struggle to gain a holistic view of the risks facing the organization.

Institutions that instead fundamentally transform how they manage risk can become more dynamic and capable of responding quickly to new developments. In the new era, the risk management function will need to:

- Play a greater role in the organization's strategic decision making
- Expand risk management capabilities through all three lines of defense
- Secure talent with the right risk management skills and business experience to effectively manage risk

- Be agile to react quickly to the unanticipated developments inevitably arising in today's uncertain environment
- Leverage emerging technologies to create a new digital environment able to substantially reduce costs while simultaneously improving the ability to proactively identify and manage risks, and do so at a lower cost

Each institution will need to decide whether to continue with business as usual, running the risk of being unprepared for new risks and falling behind their peers and regulatory expectations. Or seize the opportunity to take risk management to an entirely new level that truly provides the capabilities to support the organization's strategic plan.

End notes

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