



THE RISK MANAGEMENT ASSOCIATION

**STRATEGIC RISK MANAGEMENT
FRAMEWORK**

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TABLE OF CONTENTS

Section 1: Introduction	1
Section 2: Problem Statement	1
Section 3: Key Elements	1
3.1 Liquidity and Capital	2
3.2 Risk Governance and Processes	2
3.3 Identifying and Assessing Emerging Risks	2
3.4 Data Management	3
3.5 Linking Risk and Strategy	3
3.6 Strategic Risk Assessment	4
Section 4: Integration of ERM with Strategy	5
Section 5: Liquidity and Capital Management	6
References	9
Appendix	10

1 INTRODUCTION

Plato once said, “Necessity is the mother of invention,” recognizing that a problem can often generate creativity. Risk management was born out of necessity. It started with the management of credit risk, a core requirement for financial institutions and for nonfinancial firms that sell on credit. Then came management of market risk, including liquidity risk, which arose from the highly volatile environment in which banks found themselves. Desktop-computing capabilities allowed banks to hire analysts with the technical skills needed to manage data and build models useful for evaluating market risk. Ultimately, a rash of control breakdowns led to development of ways to manage operational risk, which exists in every type of organization.

The development of these three risk disciplines—consistent with a firm’s business model and complexity—is a prerequisite for effective enterprise risk management (ERM), which includes strategic risk management as a core component and the bridge between risk management and strategy.

2 PROBLEM STATEMENT

Today’s interconnected world, with its 24-hour news cycle and increasingly rapid deployment of disruptive technologies, has increased the stakes for strategic risk management. Risk managers have built many quantitative models to measure risk, but risk can come from factors well outside of models, requiring a more qualitative analysis that can further support strategic planning.

Focusing only on that which we can model quantitatively can result in the “streetlight effect,” which Wikipedia defines as follows: A police officer sees a man searching for something under a streetlight. When asked by the officer what he is looking for, the man responds, “My keys.” After a fruitless search, the officer asks the man if he lost his keys there, to which the man replies no, he lost them at the park. But he is looking under the streetlight because that’s where the light is.

The streetlight effect is an example of how cognitive biases can impact our ability to identify risks. We frequently look for things in the easiest place as opposed to the best place.

Setting the firm’s strategic direction is arguably the most critical role for the board and executive management, and it involves taking risk. Strategic risk management is the means through which risk management can be deployed to support the firm on offense and defense.

3 KEY ELEMENTS: STRATEGIC RISK MANAGEMENT FRAMEWORK

Strategic objectives are entity-level goals that align with the firm’s overall plan. They are also the most impactful when it comes to enhancing stakeholder value. As a firm executes its strategic plan, internal and external events could preclude it from meeting its business objectives.

Internal events can result from faulty processes, poor business decisions, an ineffective strategic planning process, or an inadequately developed strategic plan. An internal event could also be a failure to execute correctly. Meanwhile, events external to a firm include changes to the environment, geopolitical and economic risks, legal and regulatory environments, and technology and marketplace changes.

Strategic risks are those risks that are the most significant to a firm as it executes its strategy. How well a firm manages strategic risks will determine its success or failure. In the April 2011 issue of *Strategic Finance*, Mark L. Frigo and Richard J. Anderson identified six principles for managing strategic risks in their article “What Is Strategic Risk Management?”:

1. It is a process for identifying, assessing, and managing both internal and external events and risks that could impede the achievement of strategy and strategic objectives.
2. The ultimate goal is creating and protecting shareholder and stakeholder value.
3. It is a primary component and necessary foundation of the organization’s overall enterprise risk management process.
4. As a component of ERM, it is by definition effected by boards of directors, management, and others.
5. It requires a strategic view of risk and consideration of how external and internal events or scenarios will affect the ability of the organization to achieve its objectives.
6. It is a continual process that should be embedded in strategy setting, strategy execution, and strategy management.

3.1 Liquidity and Capital

Management must constantly assess the internal and external environments to identify the strategic risks that might affect the completion of objectives. Management must also ensure an appropriate level of capital to support the firm’s strategy. Capital and liquidity play a key role in ensuring a firm’s solvency, especially during volatile periods. Liquidity measures a firm’s ability to meet its obligations, whether by using cash on hand, converting assets to cash, or accessing lines of credit. During normal times, liquidity functions smoothly, but in times of stress it can dry up quickly. Firms must prepare for the possibility of not having access to liquidity during stressed conditions. If this is not handled correctly, an already tense situation will simply become worse.

Capital is a financial cushion needed to absorb unexpected losses and support business growth. Expected losses are those the firm expects to incur and are considered a cost of doing business. Unexpected losses are those that exceed the amount of expected loss.

Capital can take several forms. Economic capital is based on the probability of potential future losses and is a forward-looking measure of capital. The primary value of economic capital is its ability to influence decision-making. Its scale of influence depends on the development of an allocation method that best suits the firm and the establishment of risk-adjusted return on capital, hurdle rates, and target rates. Regulatory capital typically comprises capital designated for market risk, credit risk, and operational risk. Balance sheet capital is the difference between assets and liabilities on a firm’s balance sheet.


3.2 Risk Governance and Processes

Developing a risk governance process for strategic risks will allow for a repeatable process and position the firm for success. This job cannot be restricted to management alone, however. It must include subject-matter experts from within the business and across corporate functions. Including people from different backgrounds and disciplines can help counter the impact of cognitive bias in the group. Moreover, people with different backgrounds and skills can make for richer scenario analysis by offering a wider scope of assumptions and topics for discussion.

3.3 Identifying and Assessing Emerging Risks

A full and thorough understanding of business objectives better equips managers to deploy effective monitoring systems that cover the internal and external environments. Data flows into risk systems that are designed to identify volatility catalysts, which could come from within or outside the firm. The volatility catalysts are indicative of strategic risks. And when these risks manifest themselves, the probability for tail-end events increases.

Risk managers cannot rely on quantitative models alone to help determine when risks will become real. Some risks do not lend themselves to modeling, but they still must be addressed in order to provide qualitative analysis for proper positioning of the firm.



Systemic risk, also known as volatility, is measured by the beta coefficient. Beta is the amount of systemic risk a security or portfolio has relative to the overall market. The overall market has a beta of 1, and all assets are measured against this baseline. A beta greater than 1 means more volatility than the overall market, while a beta that is under 1 means less volatility. Common drivers of systemic risk are monetary policy, fiscal policy, inflation, and growth.

Idiosyncratic risk is specific to a company or asset class and has no correlation to broad market moves. The main drivers of idiosyncratic risk are management, the strength of the firm's financials, and its culture, location, and industry.

Systemic risk cannot be diversified, but idiosyncratic risk can be mitigated by diversification. Management needs to be aware of systemic and idiosyncratic risks, as either type can drive strategic risks. It is the combination of both that represents total risk.

3.4 Data Management

Data is a critical element underpinning risk management. For known data points, managers must identify known risks and assess their potential impact. This is the first step in identifying strategic risks and their associated effects, which must be analyzed and risk-graded.

Then there is the other information that management does not know but should know. These information gaps must be closed because they represent potential strategic risks. Of course, some risks will never be known with certainty. Random events—such as earthquakes, transit strikes, and flu pandemics—cannot be predicted with a high degree of accuracy. Even so, they will need to be addressed through business continuity and disaster recovery planning, scenario analysis and simulation exercises, and insurance coverage. Strategic risks must be analyzed to assess the likelihood, severity, and speed with which they will surface.


Whether an event is driven by a known strategic risk or a random event, the key is to have a coordinated response based on a set of criteria and escalation protocols that involve the proper level of management.

As globalization and technology have made the marketplace much more competitive, it has become increasingly important for firms to be able to understand and plan for strategic risks. Successful companies need to ensure they have the necessary financial and operational flexibility to adapt and take advantage of new opportunities. This requires management to deploy data management and analytics that monitor the internal and external environments. That way, firms will be able to identify volatility catalysts and have plans in place to respond to them, and know when volatility catalysts have a higher probability of occurring. This approach requires an enterprise-wide view of risk management and the adoption of a cross-discipline framework in which all the risk disciplines work together to provide critical information to management.

3.5 Linking Risk and Strategy

Broadly speaking, risk appetite is an organization's articulation of how much risk it is willing to assume. Risk appetite translates risk metrics and methods into business decisions, establishing the link between corporate strategy and risk management. Essentially, that link positions the firm to take advantage of the detailed risk management work-streams in support of strategy.

The financial services industry has adopted a greater focus on corporate governance intended to address control weaknesses. Many different perspectives must be balanced in order to achieve consensus. Risk management has an obligation to support the organization's growth strategy, and that strategy must take into account the firm's capacity to assume risk. Risk appetite is impacted by culture, strategy, and competition. Firms have run into problems by chasing profits without properly analyzing the risks they are assuming. Risk appetite can help instill strategic discipline.



Conversely, many firms coming out of the 2008-09 financial crisis may have become risk-averse and overly conservative—and thereby challenged to ensure that management is taking on sufficient risk. Taking on too little risk can often be just as bad as too much risk. A major benefit of promoting risk appetite is that it forces a dialogue and ensures that risks are articulated and understood across the organization.

Risk appetite is also a critical input to economic capital. Economic capital plays a key role in the quantification of risk and in ensuring that risk appetite is embedded within firms, giving management a mechanism to appreciate the relationship between risk and return.

The process begins with corporate strategy, where management decides on the strategic direction of the firm. Here, risk appetite becomes a qualitative statement that establishes which risks the firm is willing or unwilling to assume.

Next, a risk appetite scorecard quantifies those risk metrics that lend themselves to numbers. Market, credit, and liquidity risks quantify well, but when operational risk is divided into components, some of them simply do not quantify with a high degree of confidence.

A firm's business model determines which risks a firm faces and to what extent they exist. Market risk and credit risk are different from operational risk in that both face off to a smaller makeup of the firm. The operational risk team, on the other hand, works directly with business management to implement an operational risk framework that can be used to support a risk appetite. Each of the risk disciplines has a role, but operational risk has this additional challenge. At its core, operational risk management works with senior management to implement an operational risk framework.

As the business implements these core risk frameworks, risk management becomes a critical component of the risk appetite, and the risk frameworks ensure consistency both horizontally and vertically in a firm. It is recommended that firms take a holistic building-block approach that wraps risk appetite and risk frameworks together and aligns them with corporate strategy.

3.6 Strategic Risk Assessment

A strategic risk assessment is an analytical process that reviews the internal and external environments, working toward the development of a firm's strategic risk profile. Many risk managers are well aware of risk and control self-assessments (RCSAs), which are very detailed assessments designed at the process level. RCSAs are bottom-up assessments, whereas the strategic risk assessment (SRA) is top-down.

An SRA is a qualitative assessment that scores the likelihood and impact of strategic risks facing the firm. Developing an SRA requires a thorough understanding of the firm itself, the industry in which the firm operates, and the risk conditions that could impact the firm. By its nature, the process of developing an SRA requires a diverse group of subject-matter experts drawn from different disciplines. This is not an exercise only for risk management.

An SRA can help identify and grade strategic risks and it can assist in mitigation plans. The first step toward developing an SRA is to assemble the initial list of strategic risks facing the firm. The developer of this list would initially be risk management, but even at this stage the list needs to be validated by other subject-matter experts from different backgrounds.

Once this initial list is completed, an assessment questionnaire can be developed. The purpose of this questionnaire is to score both the likelihood and impact of each strategic risk.

- The scoring is typically on a scale of 1 to 5, with 1 representing low likelihood/impact and 5 representing high likelihood/impact.
- In addition to likelihood and impact, the questionnaire should document the timeline during which the strategic risk is expected to manifest.

- The timeline could be 0 to 12 months, 12 to 24 months, or more than 24 months. Regardless of the parameters, the timing is key to properly prioritizing a mitigation response.

The assessment questionnaire should be sent to different disciplines across the firm in order to obtain a well-balanced response. Risk management aggregates the completed questionnaire, where the first level of analysis and validation is completed.

The next step in the process is to schedule a workshop to discuss the results of the assessment questionnaire. Participants in the workshop should validate the strategic risks and, if necessary, make changes. They should also validate the scoring for likelihood and impact, as well as the timeline. The workshop is a key step toward developing a strategic risk map (which is a visual of the firm's strategic risk profile) and for placing the graded risks within a timeline.

The last step in the workshop process is to agree on a risk management strategy and prioritize the firm's response to its strategic risk profile. It is critical, however, that this process not be static and that a monitoring process be put in place to evaluate the environment, assess performance versus the risk profile, and, if necessary, escalate and make adjustments if risk factors change.

The strategic risk assessment process can be summarized as follows:

- Develop and validate the initial strategic risk profile.
- Use the strategic risk profile to develop a questionnaire that grades likelihood, impacts, and the timeline of expected impact.
- Distribute the questionnaire to a cross section of the firm.
- Aggregate and validate initial results.
- Schedule a workshop to validate the accuracy of strategic risks and all scoring.
- Develop a risk management strategy.
- Perform ongoing monitoring and make adjustments when necessary.

4 INTEGRATION OF ERM WITH STRATEGY

This section is based on an April 2016 case study titled "Integration of ERM with Strategy" by Ha Do, Maria Railwaywalla, and Jeremiah Thayer of North Carolina State's Poole College of Management. The case study was based on three companies: Mitchell Industries, Eli Lilly, and Daisy Company. The research found that a variety of methods can be deployed based on a company's strategic objectives, business model, culture, and maturity of ERM implementation.

This study also supports the premise that increasing complexity due to industry changes, globalization, and shifts in technology and business cycles can produce more strategic risks than ever. Linking ERM to a company's strategic planning can help ensure that strategic initiatives are connected to risk-mitigation strategies and that changes are met with thorough analysis to help a firm sustain its competitive advantage.

Critical Elements of Integration

- Mitchell Industries is an aerospace, defense, and information technology company. Senior management supports the ERM at Mitchell, but it does not have a tool that links risk and strategies between the corporate function and the business units. Additional critical elements include the continuous monitoring of implementation, and there is accountability for smooth operations. However, the company wants to improve its proper resource allocation relating to risk mitigation.

- Eli Lilly is a human pharmaceutical and animal health company. Eli Lilly ensures that employees understand the value of ERM and that the firm aligns the timing of the strategic planning process and ERM processes. The company creates local ownership of risk-mitigation plans, and it maintains an interdisciplinary team to transition risk from a business unit to an entity level. Eli Lilly also engages multiple points of assessment and review.
- Daisy Company manufactures personal care products. Daisy has a strong culture and tone from the top, and it has always linked risk and strategy. It deploys a multidisciplinary approach and performs continuous assessment and review.

The study concluded there is no best home for ERM in a company, but added that any company should be well positioned to have both proper reporting channels and an effective vantage point to avoid blind spots. The authors noted the importance of tone from the top, especially when integrating ERM and strategic planning.

At any company, strong relationships are essential and businesspeople will more fully engage if they see value in the process. Communication and education are key elements, and risk ownership and mitigation should reside at the business-unit level.

5 LIQUIDITY AND CAPITAL MANAGEMENT

As noted in 3.1, liquidity and capital management play a critical role in ensuring firm solvency, especially in stress scenarios like the 2008 recession, and as a bulwark against emerging risks (for more on these risks, see A Framework for Emerging Risks).

The terms liquidity and capital are often used interchangeably, but they are distinct and serve different purposes in ensuring firm solvency. Firms have become insolvent because of inadequate capital and/or liquidity, not only causing loss of shareholder value but shaking confidence in the stability of the financial system.

Liquidity

It is during stressed times that funding risk and market risk are at their highest levels. Funding risk refers to a firm's ability to meet its obligations through available cash or collateral. Market risk refers to the ease with which assets can be sold in the market to raise liquidity to meet firm obligations.

Firms can mitigate these two risks in various ways. One way is to ensure access to stable funding sources that hold up even under stress scenarios. Bank regulators call this type of funding—demand deposits and statement saving accounts—a bank's "core deposits." The point, even for nonbanks, is to evaluate the stability of funding sources in multiple scenarios. Overreliance on more volatile sources of borrowing leaves firms vulnerable in periods of stress.

Another mitigation is to hold a buffer of liquid assets and cash that can be relied on to meet obligations. As part of liquidity planning, it is important for firms to periodically review existing liquidity strategies and activities, identify primary and secondary sources of funding, and ensure liquidity management that is consistent with the board's risk tolerance.

As seen during the 2008 recession, even instruments once thought of as liquid may not be if the situation is extreme. A number of firms had funding and liquidity problems in 2008 because normally liquid assets were difficult to sell, and even products thought of as cash equivalents did not have markets.

Firms need to be prepared for the risk of not having access to liquidity during a stressed environment. Coming out of the 2008 recession, the Basel Committee agreed on a liquidity coverage ratio (LCR) and a net stable funding ratio (NSFR). The LCR addresses a firm's ability to maintain a liquidity buffer during a short-term stress scenario, while the NSFR addresses stable funding structures. In addition to these ratios, firms need to develop

the ability to stress test liquidity in hypothetical scenarios and consider the various sources of liquidity and the risk posed by illiquidity.

Capital

As noted in 3.1, capital is a financial cushion needed to absorb unexpected losses and support business growth.

The best example of how expected loss and unexpected loss work is a loan portfolio. Based on the credit quality of a loan portfolio, a bank can estimate its credit losses over a given period of time. The bank would establish a loan loss reserve through a provision expense on the income statement, and the credit would reside as a contra-asset on the balance sheet. The loan loss reserve is the expected loss of the current portfolio. But in an extreme-stress scenario, credit quality may deteriorate so quickly that capital is relied on as a buffer for unexpected loss.

Capital is also used to support the growth of the business. Capital on the balance sheet is the difference between assets and liabilities. As noted in 3.1, forms of capital include economic capital and regulatory capital.

Economic capital is a measure of risk and distinct from regulatory capital, which is the amount of capital required by regulators. Economic capital is based on the probability of potential future losses. It is a forward-looking measure that is usually considered the difference between a given percentile of a loss distribution and the expected loss.

A fully developed economic capital model has the potential to better equip a firm to anticipate potential issues. The primary value of economic capital is its ability to influence decision making and risk management. But its influence on decision making depends on the development of an allocation method that best suits the requirements of the firm and the establishment of a risk-adjusted return on capital, hurdle rates, and target rates.

- *Allocation:* Firms need to determine the method of allocation that best suits them. It stands to reason that allocation should begin at the business unit or division level, with more detailed allocations made at the discretion of management. Beyond the business unit or divisional allocation, economic capital should be allocated to each of the main drivers of risk. These drivers of risk, in turn, will depend on the business model of each specific firm.
- *Risk-Adjusted Return on Capital (RAROC):* RAROC is simply expected profit divided by economic capital, the expected profit being revenue minus expenses.
- *Hurdle Rates and Target Rates:* Hurdle rates establish a minimum rate of return needed. Each project or product must meet the minimum return, and the hurdle rate is determined based on the cost of capital for the firm. Target rates, in comparison, establish the rate of return that management is setting its sights on.

Economic capital and regulatory capital both play critical roles in capital management, but the nature of economic capital makes it especially well-suited for capital planning. Complementary to the calculation of capital is the incorporation of stress testing, where firms deploy forward-looking stress tests that evaluate a firm's ability to absorb losses and continue operations in a stress environment.

Capital Plans and Stress Tests

The Comprehensive Capital Analysis and Review (CCAR) is used by the bank regulators to assess the capital adequacy of banks. As of 2014, even mid-market banks (those having assets of \$10-50 billion) are required by the Dodd-Frank Act to submit capital stress tests to the regulators.

Banks with assets greater than \$50 billion have been submitting plans since 2011 and face more requirements. However, many industry watchers expect CCAR requirements to be relaxed somewhat given the deregulation drive in Washington, D.C., particularly since other requirements have been curtailed through passage of the Economic Growth, Regulatory Relief, and Consumer Protection Act.



The legislation, for example, frees banks with up to \$100 billion in assets (the number will ultimately rise to \$250 billion) from Dodd-Frank Act stress tests (DFAST). DFAST requires banks to assess their capital position under baseline scenarios developed by the regulators. Banks take different variables—GDP changes, unemployment spikes, market crashes—and use their internal forecasting models to determine the effects on revenue, losses, liquidity, and capital.

Currently, CCAR requires banks with assets of more than \$50 billion to develop and submit capital plans to the regulators, who use these submissions to determine if the bank is able to maintain minimum regulatory capital under scenarios of extreme stress. A 2012 article from the Federal Reserve Bank of New York, “CCAR: More Than a Stress Test,” noted that “an important feature of capital plans is that they are explicitly forward-looking. The plans focus not just on the BHC’s current regulatory capital ratios, but also on assessments of what might happen to its capital in the future under both expected and stressful economic conditions. This forward-looking assessment is important because regulatory capital ratios do not always adjust rapidly as market conditions and perceptions about the firm change, especially during times of stress.” The same article also detailed required elements of the capital plan:

- A detailed description of the overall process.
- The guidelines, principles, and governance procedures for the capital policy.
- A description of planned capital actions.
- An assessment of sources and uses of capital over a nine-quarter horizon.

Liquidity and capital are related but also distinct from each other. Liquidity is related to sources and uses of funds in order to meet firm obligations. Capital, in contrast, is a buffer to absorb losses. Either liquidity or capital could have major adverse implications for firms, and in extreme situations both can have problems simultaneously.

Accordingly, regulators have increased their expectations for bank managements to be proactive in assessing the impacts of liquidity and capital during periods of extreme stress. The objective is to ensure that firms maintain solvency and that they can continue to play a critical intermediary role in the global economy.




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APPENDIX

We gratefully acknowledge the efforts of the members of the Operational Risk Council and Enterprise Risk Management Council:

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