A FRAMEWORK FOR BOARD OVERSIGHT OF ENTERPRISE RISK

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Preface

The Risk Oversight and Governance Board (ROGB) of the Canadian Institute of Chartered Accountants (CICA) has developed the framework described in these pages to assist boards of directors to fulfill their responsibility for the oversight of risk.

Our discussion of risk oversight issues features a nine-step process to assist directors to:

- better identify and address critical risks
- understand how risks are interconnected
- recognize the potential compounding of risks should unfavourable events occur at the same time.

While boards should not be involved in day-to-day risk management, recent events highlight the need for more proactive and direct engagement over and above traditional oversight of risk management processes.

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Introduction

In the aftermath of financial crises and a global recession, board oversight of enterprise risk continues to be a topical issue for board deliberation. The re-examination of the board's role in the oversight of enterprise-wide risk has not been limited to investors or boards asking what could have been done to better understand and proactively address exposures. The SEC, New York Stock Exchange and other regulatory bodies continue to examine disclosure requirements related to various forms of enterprise risk. Risk oversight is a high priority for most boards, but for many it is also more-or-less uncharted territory.

What is the appropriate role of the board in corporate risk management? Traditional governance models support the notion that boards cannot and should not be involved in day-to-day risk management. Rather, through their risk oversight role, directors should be able to satisfy themselves that effective risk management processes are in place and functioning effectively. The risk management system should allow management to bring to the board's attention the company's material risks and assist the board to understand and evaluate how these risks interrelate, how they may affect the company, and how these risks are being managed. To meaningfully assess those risks, directors require experience, training and knowledge of the business.

The number of well publicized bankruptcies each year—both unforeseen and anticipated—shows that over-reliance on or absence of effective, management-led enterprise risk processes and models can have unexpected or even catastrophic results. These high-profile corporate disasters are often cited as extreme examples of failure of enterprise risk management systems and board oversight. For most corporations, however, the consequences of failure are more likely to be underperformance and destruction of shareholder value.

Effective risk management and board oversight should not be premised on risk avoidance. Every corporation is exposed to and takes risks daily. What is important is to manage the balance of risk and reward and to identify and minimize the consequences of a negative occurrence to the extent possible.

In our view, boards must take a more active and direct role in risk assessment well beyond traditional oversight of typical risk management processes. In particular, risks associated with leadership and strategy are prime examples of areas where a board must assert itself more directly since management cannot be expected to objectively assess its own performance, capabilities and strategy in such areas from a risk perspective. Unlike other embedded responsibilities of boards and committees, such as the oversight of financial reporting and disclosure, there are no standards for risk oversight and few, if any, authoritative sources on which boards may rely.

This document is not intended to advise directors on how to create an enterprise risk management system or a technical management-led risk process; these are more suited to development by management. We also do not address crisis management in the event of an occurrence. Rather, our intent is to provide a practical approach to risk oversight designed specifically for boards of directors, including a framework, methodology and toolsets[1].

1 For information on Crisis Management see 20 Questions Directors Should Ask about Crisis Management.

Executive Summary of Critical Issues

Oversight

What is the board's role in the context of risk oversight? Typically, boards of directors are tasked with providing oversight on identifying, assessing and to the extent possible mitigating corporate risk. It is the general view that boards are expected to provide an oversight role of the risk management systems and processes as well as continuously reviewing both the planning and outcomes of such processes.

This implies that oversight is somewhat passive and involves significant reliance on management. But there are valid circumstances in which boards must take a leadership role in assessing risk. For example, a primary risk might be an ill-advised strategy or a failure to execute strategy. How does management critically evaluate the very strategy it developed or objectively assess its ability to execute? Similarly, the quality and effectiveness of a corporation's leadership, including the chief executive officer can pose a major risk. How is it possible for management to assess itself?

Questions for directors to ask:

- Does the board clearly understand its oversight mandate and role?
- Is the board sufficiently active in fulfilling this part of its mandate?
- Do the directors share a common, practical understanding of their responsibility for risk oversight? Is this view the same as that of the CEO and executive team?
- Does the board properly distinguish its responsibility for risk oversight from risk disclosure?
- Are the objectives of the board's responsibility for risk understood?

Directors' individual knowledge and understanding of risk

If directors were asked whether they understand business risk, we believe most would say they do. Yet time after time, corporations find themselves in distressed situations and even bankruptcy, which invariably prompts the question, "Where were the directors?"

Questions for directors to ask:

- Do board members have an adequate, up-to-date appreciation of the nature, types and sources of risks faced by the organization?
- Does the board truly understand the interdependencies and how events or conditions occurring simultaneously can spell disaster?
- Are seemingly unthinkable business risks ignored because their occurrence is thought to be unlikely?
- Does the board have the necessary blend of business and industry knowledge and experience to assess risk?

Board's primary objectives for enterprise risk management

By conventional thinking, the primary objectives of board oversight of risk are preserving the viability of the enterprise and improving shareholder value. In reality, the likelihood of total failure for most businesses is remote.

Questions for directors to ask:

- Beyond the obvious objective of preserving the corporation's viability, do board members understand that the most likely outcome of ineffective risk management is underperformance and the destruction of shareholder value?
- Conversely, does the board recognize that a key objective of a robust enterprise risk oversight process should be to enhance performance and improve shareholder value?

Determining a corporation's capacity, tolerance and appetite for risk

Whether advertently or not, every corporation faces risk constantly. In fact, an ongoing management responsibility is evaluating and adequately balancing risk with reward.

Questions for directors to ask:

- Does the board periodically consider and quantify the corporation's capability to take on and manage risk?
- Does the board understand the differences between risk capacity, risk tolerance and risk appetite?
- Does the board consciously assess risk and reward when considering major strategic or tactical initiatives?
- Does the board have a framework within which to make meaningful judgments around risk tolerance and risk appetite?

Board organization and structure for addressing risk

Various models of board organization are currently used for the oversight of risk. In many cases, risk assessment is delegated to one or more board committees. In other cases, the board as a whole takes on the responsibility. In some cases, boards simply fail to assign this responsibility at all.

Questions for directors to ask:

- Is the assignment of risk oversight clearly mandated?
- Are the chair of the board and CEO committed to a dynamic and robust risk management environment?
- If risk oversight is delegated to one or more committees, are the committees capable of overseeing risk in its broadest form?
- Is sufficient time set aside to carry out this responsibility?
- Do the board's agendas promote integration of risk issues with other agenda items such as strategy, organization and finance?

Management approach to enterprise risk

Management approach to risk can vary widely. At one extreme are highly structured enterprise risk management processes with dedicated organizational resources. At the other extreme are more unsophisticated and passive approaches that address risk as an afterthought, usually regarding major expenditures, or through a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis.

Questions for directors to ask:

- Does management have a robust framework and comprehensive process to assess risk?
- Does the board accept management's assessment of risk too readily even when it appears superficial?
- Are risk management processes or systems well designed such that risk is managed holistically and not in silos?
- Does the corporation have adequate systems and processes in place to monitor the effectiveness of risk management?
- Do the board and management learn from and act on instances where risk management strategies and systems have been ineffective?
- Can management adequately and objectively assess risk when it is the architect of the risk management framework?
- Does management have the openness and humility to recognize its shortcomings and the courage to recognize flawed strategy and change course?
- Is risk tolerance and risk appetite set out in the company's strategic plan? Is it appropriate?

Interrelationships and compounding effect of risks

Company failures, much like air disasters, usually result from many factors occurring simultaneously. In hindsight, the origins of these unfortunate and often disastrous events are painfully apparent.

Questions for directors to ask:

- Does management understand the interconnectivity and interdependencies of risks?
- Does the board recognize that the corporation may have several embedded exposures so that even relatively minor risks can produce significant unfavourable consequences?
- Are risk interrelationships ignored because the likelihood of a negative occurrence is deemed remote?
- Does the board have an adequate framework to understand the interrelationships, interdependencies and compounding effect of risks?

Strategic risk

Strategic plans are developed to map future direction, delineate the basis of a corporation's competitive advantage and set out specific plans to achieve financial and other objectives. Since strategy ultimately involves choices, risks are inherent in virtually every strategic plan[2].

Questions for directors to ask:

- Does the board understand and discuss the linkages between strategy and risk?
- Does the board assess strategic plans in terms of their potential failure and the attendant consequences?
- Does the board integrate assessment of risk and choices about risk into strategic plans?
- Does the board have a framework and toolsets, such as competitive analysis and stress test modelling, to assist it to understand the consequences of strategic risk?

Adequacy and timeliness of relevant information

Boards of directors and board committees typically receive substantial information on quarterly performance, annual and longer-term plans, together with committee-specific information.

Questions for directors to ask:

- Beyond risk-related strategic plan supplements and financial reporting data, do boards receive comprehensive reports on risk?
- Is this information sufficient to make well-reasoned judgments about risk and risk management?

2 For more information see 20 Questions Directors Should Ask about Strategy, 3rd ed.

External advice

Typically, boards of directors have access to expert advice related to areas such as legal, accounting, compensation, financing, and mergers and acquisitions.

Questions for directors to ask:

- Are there reputable experts to advise the board on various risk matters?
- Does the board regularly engage such experts?

Executive performance evaluation and compensation

Boards evaluate executives using a variety of metrics and other criteria. Compensation philosophy and evaluation criteria are typically designed to align the executives' objectives with the corporation's goals.

Questions for directors to ask:

- Does the board include risk management as a criterion for executive evaluation?
- Are current compensation practices aligned or at odds with prudent risk management?

A Board Risk Oversight Framework

A common concern among boards of directors is the lack of a comprehensive framework and toolsets to assist boards to structure an effective, robust enterprise risk oversight process. The board's responsibility for risk oversight and management's responsibility for enterprise risk management should be clearly delineated. This document defines a framework and a systematic approach incorporating elements of a traditional enterprise risk management process but is tailored to the board's oversight role. Before reviewing this framework, it may be helpful to contrast enterprise risk from management's perspective versus the board's oversight role.

Enterprise risk management[3]

Enterprise risk management (ERM) is a management tool that encompasses the methods and processes used by organizations to manage risks related to the achievement of their objectives. A typical ERM framework guides management on how to:

- identify particular adverse events or circumstances relevant to the organization's objectives
- assess the likelihood and magnitude of impact
- determine a response or mitigation strategy
- monitor progress.

By identifying and proactively addressing risks, companies can improve performance and protect and create value for shareholders.

ERM may also be described as a risk-based approach to managing an enterprise that integrates strategic planning, operations management, and internal control. ERM is evolving to address the needs of various stakeholders who want to understand the broad spectrum of risks facing complex organizations and ensure those risks are appropriately managed.

Board oversight of risk

The board's role in risk oversight is similar in some ways to the role of the audit committee. The audit committee does not prepare financial statements, draft disclosures, or maintain the system of internal control. Rather, the audit committee bears responsibility for overseeing the financial reporting and related internal control processes.

Similarly, boards of directors are not expected to unilaterally identify, analyze, mitigate and monitor enterprise risk. Rather, boards must oversee the risk management systems and processes and continuously review the associated outcomes and planning. As stated earlier in this document (and worthy of repetition), the oversight role should not be passive or, too reliant on management. Successful board risk oversight processes requires board confidence in management, access to relevant and reliable information and effective functioning of a board overall.

3 For Enterprise Risk Management frameworks see Enterprise Risk Management – Integrated Framework COSO and ISO 31000:2009 Principles and Guidelines.

Model for board involvement in risk oversight

A model risk oversight framework is depicted on page 13. In summary, the key activities involve:

- identifying risks
- analyzing, validating and prioritizing them
- determining risk tolerance and risk appetite
- managing risks through various response strategies
- ongoing monitoring.

The participants who contribute to this model's effective functioning may vary among organizations. In larger organizations, this group usually includes:

- the board of directors
- the executive organization
- operational and functional staff
- risk and compliance management, including internal audit and legal counsel
- external advisers, such as external audit, legal firms, and consultants
- other stakeholders, such as lenders and investors, in certain cases.

In smaller organizations, many activities could be combined and assigned to executives and senior managers or outsourced.

Clearly, the executive organization led by the chief executive officer bears overall accountability for managing enterprise risk. The board of directors has responsibility for oversight and is ultimately accountable for the corporation's overall performance and the safeguarding of its assets. Within the risk management framework, the board also would be expected to provide varying degrees of input and counsel into risk identification, analysis and validation, prioritization, risk tolerance and risk appetite, response strategies and monitoring activities.

As referenced earlier, boards should take a more active role in overseeing certain specific types of risk. Depending on the degree of the risk, the degree of board involvement would be at one of the three levels.

Level 1 Risks

Level 1 risks include customary operational risks, such as health, safety and environment and facility or system disruption, and other risks where the potential adverse effect on the business is moderate or has been offloaded such as through an insurance program or other means.

Provided the board is satisfied with the efficacy of the risk management systems and processes, board oversight for Level 1 Risks would involve customary questioning, review of periodic reporting, counselling and monitoring.

Level 2 Risks

Board involvement in risk oversight would be heightened for Level 2 Risks, which fall into two categories:

1. high-impact risks that cannot be adequately mitigated
2. risks involving the presence of management bias.

For high-impact Level 2 Risks, the board would work closely with the executive organization to understand, quantify, prioritize, mitigate and monitor such risks. For example, financing risk falls within this category where the enterprise has significant liquidity exposure by virtue of its business model, its capital structure, or the potential balance sheet impact of another adverse occurrence.

For Level 2 Risks involving potential management bias, board involvement would expand to fully understanding the underlying facts and assumptions and how the risk might be quantified, validated, monitored and stress-tested through financial modelling. For example, strategic risk would fall into this category since management developed and was committed to execute the strategy and would have difficulty objectively assessing its viability and associated risks.

Increasing board involvement does not imply that the board takes the lead at the exclusion of management. Rather, this should be a highly collaborative effort between the board, the CEO and the executive organization.

Level 3 Risks

Level 3 Risks include instances where management is clearly conflicted or heavily biased, and so these risks should command the highest level of board involvement. The obvious and arguably most important example of Level 3 Risk lies in assessing the CEO's performance, capability and suitability. Clearly, this is a critical responsibility for which the board must take a leadership role.

There are times when boards must take a more active or leadership role in assessing risk. For instance, a primary risk might be an ill-advised strategy or a failure to execute strategy. How does management critically evaluate the very strategy it developed or objectively assess its ability to execute? Similarly, the quality and effectiveness of a corporation's leadership—including its chief executive officer—can pose a major risk. Is it fair or even possible for management to assess itself?

Preparing to Implement the Framework

Overview

The highest quality strategic plans are unlikely to succeed if they are not effectively implemented. Thus, the ultimate success or failure of employing this risk oversight framework may lie in its execution. Given the unique circumstances of each corporation and its board of directors, there is no single implementation model. Each board must determine its own appropriate execution methodology.

In its early stages, executing risk oversight may be unknown territory for many boards. Accordingly, they should be prepared to modify the framework as the implementation unfolds. As with other important board processes, the full implementation of a comprehensive board oversight methodology may require several cycles over two or three years. Success will depend on committed leadership, planning and direct involvement by both the board and senior management.

A detailed implementation road map is set out in Appendix II.

Leadership

Unquestionably, the success of the board oversight of risk is directly tied to the leadership of the process. While it is tempting to assign the leadership of risk oversight to a committee chair, without the support and sponsorship of the board's chair and the chief executive officer, the process is unlikely to become broadly accepted or embedded in the board's annual agenda. It is equally important for the CEO to recognize and support the board in fulfilling its responsibility to assess organizational risk at the chief executive level and critically assess management's strategy from a risk perspective.

Direct board involvement

The board's risk oversight must be hands-on. It should be much less about reviewing management presentations and more about drawing on the full board's capabilities and experience through thoughtful discussion and interaction. The time commitment by both board and management will be significant. The board and CEO must show committed leadership to overcome management resistance to the process due to the amount of time required.

Board versus committee risk oversight

Each board must determine how it wishes to assign responsibility for overseeing enterprise risk. Some may wish to delegate all or part of the responsibility to one or more existing committees or to a new, separate committee. Certain risks clearly lend themselves to committee oversight such as financial and organizational risks. However, as with oversight of strategy, the entire board is ultimately responsible for overseeing risk and would benefit from drawing on the board's full resources.

Separate meetings

Because of importance and time requirements, most boards regularly schedule separate meetings to review the corporation's strategic plan. For the same reasons, boards should consider dedicated sessions to address enterprise risk, particularly in the first year or two to work through inevitable implementation issues. It is worthwhile to schedule risk sessions following the strategic plan meeting to allow board members to reflect on strategic risk while it is top of mind.

Session planning

The board and management may find it helpful to scope the risk sessions in advance and to understand the data and analytical requirements. This process likely will be iterative since risk oversight remains somewhat uncharted territory. The board and management may find it worthwhile to work through each of the nine process steps set out in this document to determine the desired outcome and input requirements. At the end of each session, the board should review any gaps in the data or process to better prepare for future meetings.

A detailed framework for implementation is set out in Appendix II.

Role and use of advisers and stakeholders

In this document, we often refer to the role of external advisers and consultants, largely in providing specific expertise or unbiased analysis and advice. For small and mid-sized companies, extensive use of advisers may be unaffordable. Boards of such companies are encouraged to explore creative ways to obtain expert advice within cost constraints.

In some instances, gathering input from stakeholders is highly advisable. Specifically, in examining the enterprise's capital structure from a risk perspective, it might be useful to obtain the views of the company's lenders. Similarly, in determining risk tolerance and risk appetite as discussed in section VII, it would be useful to understand shareholder sentiment and related investment thesis in connection with risk.

Role of management

The chief executive officer's support is critical to implementing the risk oversight framework. The staff members involved in risk management (such as risk officers and internal auditors) are equally important, and their knowledge, expertise, independence and resources can be invaluable in assisting the board in developing objective analysis and providing useful insights.

Risk parameters

In light of much-publicized bankruptcies or near-bankruptcies, when boards consider enterprise risk, they commonly focus on catastrophic risks that could threaten the corporation's viability. This focus is clearly warranted. However, most businesses do survive and for corporations that have strong balance sheets and solid track records, boards may be tempted to reduce their emphasis on risk oversight. We assert that risk parameters should go beyond identifying risks that endanger the corporation's sustainability. The risk parameters should include any event or condition that could materially affect long-term performance or cause material destruction of asset or shareholder value.

The combination of a robust board led risk oversight process and establishing appropriate risk parameters to include potential occurrences that could affect long term performance or the destruction of asset or shareholder value has the tangential benefit of improved company performance and board governance practices across the critical corporate functions.

The Framework

Below we set out a risk oversight framework that is specifically tailored for use by boards of directors. The nine-step process is designed to assist boards better identify, understand and address critical risks. Most importantly, the framework includes a process for understanding the interconnectivity of risks and the potential compounding effect of unfavourable events occurring simultaneously. The framework may also assist boards to better understand their corporations' tolerance and appetite for risk in planned and unplanned activities and events and guide development of their response or mitigation strategy.

I. Establish Context
II. Identify Risks
III. Analyze Consequences
IV. Analyze Interconnectivities and Compounding Effects
V. Re-Analyze Consequences
VI. Prioritize
VII. Assess Risk Tolerance
VIII. Choose Response Strategy
IX. Monitor

I. Establish context

Understand current conditions in which the organization operates from an internal, external and risk management perspective

II. Identify risks

Document material threats to the organization's achievement of its objectives and value of its assets

III. Analyze consequences

Quantify the impact of the risk and likelihood of occurrence

IV. Analyze interconnectivities and compounding effects

Aggregate risks and understand relationships, interdependencies, and the compounding effect of simultaneous occurrences

V. Re-analyze consequences

Re-calibrate and, if possible, create probability distributions of outcomes of interrelated risks

VI. Prioritize

Rank risks in order of importance, blending severity with likelihood of occurrence and potential for mitigation

VII. Assess Risk Capacity, Tolerance and Risk Appetite

Determine the entity's capability, tolerance and appetite for potential consequences of risk

VIII. Choose Response Strategy

Develop plans to avoid, reduce or control, share or insure, accept, or, in certain cases, potentially exploit risks

IX. Monitor

Continually measure and monitor the risk environment and the performance of the risk management strategies

I Establish Context[4]

4 See also ISO 31000:2009.

Fundamental to gaining a broad understanding of the risk environment is examining the current conditions in which the enterprise operates. At a minimum, this includes an appreciation of the:

- macroeconomic environment
- geopolitical risks
- size, nature and unique characteristics of the industry, geographic markets and customers
- fragmentation, relative size and strengths of competitors
- basis of competition.

It is helpful for the board to receive from management comprehensive industry analyses that provide current industry-specific data and detailed competitive information, especially data related to the business's key drivers. Boards also should recognize that subtle changes in the industry or competitive environment might signal the emergence of important trends that can create significant risk.

Generally, boards of directors gain a contextual understanding of the conditions in which the corporation operates through their ongoing oversight activities. However, in rapidly changing industries, up-to-date and thorough market and competitive analyses should not be underestimated.

II Identify and Categorize Risks

Identifying and categorizing risks that may materially affect the enterprise's performance, asset values or viability often requires extensive input from both management and boards of directors.

A framework to assist boards of directors in the identification process may be useful. The framework below showing eight risk categories, ranging from strategic and operational risk through to external and reputational risk.

While hazardous and compliance risks are very important, boards and management generally have well-established processes for their oversight and management. Reputational risk usually arises from other unfavourable occurrences. Accordingly, in this document we will focus primarily on five categories of risk:

1. strategic risk
2. financial risk
3. organizational risk
4. operational risk
5. external risk.

Too often the risk identification process focuses on external risks such as natural disasters, potential actions of competition and environmental issues. Ironically, the most significant risks frequently lie internally. Internal risk identification requires an alert, unbiased board and to the degree possible, an objective executive team.

Examples of strategic risk:

- unpredictable market trends and performance
- competitive actions
- selection of ineffective strategies
- acquisitions

Examples of financial risk:

- liquidity
- capital availability
- capital structure

Examples of organizational risk:

- leadership depth and quality
- management and labour availability and cost
- cultural alignment

Examples of operational risk:

- customer dissatisfaction
- product failure
- service quality
- capacity constraints
- vendor and distribution dependencies
- input quality and pricing

Examples of external risk:

- macroeconomic volatility
- industry structural change
- industry cyclicality

Examples of hazardous risk:

- liability torts
- property damage
- natural catastrophe
- environmental

Example of compliance risk:

- compliance with applicable laws and regulations

Reputational risk:

- risk arising as a consequence of acts, events and perceptions (see page 39 for example)

II.I Strategic Risk[5]

Board oversight of strategy

The primary risks associated with strategy stem from the selection of strategies that are inappropriate in the circumstances, the corporation's inability to execute its strategy, and the timeliness of implementation. Poor strategy formulation or execution can at best, cause underperformance and, at worst, threaten the viability of the enterprise.

A critical first step to understanding strategic risk is to rank the key drivers for competitive advantage in order of importance. There are seldom more than five or six critical drivers that, if improperly executed, can create enormous risk. For example, two important factors for success or failure in the advanced technology sector are maintaining market-driven technology leadership and developing and consistently executing product or technology road maps.

Contrasting typical board oversight of risk relating to financial reporting versus oversight of risk inherent in strategy highlights the need for increased board focus on assessing strategic risk. While accurate financial reporting is crucial for the proper functioning of capital markets, the importance of strategy to create shareholder value is undeniable. Yet the contrast between the oversight of financial reporting versus strategy is staggering.

Virtually all public companies maintain substantial systems, processes, professionally trained resources, regulations, validation and oversight to ensure their financial reporting is accurate. Financial reporting has well-defined rules and parameters, often known as generally accepted accounting principles. Those principles are interpreted and modified by extensive resources within the public accounting profession along with regulatory bodies such as the securities commissions. Stock exchanges require annual financial statements to be audited by qualified, independent accounting firms. Some stock exchanges also require the independent audit of the systems of internal control. Companies employ professionally trained finance and accounting staff to prepare financial statements. Internal control systems are constantly being assessed and validated by internal audit groups that report directly to the board's audit committee. Audit committees are mandated to have qualified independent directors who appoint and supervise external and internal audit, review annual and quarterly financial statements and reports relating to internal control systems. All these resources, prescribed rules, regulations and internal systems are designed to minimize the risk of a material error in financial reporting.

In contrast, there are no rules or regulations governing how strategy should be developed and presented. There are no professional standards or qualifications for those developing strategy. There are limited, if any, independent validation procedures. There are no mandated board processes to oversee strategy. Most boards need better processes and tools to assist in the oversight of strategy, particularly the area of strategic risk.

At the risk of being controversial and overly general, we assert that few companies produce comprehensive, fact-based strategic plans. Most are riddled with anecdotal data that cannot be verified. Many contain bold statements about leadership and level of competitiveness without hard facts to back up such claims.

Strategy development is not an exact science by any means. Nevertheless, it is undeniable that having relevant facts to formulate strategy is critically important. There are however instances when strategy itself may be counter-intuitive, innovative or even speculative. For example, would the vast array of products developed by Apple be conceived if the leaders of that company had focused only known customer preferences? Even still, it is undeniable that having relevant facts to formulate strategy is critical.

5 See also 20 Questions Directors Should Ask about Strategy, 3rd ed.

In their oversight role, boards of directors should recognize that even a highly capable management team might underestimate the importance of objectively assessing its competitive advantages and disadvantages against key business drivers. This can lead to developing strategic plans that assume sustained growth but ignore the risk of contraction, overestimate the company's own competencies, and underestimate competitors' capabilities and actions.

Tools to help boards to oversee strategic risk

Several tools set out in this document to assist boards in carrying out their oversight role. These toolsets are not intended to be used by boards at the exclusion of management. In cases where external expertise is engaged, the board always should have full access to reports and in person presentations.

Validation of product/service differentiation — Independent customer interviews

Achieving competitive advantage through product or service differentiation is a critical component of any organic growth strategy. In any industry, competitors inevitably lay claim to superior product or service attributes. How does a board understand and validate a company's customer value proposition? How can the board know when the enterprise is losing competitive advantage and when changes are required?

A useful way to assess strategy (and associated risk) is to engage an external firm to conduct periodic customer interviews. While many companies have institutionalized customer satisfaction surveys, such surveys tend to provide inconclusive information for several reasons, including the design of the questions, response bias, type of respondents, and lack of competitive comparisons.

For example, a superior customer insight model could involve the use of an outside firm (usually a strategy consulting firm) to assist in designing the survey, select respondents, conduct the survey, and analyze the results. In designing the survey, it is important to ask the right questions about strategy. For example, to understand the customer's value proposition, the survey might ask, "In rank order of importance, what are the five characteristics of a product (or service) that are most important to you?" To assess competiveness, the follow-up question might ask, "In considering the five important characteristics, how do each of the major companies in this sector compare?

Respondents should include current, former and competitor customers to properly calibrate not only the views of loyal customers but also those that no longer use the product or service as well as customers of competitors. To obtain objective data, interviewers ideally should not identify the company, but disclosure is often required to gain access to key customers. Better results are usually achieved by face-to-face interviews conducted by an interviewer with the background and experience to ask probing questions and accurately characterize answers. In situations where the customer base is relatively small, it may be appropriate to interview several different individuals at the same customer. Survey results require detailed analysis and interpretation, and often include verbatim customer comments.

Management teams often discount the need for customer interviews, citing their intimate knowledge of the customer base. Seldom does management apply rigor in canvassing former or competitor customers from which discerning information can be gained In fact, the results of a comprehensive customer interview process are often surprising and insightful.

The board does not necessarily need to be involved in engaging the external firm to develop and complete customer interviews. However, the board should be privy to the results and have the opportunity to meet directly with the consultants.

Competitive analysis and business model benchmarking

Almost unfailingly, strategic plans provide limited competitive information. Most are in the form of so-called SWOT (**S**trengths, **W**eaknesses, **O**pportunities and **T**hreats) analysis. However, SWOT analyses have some significant limitations.

- SWOT analysis may not get at the heart of strategy because it generally fails to comprehensively address how the enterprise stacks up against the competition on the key strategic drivers (such as market position, product differentiation, cost structure, and channel delivery). The identified strengths and weaknesses are often less relevant to the enterprise's success. Consequently, they may not address the heart of strategy.
- Most SWOT analyses lack fact-based analysis to back up their assertions.
- Such analyses assume competitors remain static and are unable to take action or change course.
- Management has a built-in bias to overestimate itself and underestimate competition.

How many board members have reviewed strategic plans that claim the enterprise is the leader in technology or customer service or is the low-cost producer? How does a board become comfortable that these propositions are true? Do board members ever ask management to provide hard data to back up these claims?

The heart of effective competitive analysis lies in three primary concepts:

1. The analysis should measure competitiveness against the critical factors that make companies successful in their industry (herein referred to as "business drivers").
2. The analysis should be data-driven and fact-based.
3. The interpretation should be as objective and unbiased as possible.

Vast sources of competitive information are available, both inside an enterprise and externally. Customers and vendors are excellent sources. Search engines also can produce a surprising amount of competitive data, and public filings are also valuable sources of information. This data can be supplemented with external consultants who have relevant industry access and experience and extensive databases. In certain cases, it may be useful to engage specialized expertise (for example, to assess technological competitiveness).

As part of competitive analysis, insight can be through financial comparison of business models. Such analysis would benchmark competition against not only traditional financial results (such as earnings, revenue growth, return of capital, and total return to shareholders) but also margin levels and line item costs, such as general and administrative expenses.

The analysis should not stop there. The real value in competitive benchmarking is in understanding why the differences arise. For example, why does a competitor produce consistently higher margins? Factors could include superior products, breadth of product lines, cost structure, and pricing strategy.

Strategy process audit

Often boards of directors do not have insight into the processes by which management develops strategy. What tools are used? What are the sources of information? How fact-based and rigorous is the analysis? Are the conclusions based on objective data? Is the format and structure of the plan comprehensive?

To answer such questions, a board could engage strategy consultants not to work specifically on company strategy, but rather to assess the current processes used by management to create strategy. This assessment would examine such areas as the analytical rigour used to develop fact-based strategy, the validity and importance of underlying assumptions, the bases for determining objectives, and the sources of information used to assess industry and competitive data. To make the engagement more management-friendly, it could be characterized as a best-in-class benchmarking exercise. Again, either the board or management could engage the consulting firm, provided the board has unfettered access to the consultants' verbal and written reports.

Major strategic initiatives

In the life of every corporation, major strategic initiatives are undertaken for either offensive or defensive reasons. This diagram may assist boards understand the riskiness of a strategic initiative and determine the appropriate level of board involvement. Initiatives in the diagram's centre carry lower risk, while those at the perimeter carry higher risk.

Strategies such as product line extensions and geographic expansion into known territories are typically lower risk; if unsuccessful, the consequences are reasonably predictable. Depending on the circumstances and nature of the business, new product development strategy and major capital projects might fall into the medium risk category.

In higher risk situations, such as entry into new markets (in which the corporation has limited experience) or developing new technologies, the board may wish to engage external expert advice to better understand and validate the strategy. Again, the board need not engage advisers directly but should have access to adviser reports and in-person meetings with the advisers as required.

External strategy validation

Corporations often engage consulting firms to assist management in strategy development. Top-tier strategy consulting firms bring industry-specific and subject matter expertise, deep analytical skills, and a robust strategy development process. Where a transformational strategy is required, such firms often lead the strategy development. However, in most cases, the executive organization has the capability and accountability to develop and execute the strategy. In those situations, a strategic consulting firm could be engaged to validate management's strategic plan. While validation processes vary, these firms fundamentally provide objective, fact-based analysis, particularly around industry dynamics, key drivers and competition. The board does not need to engage the firm directly. The validation is usually a collaboration of the board, management and the consulting firm.

Stress testing through financial modelling

Virtually every larger company maintains a longer-term financial forecast with a time horizon typically three to five years. Such forecasts are used to calibrate longer-term strategic plans, to longer-term projects and capital expenditures, and to develop scenarios (i.e., "best case", "worse case", and "most likely case").

Financial modelling is an important tool for boards to use in calibrating and stress testing risk is referred to in several areas throughout this document.

Strategic plans presented to boards rarely show downward trends in competitive or financial performance, yet in reality such trends can occur daily. Underperformance takes place for a variety of reasons, including misjudgments in assumptions, unplanned external events, under-estimation of competitive strengths and actions, and overestimation of the company's capabilities or competitive advantages. Accordingly, a worse case analysis may not truly analyze the worst case. Use of multi-scenario stress testing will assist the board to understand the financial implications of downside scenarios. It is useful for the board to work with management to develop stress test parameters including variations in key assumptions that underpin the base plan.

Input into output

A valuable board process is to ask management well in advance to provide an outline of the proposed final strategy document, its sources and the approach to data gathering and analysis, and key assumption requirements. Aligning planned output with board expectations ensures there are no surprises for management or the board on the day of presentation.

There is an old axiom that says management receives the labour union it deserves. The same can be said for boards of directors and strategy. How often have boards received strategy documents that are incomplete, yet failed to insist that management go back to the drawing board? Poor strategy often results from a board's failure to set expectations well in advance and its lack of conviction to reject an unsatisfactory plan.

Constructive feedback and actions

Even with the best intentions, strategic plans often fall short of the board's expectations. In these cases, it is helpful to employ a formal post-mortem process a week or so after the strategy presentation. Through this process, board members can identify areas where further analysis or clarification is required, where strategies may be misaligned with goals, or underlying assumptions appear to be too optimistic, pessimistic or invalid. Feedback to management on the plan shortcomings is critical, but ineffective unless management is asked to modify or redo strategy until the board is satisfied.

Post-strategy presentation risk assessment

The final section in a strategic document is frequently a risk assessment, often focusing on the potential variability of critical underlying assumptions. Time set aside for discussion on this section is often insufficient. Rather than pay lip service to an incomplete risk section in a strategy document, some boards prefer to separate the strategy presentation and allow time for a more comprehensive discussion about strategic risk. It is helpful to schedule a risk review session within a month or so following the strategy presentation so boards and management can reflect on strategy solely from a risk perspective and set aside sufficient time for discussion.

Oversight processes

Effective board oversight processes set aside sufficient time at and between meetings for reflection and the gathering of additional information. Boards commonly hold several meetings on strategic risk oversight as follows:

- Initial session with management to review approach, sources of data, assumptions and outline of strategy document (see "Input to output" above)
- Initial strategy presentation by management
- One or more follow-up sessions to discuss open issues, additional analyses or other information

- Formal post-strategy meeting exclusively on risk in strategy (see "Post-strategy presentation risk assessment" above)

Each of these board meetings should include in camera sessions without management presence.

II.II Merger and Acquisition Risk

Overview

There should be little debate that major acquisitions pose risk. Without attempting to quote statistics, it is fair to say that a substantial number of acquisitions fail to meet expectations and often create little or no value for shareholders. Acquisitions are inherently risky because of uncertainties, complexities, and abundant moving parts. Outright failures or underperforming acquisitions occur for reasons such as misalignment with a corporation's overall strategy, insufficient due diligence, leadership and cultural differences, over-valuation, imprudent financing, or ineffective post-acquisition integration.

The degree of board involvement in acquisitions should vary depending on several factors, including size, strategic importance, complexity and management capabilities.

Acquisition strategy can be inherently risky due to the many unknown or unpredictable factors that can come into play. Boards need to be extensively involved in any major acquisition strategy, including its assessment, planning, implementation and financing.

Tools to assist boards oversee Mergers and Acquisition risk

Advance clarity on acquisition criteria

It is helpful for boards and management to reach a common understanding of the criteria for prospective acquisitions. Mutual understanding of the criteria can help ensure alignment with overall strategy and objectively measure and rank acquisition opportunities in advance of discussions with prospective targets. Such criteria might include:

- strategic importance (such as product or geographic expansion, market share consolidation, capability or technology acquisition)
- competitive advantage gain
- the target company's value, size, breadth, quality of products and services, customers, tangible assets, historical financial performance, and synergies.

In addition, the dimensions of potential downside risk should be compared with risk appetite and risk tolerance.

Comprehensive fit analysis against acquisition criteria

Boards should insist on reviewing fit analysis against acquisition criteria in two stages. At the early stage (typically before or after preliminary discussions with targets), management should present its comparison of the characteristics of the target versus the acquisition criteria in rank order of importance. Depending on complexity, the board may wish to have the comparative fit analysis updated after due diligence is complete

and before final negotiations begin. The updated analysis would provide a second look at the acquisition with the benefit of due diligence information.

Negotiation and valuation

Size and complexity may necessitate the board's direct involvement in negotiations. They may also determine whether independent expert advice is required for valuation, negotiation, and structuring purposes. On the prospective sale of the entire or major part of the business, an independent committee of the board typically is often formed to oversee and participate in critical parts of the sale process.

Insistence on advance board approval of parameters on price and other key terms can provide important discipline in the negotiation process (without undermining management) and allows the opportunity for reflection and informed decision-making.

Due diligence and integration planning

It is common for boards to delegate due diligence to management and advisers and, only after the acquisition, become aware of unexpected issues that should have been identified in the due diligence process. Boards may wish to insist on reviewing in advance the scope of due diligence and the outline of the planned report on completion. The due diligence plan should be comprehensive, covering all material operations, functions, assets and liabilities. The plan should also clearly identify and address the key enterprise risks.

Often the seller is interested in compressing due diligence periods for various reasons, such as to preserve confidentiality and to limit the depth of due diligence activities. Boards should resist acquisition opportunities where time compression results in limited or superficial due diligence.

Where feasible, boards may find it helpful to have due diligence team members perform post-acquisition integration activities because of their familiarity with critical issues. The board should periodically review the status of integration plans against specific milestones and expected results.

Strategic validation

Conventional due diligence checklists are frequently overburdened with financial, legal and operational due diligence, with little if any emphasis on strategic validation. Similar to validation of a company's strategy discussed earlier (see page 21), independent comprehensive customer interviews can provide valuable insight into the robustness of a target company's competitive advantage, customer value proposition and customer loyalty. In-depth interviews should be carried out with current, former and competitor customers. In major stand-alone acquisitions, strategy consulting firms are often engaged to form part of the diligence team to validate the target company's strategy.

Leadership due diligence

In many cases, the management of target acquisitions remains in place after the acquisition, but little detailed due diligence is carried out on key team members. By contrast, hiring an executive to join the organization usually involves multiple interviews (and sometimes independent testing and assessments) and reference checks. In reviewing due diligence procedures, boards should insist that leadership undergoes the same standard of due diligence that the organization applies when hiring new executives.

Stress test through financial modelling

Similar to stress testing strategy, dynamic financial modelling should be used to stress test major acquisitions against a status quo scenario both for downside risk and upside potential, with particular focus on liquidity and capital structure (see "Financing" below).

Financing

Where an acquisition requires external financing, boards should be mindful of the debt structure and the complexities and volatility of debt markets. Investors tend not to support companies that raise debt or equity to build a fund for future unidentified acquisitions, preferring to invest when acquisitions are known. This tendency can create a need for short-term bridge financing to initially fund acquisitions.

Following the capital structure axiom of matching long-term investments with long-term capital (in the form of term debt or equity) requires that short-term acquisition debt be refinanced with either longer-term debt or new equity. Often this forms part of the overall acquisition strategy. The difficulty with this approach is that debt and equity markets may not be available when refinancing is required, potentially causing liquidity issues.

In examining an acquisition strategy that involves bridge financing, boards should ensure that:

- management has a clear refinancing strategy
- capital markets appear stable and receptive to refinancing
- the state of the relationship with current lenders
- financial stress testing show that a liquidity issue is unlikely in the event refinancing is unavailable.

Financial staffing

In stand-alone acquisitions, the acquiring company is often comfortable with the target company's management organization and prefers to keep it intact. In those cases, boards should insist that senior company financial staff be appointed to the acquisition management organization, at least for a period of time. Having reliable financial information and insider insight into the business, at least during integration, can provide early warning of potential issues. As a side benefit, this can also accelerate financial reporting and systems conversions.

External Advice

On major acquisitions, engaging experts for advice on specific areas may be advisable. Management usually should engage the advisers, provided the board has direct access to such experts. It is important for the organization to establish clear mandates and deliverables for each advisory engagement as well as direct oversight by the board or its committees in conjunction with senior management. In M&A activities, typical engagements and the service providers are as follows.

M&A Advisory Services	Service Firms
Review and validation of specific acquisition target strategy	Strategy consulting firms, industry-specific boutique firms
Negotiation and valuation	Investment banks, transactional advisory services in public accounting firms
Leadership and organizational due diligence	Organizational advisers, managerial assessment firms, executive recruitment firms
Financial due diligence	Transactional advisory services in public accounting firms
Financing	Strategic advisory firms, investment banks
Environmental due diligence, legal	Environmental consulting services firms
Compensation and pension due diligence and planning	Compensation and pension advisory firms
Legal services	Legal firms

In M&A transactions, certain advisers typically are paid based on success of closure. Boards should be cautious when taking advice from advisers whose fees are contingent on completion of a transaction, since there is an obvious bias toward the outcome.

II.III Financial Risk

Overview

Financial risk generally falls into three broad and interrelated categories[6]:

1. liquidity
2. capital availability
3. capital structure.

Liquidity risk occurs when corporations are unable to generate sufficient internal cash flow to sustain operations. Liquidity issues often arise when a corporation has sustained

6 See also, Long Term Performance Briefing: Questions for Directors to Ask.

losses, is undergoing major capital expenditures, when large unplanned expenditures are required, such as those arising from unfavourable litigation or if lenders are unwilling to renew debt facilities.

Capital availability often interrelates with liquidity concerns. Capital markets for debt or equity are subject to volatility; availability may be constrained from time to time or even non-existent. Ironically, such capital markets become inaccessible often at the very time when difficult economic conditions exist and corporations face liquidity issues.

The corporation's capital structure may pose risks, particularly those associated with the absolute level of indebtedness, the mismatching of short- and long-term debt, and the timing and quantum of debt repayments.

Additional financial-related risks may arise from movements in foreign exchange, interest rates and hedging/derivative strategy.

Boards of directors should be aware that pressure from investors for higher returns on equity combined with available, inexpensive debt and a bias for growth often results in inappropriately high debt levels, which can be further compounded by a financing structure that is disproportionately biased to a short duration. As the last line of defence on financing strategy, the board should bring a conservative bias to the capital structure.

Tools to help boards oversee financial risk[7]

Liquidity stress testing

As witnessed in financial crises, when businesses are distressed, their focus shifts rapidly from earnings to cash flow. When examining overall risk and the corporation's ability to withstand a downturn, stress testing the balance sheet and cash generation capability is highly important. In working with management, boards should prudently vary assumptions in business plans (often well beyond management's worst case scenario) to understand the limits of cash generation capability and debt capacity. Interestingly, cash availability can be an issue not only when a business is contracting but also when it is rapidly expanding due to working capital and capital expenditure requirements.

Many companies use EBITDA (Earnings Before Interest, Taxes, Depreciation, and Amortization) as a measure of cash flow. Directors should be mindful that this metric could be misleading because it ignores several important categories that involve cash, including working capital requirements, capital expenditures and debt repayment. To examine liquidity, boards should focus more on the capability of the enterprise to generate cash after all required investments in working capital, long-life assets, and future cash obligations, including debt repayments.

Duration analysis

In periods of tightening credit markets, many corporations' indebtedness may show an imbalance in structure and duration of debt instruments. For example, short-term credit facilities, usually used to fund variations in working capital, may be a source of funding for longer-term investments. Over-reliance on short facilities can pose serious liquidity issues if renewals are at risk. Similarly, longer-term debt that is coming due may be difficult to refinance because of volatile credit markets and poor company performance through recessionary periods. Boards should be kept abreast of pending debt renewal dates and

7 See also 20 Questions Directors Should Ask about Insolvency.

undertake refinancing discussions one or even two years before term expiry.

Defining the capital structure

In understanding the corporation's capital structure on a going-concern basis, generally accepted accounting principles may be too limiting. Beyond interest-bearing debt and other conventional liabilities, other off balance sheet liabilities or obligations should be considered in assessing the strength or gaps in a corporation's capital structure. Examples include pension funding and post-retirement benefit obligations, long-term operating leases, and obligations for large capital projects.

Liabilities for pensions and other post-retirement benefits can be significant. Their funding can be subject to volatility depending on investment performance, other underlying assumptions, and regulatory requirements. Although not typically categorized as part of the corporation's capital structure, financial obligations, particularly for pensions and benefits, are still liabilities that must be funded and should be considered as part of the firm's debt obligations when assessing financial risk.

Capital-intensive businesses often have large multi-year projects involving significant capital expenditure obligations. Uncommitted capital expenditures technically are not legal obligations; however, in the absence of a liquidity crisis, such expenditures are highly likely to occur and require funding. While capital commitments should be included in a liquidity analysis, it also may be useful to quantify and include such obligations in the capital structure analysis to understand the full breadth of a corporation's liabilities and ongoing commitments.

External review of capital structure

To assist the board to understand the limitations of the corporation's capital structure, it is helpful to periodically engage external advisers to perform a detailed review. This review should pay close attention to the nature and structure of indebtedness. For example, an examination of short-term credit facilities often reveals a borrowing base limitation based on working capital levels that may limit borrowings well below the facility's stated size.

Advisers can provide helpful input regarding the timing of renewals, the state and receptiveness of debt and equity markets, and the characterization of specific lender strategies in volatile or stressed situations. Some strategy consulting firms offer this service at a modest fee. Investment banks also can provide advice, although boards should be keep in mind that such firms have a vested interest in recommending capital-raising initiatives.

For larger corporations, reports from rating agencies may offer another source of objective data on capital structure.

Finally, boards should be mindful that debt and equity markets may not be available at times when term debt comes due or when new equity is required. It is prudent to take advantage of buoyant markets to access capital or renew debt well in advance of due dates.

Capital availability review

While external advisers can help assess debt and equity markets for renewals and additional capital, capital and debt markets can close rapidly in times of volatility. In such times, sources of capital may be limited to monetizing assets through outright sale or sale-leaseback, by stretching vendor payments, and by reducing current assets through various means. Boards should periodically assess cash availability under various scenarios and combinations to determine risk thresholds, as discussed in "Risk Tolerance" below.

Boards of directors should be wary of industry capital structure benchmarking data and should take cold comfort in knowing the corporation's capital structure is in line with competitors—many of them may be over-levered. Instead, the board should examine the capital structure in the context of capital requirements, variability in results, and industry dynamics.

II.IV Organizational Risk

Overview

Organizational risk spans leadership quality and depth, management and labour performance, retention and availability, organizational cost and cultural alignment.

Ineffective leadership may pose the greatest organizational risk to the corporation. Within the corporate context, leadership typically encompasses the chief executive officer (CEO) and other officers of the corporation. In addressing this risk, the board's usual oversight role is altered. Here the board has direct responsibility for selecting and assessing the performance and capability of the CEO and, to a certain degree, other corporate officers.

Assessing the capability of management to develop and execute the vision and strategy for the corporation and operate its daily business goes well beyond quantitative measures such as financial performance and operational metrics. Boards must assess executives' performance on qualitative measures and competencies including strategic capability, talent acquisition and retention, the ability to motivate and align staff with a positive culture, and exercise of good judgment, particularly in risk/reward situations.

The depth and breadth of talent can be a major source of competitive advantage, but it also poses risks if there is cultural misalignment or high voluntary turnover rates among top performers.

In a global market in which low labour costs are an important competitive differentiator, corporations are realigning compensation and work practices in higher-cost jurisdictions and shifting skilled and semi-skilled labour to lower-cost regions, either by establishing operations in developing economies or through outsourcing. Failure to keep pace with changing labour dynamics may pose substantial competitive risk.

Boards of directors should continuously assess the performance of the executive organization, particularly the chief executive officer, and to go further to evaluate his or her skills, capabilities and suitability in light of changing market and competitive dynamics and the trajectory of the corporation's performance.

Tools to assist boards oversee organizational risk

Leadership assessment

The chief executive officer's capability and performance is critical to the success of any corporation and also poses significant risk. Most boards undertake an annual review of the CEO's performance. However, such reviews typically focus on and assess periodic results of the business and the CEO's performance against specific annual objectives.

Boards may find it useful to periodically review the CEO against other measures including capability and suitability. In evaluating these qualities, it is important to

establish appropriate criteria, including the criteria that the board would use to hire for that position at that point in time. This would involve first understanding the critical requirements and challenges of the position. In that context, the board would then assess relevant skills and capabilities such as leadership, talent attraction, team building, vision and strategy, internal and external communications, track record, judgment, foresight and risk management.

The review of a CEO's suitability should assess his or her strengths in terms of the business's future prospects and related leadership requirements. Businesses often cycle through periods of growth, stagnation and even contraction. Not all leaders are well suited to manage in all scenarios. For example, in periods of contraction, growth-oriented CEOs are often slow to address cost issues, preferring to retain capability and attempt to grow out of the situation rather than scaling the business within realistic revenue parameters. Conversely, CEOs who manage well in a turbulent environment may be ill suited to lead an organization in accelerated growth.

Given that the board's exposure to the CEO through the year is limited primarily to a boardroom environment, developing a comprehensive assessment of the skills and competencies can pose a challenge. An important source is input from the chair of the board or lead director, who typically would have more interaction with the CEO between meetings. Other sources of information can come from the chair of the audit committee through his or her interaction with the chief financial officer, shareholders and industry analysts. Obtaining information about the CEO from direct reports and stakeholders must be handled with extreme care so as not to undermine reporting and other relationships.

Boards of directors should measure and assess the CEO not only with respect of performance against specific goals but also against the criteria that the board would use to hire a new CEO at that time. In developing such criteria, boards should consider market and competitive dynamics and the challenges and trajectory of the enterprise.

Compensation bias[8]

Traditional executive compensation with high variability and a significant equity component is designed to align executives with shareholders' interests. By its nature, this also encourages executives to take risks. This is not necessarily negative since businesses take risks all the time. The art in establishing executive compensation is to drive intended behaviour, which includes prudently matching reward with risk. In public companies, investors are increasingly vocal about creating short-term shareholder value, placing significant pressure on CEOs to deliver improved results quarter after quarter. The combination of investor pressure for improved results, significant equity-based compensation, and lucrative termination arrangements can lead to unintended excessive risk-taking. Boards should ensure that such compensation practices are not so heavily skewed that undue risk-taking could result.

The criteria and structure of compensation arrangements for the chief financial officer could differ from the CEO's arrangement in order to reward financial prudence. Independent advice on the at-risk component of executive compensation can be useful.

8 See also 20 Questions Directors Should Ask about Executive Compensation.

Tone at the top

The term "tone at the top" is often used in connection with the internal control environment. It equally can be applied to assess the leadership team's tolerance and prudence in managing risk. A board may ask itself if the corporation's executives are appropriately balancing risk with reward and acting prudently in higher-risk situations or in significant transactions.

Capability of risk management staff and ERM systems

The board should periodically assess the strengths, depth and independence of staff involved in managing day-to-day risks and the maturity and robustness of the risk management systems and processes. Resource limitations, ad hoc risk management systems, and absence of defined accountabilities should heighten board concern.

Talent review versus succession planning[9]

Most boards conduct periodic succession planning reviews to assess management continuity issues at the executive level. Most succession planning analysis identifies potential successors in terms of capability and timeline for readiness to move into more senior positions. For some corporations, succession planning is regarded as more of an academic and required exercise than a useful tool to map and prepare for future organizational changes. Boards rarely look back at previous succession plans to determine their validity and effectiveness.

Boards may also undertake a talent review to address the depth of talent in the organization and its scalability. Boards could ask questions such as:

- What are the higher-impact management positions that most directly affect results?
- What are the performance ratings of the incumbents currently in those positions?
- Are those individuals capable of managing should the business expand by 30%, 50%, and 100%?

While succession planning is an important board function, it has little value if the enterprise's talent pool is insufficient. A robust talent assessment in all key disciplines will assist boards evaluate the succession plan's effectiveness.

CEO planned retirement

Corporations may be fortunate to have an orderly CEO succession plan in which the CEO retires and his or her replacement has been identified. In many cases, the timing of the CEO's retirement is determined by a personal agenda. Boards should be aware that an orderly CEO succession could create a lame duck situation or leadership stagnation. Soon-to-retire CEOs could be less likely to drive forward towards a longer-term vision, and they could become more risk-averse. While delicate, in situations where a CEO successor is in place and ready to assume the top position, the board may wish to accelerate the timing of the incumbent's retirement, with appropriate treatment for earlier-than-planned retirement.

9 See also 20 Questions Directors Should Ask about Succession.

CEO/chair succession

In certain instances, often in a planned succession situation, when a CEO steps down from the position, he or she may be considered to take on the role of chair of the board. While the CEO brings extensive company experience and knowledge, it is not uncommon for the CEO to be overly supportive or lack objectivity in assessing the successor's performance. Additionally, with today's fast-changing pace of business, previous CEOs may become out-of-date but remain unduly influential at the board level. Either situation can create risk for a board. Additionally, current securities regulations related to independence limit the direct involvement of former CEOs in certain board matters.

Boards should exercise extreme caution in considering the former CEO for the role of chair of the board. While retaining his or her experience and knowledge is tempting, the benefit must be weighed against the risk of lack of independence and objectivity.

II.V Operational Risk

Overview

Operational risks are typically broad and often unique to each corporation. Common operational risks include:

- customer dissatisfaction
- product and service quality
- technological and cost competitiveness
- capacity constraints
- potential prolonged disruption at a key facility or with computer-based systems and networks
- vendor and distribution dependencies
- input quality and cost.

Determining which operational risks are critical requires mapping the strategic drivers of the business and key competitive differentiators. For example, technology leadership may be critical in an advanced electronics business but less so in food distribution. Operational risk often involves failure to execute rather than selection of a flawed strategy.

Boards of directors should focus risk assessment on those operational elements that represent strategic and operational concerns that are critical to the success of the enterprise.

Tools to assist boards oversee operational risk

Customer satisfaction — Independent customer interviews

As discussed on page 21, comprehensive customer interviews can provide excellent insight into the effectiveness of a corporation's strategy and pinpoint operational issues, including product reliability and functionality, service quality, perceived value for money, delivery performance. These interviews can also yield useful competitive benchmarking information. Reviewing trend information from periodic customer surveys can highlight

degrading operational performance.

Product failure analysis

Where product quality is a major risk or the board has concerns with product quality, analyzing product failures before shipment (as identified through quality assurance) and the amount and nature of products returned from customers can help pinpoint underlying operational flaws.

Capacity constraint analysis

Where corporations face capacity limitations that could create a performance risk, it is helpful for boards to review capacity utilization and constraint analyses to identify capacity limitations at various volume levels, the reason for capacity constraints (such as buildings, equipment and labour) and the requirements and timeline for alleviating such constraints.

Competitive margin analysis

When a corporation consistently earns higher margins (gross, operating and pre-tax margins) than its competitors, this usually stems from some form of competitive advantage. Differentiating factors could include scale, products, technology, product mix, manufacturing cost, distribution, sales and marketing and administrative efficiencies.

Detailed benchmarking of a corporation's margins against leading competitors may provide useful insight into strategy, business models and operational performance.

Vendor and distribution dependencies

Reliance on one (or very few) vendors and distributors can create significant operational risk. Boards should understand the critical areas of dependencies and periodically review vendor financial health, capacity breadth and limitations (such as single versus multiple facilities), business relationships, competitor positions with the vendors (such as preferential treatment in periods of capacity constraints), and alternative sources of supply.

II.VI External Risk

Overview

As recently evidenced by a largely unanticipated global credit crisis and resultant recession, unforeseen macroeconomic volatility can pose substantial risk to an enterprise, ranging from reduced market demand to changing competitive behaviour to limitations on liquidity and capital availability.

Structural or cyclical changes within the industry sectors in which the enterprise participates can create high-risk situations. Boards of directors must be constantly vigilant in early identification of changes in the external environment. They also must be aware of transformative macroeconomic or industry-specific forces that could significantly alter the enterprise's performance, trajectory, or competitive position.

Tools to assist boards oversee external risk

Macroeconomic volatility

As recent events show, corporations face periodic economic downturns that are often difficult to foresee. Predicting the duration and depth of a downturn is equally difficult. Given the major risks that unforeseen and uncontrollable external events can cause for corporations, boards should address a corporation's capability to withstand economic shock through the use of tools such as stress testing of capital structure/liquidity analysis and assessment of ability to rapidly reduce costs in anticipation of reduced revenue.

Industry cyclicality

Many industries are subject to cyclicality that arises from macroeconomic factors or industry specific competitive forces or behaviours (such as chronic capacity expansion). In cyclical situations, boards should understand competitive dynamics in periods of contraction (such as pricing and capacity management) and obtain clarity on the corporation's strategy to sustain itself through tough periods. This strategy should address management's capability and ability to foresee a cyclical downturn, its proactive plan to reduce capacity and costs (without impairing its customer value proposition), and its capital structure/financing strategy.

Industry structural change

Structural change within an industry often seems to be part of conventional cyclicality, and it is not always easy to detect. The 2008 recessionary effect on the North American auto industry is obvious. At the same time, however, the industry and its supply base were undergoing structural change due to foreign ownership, offshoring of production and research and development functions, restructuring of dealership networks, and refinancing activities. The competitive landscape for this industry has irrevocably changed.

As industries undergo macroeconomic shocks or industry-specific transformational events (such as competitor consolidation), boards should be cognizant that the strategic drivers and competitive dynamics may require a significant change in fundamental strategy.

II.VII Black Swans

Overview

In Nassim Nicholas Taleb's 2007 book *The Black Swan*, Taleb regards almost all major historical events, scientific discoveries and artistic accomplishments as "Black Swans": undirected and unpredicted. That is, the occurrence is not predictable, it has significant consequences, and, in retrospect, the event can be rationalized as if it had been expected. A startling example is the April 20, 2010, British Petroleum (BP) offshore oil rig explosion, killing eleven workers on the rig, spilling tens of thousands of barrels of crude oil into the Gulf of Mexico, and necessitating billions of dollars in clean-up and restitution costs. It is also a painful example of how multiple events or conditions occurring simultaneously contribute to a devastating outcome.

Regrettably, there are no obvious toolsets for boards to deal with such events. However, what is clear is that BP's survival through this incredible crisis is largely due to the strength of its balance sheet. While financing theory attempts to optimize the capital structure through appropriate debt leveraging, the consequences of lack of liquidity and debt capacity in a crisis situation can prove devastating, if not fatal. Boards must always be wary of Black Swan events and, to the extent practicable, maintain a conservative bias to debt financing.

"We don't know what we don't know" is a common phrase and an equally common concern among board members. Black Swan events occur infrequently but when they do, the results can be calamitous. Boards that bring a conservative bias to debt financing will never regret this decision in retrospect.

II.VIII Other Risks

Without diminishing the importance of other risks such as compliance, environmental, and occupational safety, these exposures typically are well handled at the management level and generally board involvement is limited to oversight at a board committee level. Accordingly, we have limited our discussions of such risks in this document. Similarly, limited space has been devoted to reputational risk, not because it lacks importance but because reputational damage is considered more as a consequential exposure.

Compliance risk

Compliance risk can be far-reaching, covering all of the enterprise's exposure to breach of laws, regulations and ethics/codes of conduct. The extent of such exposure can vary widely depending on the locations in which the enterprise operates, its industry sector and entity-specific characteristics.

For most public corporations, board oversight of compliance is well entrenched and often largely delegated to committees. For example, public reporting and disclosure requirements are handled under the mandate of the audit committee. Employment, compensation, pensions and related matters usually are the domain of the compensation committee. Compliance risk is discussed comprehensively in numerous other publications, and so we have limited our discussion of exposure to compliance risk to the few important observations below.

Heightened exposure to compliance risk can occur when companies operate in multiple jurisdictions that have unique domestic laws and regulations or where business practice and cultural norms may depart from rules governing the parent company. For example, the United States imposes a far-reaching Foreign Corrupt Practices Act (FCPA), which applies to all U.S.-based issuers. Many international companies have encountered compliance issues arising from lack of knowledge or lack of training in foreign jurisdictions where accepted practices violate FCPA provisions.

Pharmaceutical, energy and natural resource industries are examples of sectors that are subject to industry-specific regulations that can pose significant risk.

Code of conduct breaches or acts of fraud, particularly those involving senior executives, can expose the enterprise and individuals to well-publicized legal liability.

Broadly speaking, the consequences of a compliance failure fall into three categories.

1. specific penalties and other sanctions for violating specific laws and secondary regulations
2. direct or derivative claims from affected parties such as shareholders or other claimants seeking damage claims and potentially leading to costly litigation
3. damage or loss of reputation (see "Reputational risk" below) that can significantly affect shareholder value and create adverse consequences for customers, employees and/or other stakeholders.

Hazardous risk

Hazardous risks are highly diverse, covering a wide range of potential occurrences. The nature of hazardous exposure to an enterprise varies depending on its type of business and its locations.

Hazardous risks pose threats to property, environment or health. Hazardous risk by its nature is difficult to predict and may never occur. However, a hazardous incident can create an emergency situation with far-reaching financial impact and other implications.

Although hazardous risk may be segregated into numerous categories, for purposes of this discussion, we categorize these risks in three groups:

1. natural disasters
2. environmental risk
3. occupational health and safety.

Natural disaster exposures are extremely broad, commonly covering: atmospheric hazards such as hurricanes, tornadoes, extreme temperatures; seismic hazards—earthquakes, landslides; hydrologic hazards—flooding, soil erosion, and drought. Susceptibility to such hazards is location-specific. That is, certain locations may be more or less exposed to certain types of natural disasters. These largely unpredictable hazards can pose risks to property, the environment and health.

Environmental risks generally involve adverse effects on the environment arising from emissions, effluents, wastes and resource depletion. Unlike natural disasters, which cannot be prevented even where the cause is known, when considering environmental risks, it is important for the organization to examine the potential underlying causes. Typical causes include: transportation hazards such as incidents involving dangerous materials; infrastructure hazards such as gas line breaks; industrial hazards typically involving human error or negligence causing or involving air, soil and water pollution, hazardous material storage or processing, explosions and fire.

Common occupational health and safety hazards include: equipment operation and transportation accidents, workplace violence, communicable diseases, slips and falls, toxic exposure, particularly to chemical and gas, electrocution or explosion, repetitive motion and ergonomic injuries, and hearing loss.

The consequences of hazardous occurrences generally involve property loss or tangible asset value destruction, third party damages often involving litigation, regulator-imposed sanctions or penalties, and reputational damage.

Reputational risk

Reputational risk can be defined as a separate risk or, in our view, as the negative consequence of the occurrence of other risks. Either way, a corporation's reputation is a valuable intangible asset that clearly falls within the board's broader responsibility

for safeguarding the corporation's assets. Clearly, loss of reputation can greatly affect shareholder value.

Simply put, reputation refers to the perception of the enterprise by various stakeholders. Typically key stakeholder groups include investors, customers, employees, suppliers and governments. Perceptions may differ among stakeholders and could be at odds with how the entity views itself. For example, an enterprise that consistently delivers positive financial results is likely to have a positive reputation among investors, analysts and lenders. That same enterprise may be perceived negatively by its employees because of its high performance culture and demanding work environment.

Additionally, reputation is dynamic. Stakeholder perceptions may shift for various reasons including financial performance, specific adverse occurrences, unfavourable media coverage, and changes or actions of the corporation's leadership.

"It takes 20 years to build a reputation and five minutes to lose it. If you think about that, you'll do things differently." Warren Buffett

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While there is not a shortage of occurrences that can adversely affect an enterprise's reputation, broadly speaking, they include:

- product efficacy
- production processes and quality
- employee safety
- environmental practices
- compliance (including breach of ethics)
- unanticipated negative financial performance

Many of these risks may have been captured as part of the risk identification process as set out in this document. The key issue for boards is whether the consequential analysis captures and accurately quantifies the impact of damage to the enterprise's reputation.

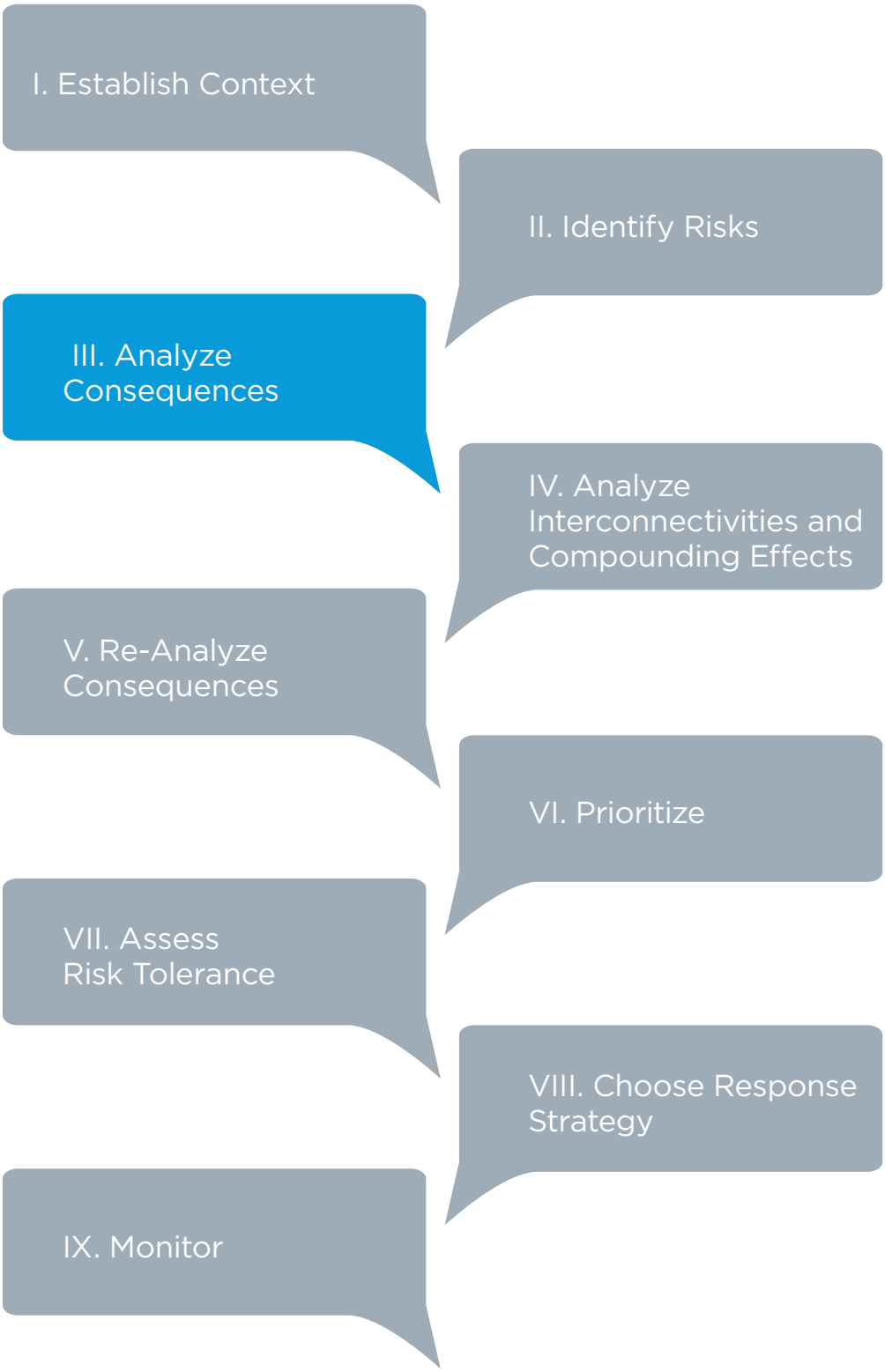
Perhaps the most important issue for boards to consider is that the loss of reputation arising from a specific occurrence can have a much greater impact on shareholder value and long-lasting collateral damage than the occurrence itself. For example, the recall of a tainted food product by a food manufacturer can result in dramatic and punitive effect on market share, revenue and margins far greater that the cost of the product recall and subsequent litigation. Additionally, depending on the nature and size of the adverse occurrence, the level of effort and cost to rebuild a tainted reputation can be enormous.

A robust consequential analysis should include a broad understanding of the far-reaching impact of a damaged reputation arising from an unanticipated event.

From a reputational risk oversight perspective, boards may wish to focus on four broad areas:

1. identifying potential occurrences that could materially impact the enterprise's reputation
2. quantifying the reputational impact of such occurrences (with particular attention on the interconnectivity analysis)
3. oversight of response strategy, including crisis and related communication planning
4. ongoing monitoring of potential triggering events and preventive measures and processes to address root causes.

III Analyze Consequences



Overview — Three traditional dimensions

Consequential analysis of risks typically involves three dimensions:

1. quantifying the severity of the impact on the enterprise
2. assessing the likelihood or probability of occurrence
3. determining the extent such risks can be mitigated through various response strategies.

There are various models and graphic representations of risk calibration, probability distributions of outcomes and mitigation assessment.

At the risk of being controversial, we assert that these consequential analytical models and how they are applied have some fundamental flaws.

- It is common to quantify material risks and assess the likelihood of their occurrence at the same time. When the probability of occurrence is low, such risks are often dismissed prematurely.
- Risks are often addressed in silos rather through an understanding of the interrelationships, interconnectivities and the compounding effect of risks that occur simultaneously, as discussed in the next section.
- Such models fail to account for risk arising from the time horizon between recognition of the presence of an adverse condition or event and the time available to respond.

We assert that the consequential analytical framework should be expanded to address these deficiencies and include a new fourth dimension to address risk and response time issues — the "risk clockspeed" — as discussed below.

Severity of risk

Having identified various types of risk, the first step is to determine the potential materiality of each individual risk. It may be sufficient to classify such risks in categories such as:

- *Very High* — threatens the viability of the corporation
- *High* — results in a significant degradation in performance or reduced asset valuation
- *Moderate* — could affect results, performance or asset values but not severely
- *Low* — no material effect on the corporation.

It is vitally important that boards of directors clearly separate the analysis of the severity of the exposure from the likelihood of occurrence. That is, the severity of risks should first be calibrated in rank order of impact without regard to possible occurrence, thus capturing material risks before probability discounting.

Rank ordering risks by severity without regard of the likelihood of occurrence helps ensure the board will not dismiss potential major risks prematurely.

Likelihood of occurrence

Risks should then be classified by the probability that the event of condition will materialize. Again, a High, Moderate or Low scale should suffice. There is no exact science for assessing likelihood of occurrence. Rather, the board and executives should apply judgment based on history, experience and knowledge of the industry and the enterprise.

In assessing probabilities of occurrence, the board should clearly distinguish the improbable from the unpredictable.

The New Dimension — Risk Clockspeed

Risk clockspeed is a phrase coined by Keith Smith in a 2007 paper published by the Institute of Risk Management. Risk clockspeed is defined as the rate at which the information necessary to understand and manage a risk becomes available.

- *Slow clockspeed risks* are those where a sufficient amount of thinking time is available.
- *Fast clockspeed risks* are those requiring response.
- The *risk clockspeed window* is the range between how well organizations can deal with fast clockspeed risks and slow clockspeed risks and still function effectively.

Smith argues that with globalization and technological advances, management and boards are called on to make more decisions more quickly, in situations with greater complexity at a less forgiving pace.

We raise the notion of risk clockspeed as the fourth dimension in analyzing consequential risk because the time horizon to detect the occurrence and to develop a response may be substantially different. For example, the unexpected and lengthy disruption at a key facility can have a major impact on the enterprise and would require almost an immediate response. However, the unanticipated loss of key executives, while concerning, can be mitigated with interim appointments while a longer-term solution is sought.

Ability to mitigate

Finally, the same risks should be then assessed in light of ability (or inability) to mitigate, as discussed in Response Strategy later in this document.

Tools to assist boards to analyze consequences of risk

Heat mapping

A simple but useful tool to pictorially prioritize risk along the lines of severity, likelihood, clockspeed and ability to mitigate is a heat map. This color-coded model allows boards to focus on critical areas of risk. Obviously, categorizing and ranking risks is not an exact science, it requires subjectivity and judgment. Ranking the top five or six risks in a particular order of importance is not as critical as ensuring they are identified and addressed.

The chart below sets out an example of a heat map for strategic and financial risk in a manufacturing company. See Appendix 1 for an example of a completed heat map across all risk categories.

Risk Category	Severity	Likelihood	Risk Clockspeed	Inability to Mitigate
Strategic				
Failure to develop and execute a strategy	Very High	Moderate	Moderate	Moderate
Insufficient new customer revenue acquisition	High	Moderate	Fast	High
Failure to execute on a business model	Very high	Moderate	Moderate	Moderate
Failure to establish a viable low-cost manufacturing site	High	Moderate	Moderate	Moderate
Insufficient capital equipment replenishment	High	Moderate	Slow	Moderate
Possible opportunistic takeover bid at a depressed value	High	Low	Very Fast	High
Financial				
Failure to attain bank covenant level performance	Very High	Moderate	Very Fast	High
Failure to renew current loan facilities	Very High	Low	Very Fast	High
Change in lender and loan policies and practices	Very High	Moderate	Fast	High
Reliance on shorter-term debt to support growth	High	High	Fast	High
Insufficient availability under current loan arrangements	High	Moderate	Fast	Moderate

IV Analyze Interconnectivities and Compounding Effects

Interrelationships and compounding effect of risks

We assert that when enterprises experience major value destruction or significant underperformance, it is almost never due to a single event. Rather, it is the compounding effect of multiple simultaneous occurrences that fall into three broad scenarios:

1. the compounding effect of interconnected risks
2. the compounding effect of unrelated occurrences that arise at the same time
3. the effect of a single event combined with several higher-risk conditions that have been present for a considerable period.

Unquestionably, the most difficult and important element of the oversight of risk is evaluating the interconnectivity of risks and the compounding exposure when two or more occurrences take place simultaneously.

Risk interconnectivity

Risk interconnectivity relates to the effect of one negative event that could trigger one or more other adverse consequences because of the interrelationships. For example, consider the BP offshore oil rig explosion. The occurrence of the spill triggered other consequential events. BP's debt was downgraded, it was forced to swiftly divest of certain strategic assets to provide additional liquidity, and the company changed its leadership. It likely will take decades for BP to recover from the reputational damage.

Compounding unrelated risks

It is not uncommon for one or more unconnected events to occur simultaneously to produce a "perfect storm." For example, the airline industry is notorious for encountering the confluence of seemingly unrelated events and conditions, such as slowing global economies, rising fuel prices, labour dissatisfaction and disruption, poor weather conditions, and disruption by new entrants into the business.

Embedded risk conditions

Often, several higher risk conditions have been present for years and the occurrence of a single major event constitutes the final blow. This phenomenon may be best illustrated by an extreme example. The North American auto industry has a long history of failing to adjust strategy in the face of a number of threats: these include newer competition, an uncompetitive product and dealership cost structure, ineffective leadership, balance sheets over-burdened with debt, and higher labour costs with inflexible collective agreements. However, it was the global economic downturn in 2008, combined with the long list of adverse conditions, that sent two of the largest players into bankruptcy and left others in distress. Ironically, these businesses had blue-chip boards of directors and these risks were spelled out in public documents year after year in excruciating detail. On reflection, the demise of the North American auto industry began decades ago.

In larger corporations, risk identification may be assigned at the major business unit level. Boards should be sure to aggregate and analyze material divisional risks on a consolidated basis.

While there are an enormous number of permutations in potential risk interrelationships, boards may wish to focus on the combined effect of individual risks already identified as High or Very High.

Company failures, much like air disasters, usually result from a combination of many factors occurring simultaneously. Through a backward facing lens, the origins of these unfortunate and often disastrous events are painfully apparent.

Tools to assist boards analyze interconnectivities

A simple but effective way to examine the interrelationships and potential compounding effects of risks is to use the risk heat map as set out in the previous section to focus on higher risk areas (by severity, likelihood of occurrence, clockspeed and ability to mitigate).

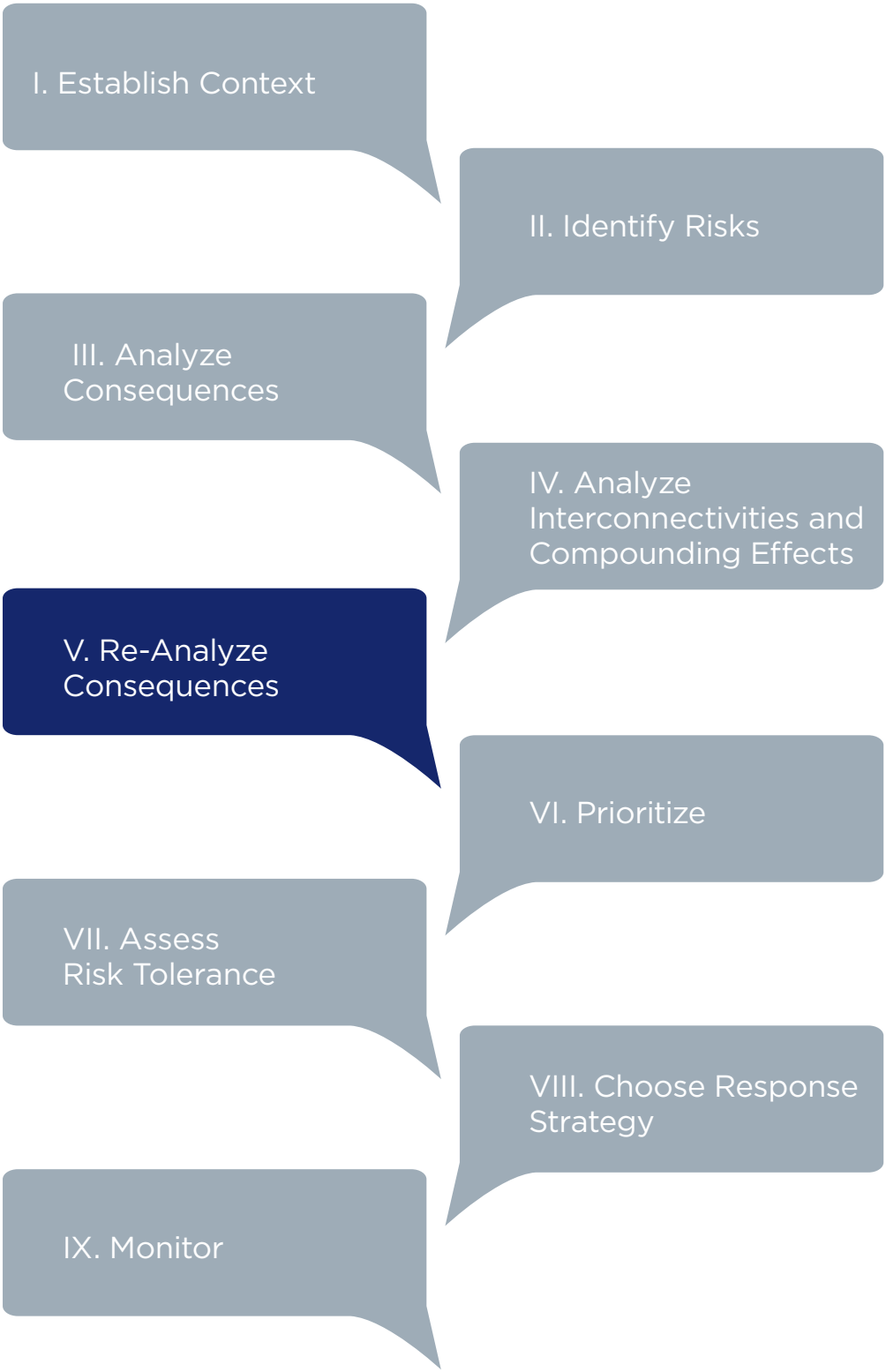
The example below shows a heat map analysis identifying eight areas of potential Very High risk. This analysis highlights several risks that the corporation has the ability to control or mitigate.

Risk Category	Severity	Likelihood	Risk Clockspeed	Inability to Mitigate
Major Risks after Interconnectivity and Compounding Analysis				
Failure to develop and execute a strategy	Very High	Moderate	Moderate	Moderate
Failure to execute on a business model	Very High	Moderate	Moderate	Moderate
Failure to attain bank covenant level performance	Very High	Moderate	Very Fast	High
Failure to renew current loan facilities	Very High	Low	Very Fast	High
Loss of major customers or loss of share of wallet	Very High	Moderate	Fast	High
Failure to execute production to attain satisfactory metrics	Very High	Moderate	Moderate	Moderate
Failure to align costs with revenue	Very High	Moderate	Moderate	Moderate
Unplanned resignations at the executive level	Very High	High	Very Fast	High

Plotting those risks on a diagram such as the one shown here may help directors understand and address interconnectivity issues.

Finally, to illustrate the interconnectivity analysis and the domino effect that can result from interconnectivities, consider the example depicted below. An enterprise fails to meet customer expectations caused by consistently poor production quality. This triggers the loss of a major customer—and significantly reduced revenues. The corporation is unable to respond quickly enough to adjust its cost structure to the reduced revenue level. Now in a loss position, the company violates its bank covenants under the loan agreement. Given the poor financial performance, the banks decline to extend the credit facility. Finally, with the company in severe distress, the key senior leadership members seek opportunities elsewhere. The ultimate outcome for business is extreme distress or even insolvency.

V Re-Analyze Consequences



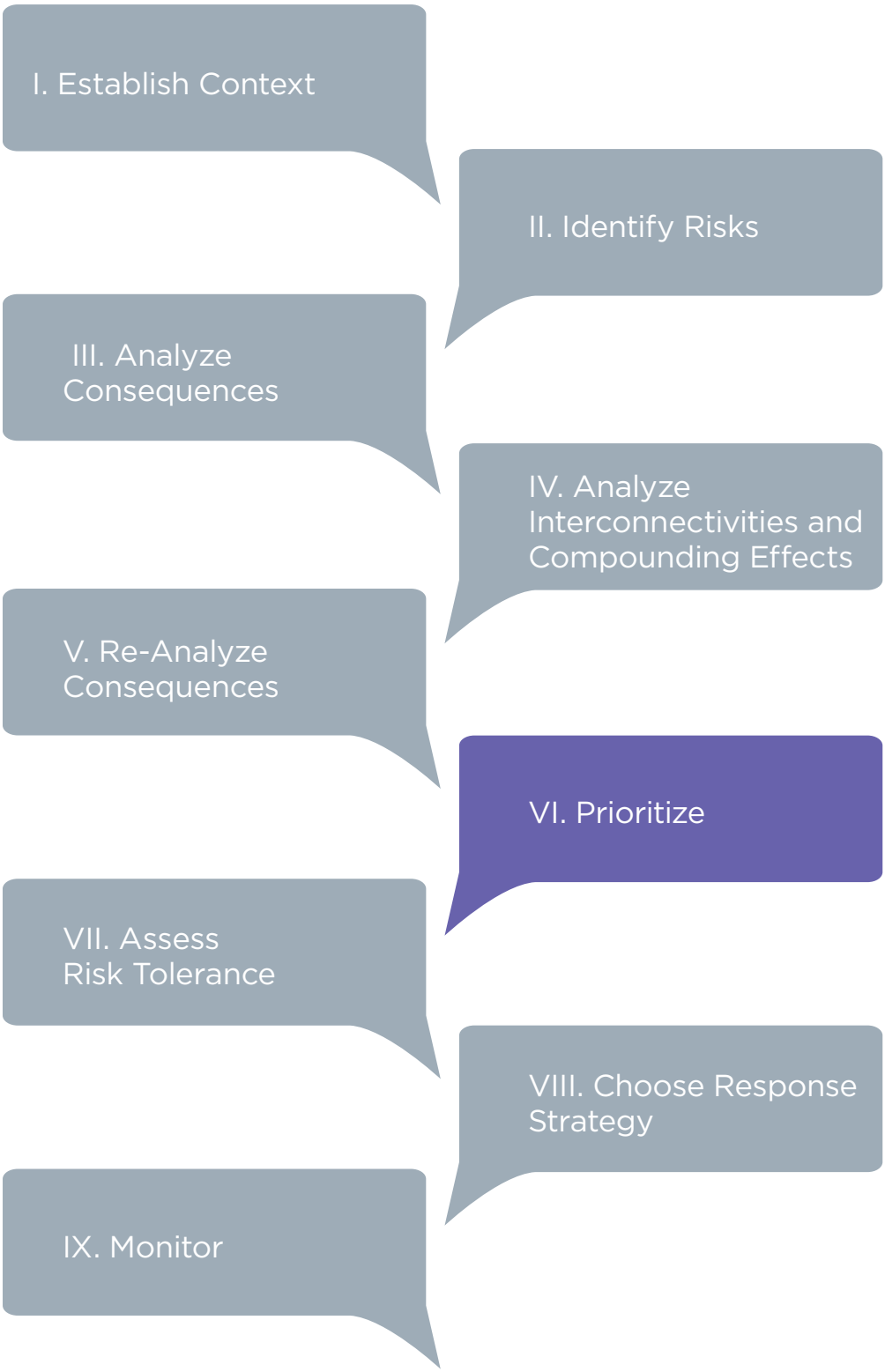
Having reviewed the higher risks in the context of the interconnectivity analysis, performing a re-analysis may determine if the higher risk categories have a greater impact on the business if they should occur at or near the same time. This may be appropriate when two identified higher risks are not considered life-threatening to the corporation on their own but could be when taken together.

Using the example in the preceding section and comparing that heat map with the one below, several things have changed. Although the severity analysis for each risk is unchanged, the aggregate severity has now increased exponentially. Further, because of the domino effect, the likelihood of occurrences has dramatically shifted, most to the very high category. In addition, the clockspeed and the enterprise's capability to mitigate have also been altered, reflecting the cascading impact of multiple occurrences.

Risk Category	Severity	Likelihood	Risk Clockspeed	Inability to Mitigate
Major Risks after Interconnectivity and Compounding Analysis				
Failure to develop and execute a strategy	**Very High**	Very High	Moderate	Moderate
Failure to execute on a business model	**Very High**	Very High	Moderate	Moderate
Failure to attain bank covenant level performance	**Very High**	Very High	Very Fast	Very High
Failure to renew current loan facilities	**Very High**	Very High	Very Fast	Very High
Loss of major customers or loss of share of wallet	**Very High**	Very High	Very Fast	Very High
Failure to execute production to attain satisfactory metrics	**Very High**	Moderate	Moderate	Moderate
Failure to align costs with revenue	**Very High**	Very High	Moderate	Moderate
Unplanned resignations at the executive level	**Very High**	Very High	Very Fast	Very High

For the board of this enterprise, this analysis highlights the importance of product quality on customer satisfaction and the resultant fragility of customer retention; the potential impact of a major customer loss and the company's inability to remove sufficient costs to remain profitable; and the tenuous nature of the debt structure.

VI Prioritize



Overview

Having completed the analysis of the various identified, quantified and assessed risks, the next step is to rank the larger risks in order of severity in the context of likelihood of occurrence, clockspeed and ability to mitigate.

While it is important for boards to understand the breadth of risks facing the corporation, this process allows boards to focus on the critical risks, which are often not more than five or six.

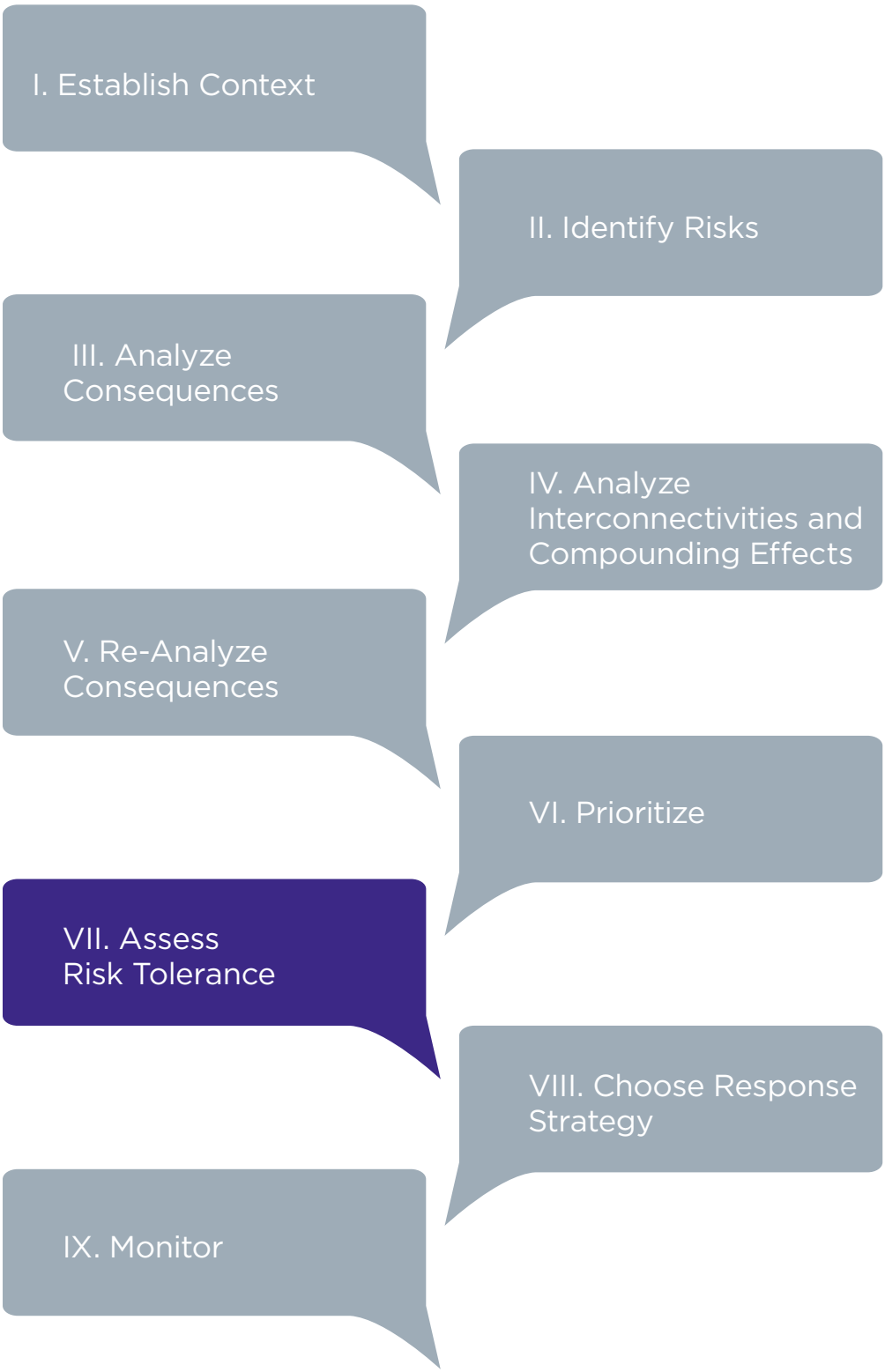
Specific numerical ranking is less important than identifying those risks which, if left untended, could result in severe if not catastrophic consequences.

Example

In the case of the manufacturing company, the heat map analysis in Appendix I identifies several areas of potential high risk. In addition, the interconnectivity analysis above shows the critical risks that would lead to unintended consequences should two or more occur simultaneously. In this case, the risk priorities would be reordered along these lines:

1. Loss of major customer(s)
2. Failure to execute production to attain satisfactory metrics
3. Significant loan covenant violation or change in lender policies
4. Failure to renew current loan facilities
5. Ineffective strategy development and execution
6. Poor strategy execution (customer acquisition, operational performance)
7. Failure to execute on a business model
8. Unplanned leadership loss.

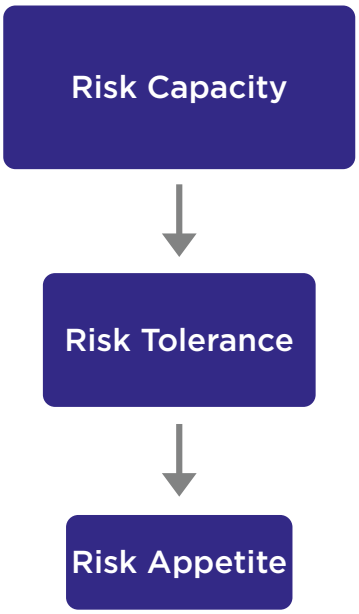
VII Risk Capacity, Risk Tolerance and Risk Appetite



Overview

Every corporation faces risk. Appropriately balancing risk and reward to generate satisfactory returns to shareholders is fundamental to any business.

For purposes of the following discussion about the corporation's approach to risk, it is important to understand what is meant by the terms "risk capacity," "risk tolerance" and "risk appetite." Perhaps the simplest way is to think about these concepts as a hierarchy.



Risk capacity defines the outer limit of risk that an enterprise could undertake. This limit is often expressed in financial terms, such as the maximum amount of indebtedness that could be borne by the organization. The definition also could be expressed in resource or capability terms. For example, the maximum amount resources (human, capital, infrastructure) that an enterprise could deploy may be limited by the size of its human capital or infrastructure.

Risk tolerance reflects the limit of risk set by the organization that it would not willingly exceed. This limit can be expressed in quantifiable terms, such as level of invested capital , level of indebtedness, amount of allocated resources – both human and infrastructure. It may also include other subjective limits related to reputational risk.

Risk appetite is the level of risk that the enterprise is willing to accept in pursuit of its longer-term goals, provided there is a commensurate return.

The board and the senior leadership organization should be aligned in their understanding of these concepts and, most importantly, the resultant parameters of risk tolerance and risk appetite.

Risk capacity

The board should take an interest in understanding and quantifying the enterprise's risk capacity, particularly in setting risk tolerance levels. The difference between risk capacity and risk tolerance represents the gap or margin for error in risk tolerance. This difference also serves as a measure of safety against Black Swan events.

At a minimum, boards should quantify the enterprise's debt capacity. Boards should recognize that debt capacity is highly dynamic and affected by many factors, including the state of the global economy and specific debt markets, the performance and outlook for the enterprise, and asset collateral values. Advice from financial advisers and discussions with lenders generally are sound sources for debt capacity information.

A corporation's capability to withstand a catastrophic event may come down to strength of its balance sheet—the combination of liquid resources on hand, debt capacity, and availability of assets that could be quickly monetized.

Risk tolerance

Without a real-time issue or potential transaction to address, board discussions about risk tolerance may appear to be academic. However, these discussions should take place for several reasons. They provide an opportunity for board members and company executives to align their determination of the maximum risk the enterprise is prepared to absorb. They also present management with important information and parameters for strategy development. For example, setting dilutive earnings limits for potential acquisitions and boundaries for capital investments should help management develop appropriate strategic and financial plans within those parameters.

Risk tolerance should be not be examined or quantified in isolation, nor should it be static. Risk tolerance should be determined in the context of the strength and stability of the enterprise and the industry in which it participates, the enterprise's maturity, and its positioning within its industry. Risk tolerance should also be considered in relation to strategy and related risks as well as other critical, identified risks. The quality of risk management systems, including the robustness of mitigation alternatives and the availability of viable response strategies, are also factors to consider. Additionally, stakeholder expectations concerning risk should not be ignored.

All these factors are known and to a greater or lesser degree can be quantified. The final factor boards should think about is the unknown—the so-called Black Swan and the compounding effect of simultaneous adverse occurrences as discussed in section IV.

Enterprise performance, industry dynamics and shareholder expectations

Risk tolerance should be understood in the context of the industry in which the company participates, company performance, and shareholder expectations. Consider the following, potentially counter-intuitive, example. A well-financed industry leader in a mature, stable industry should have a relatively high tolerance for risk. The constancy of its earnings and cash flow and strength of its balance sheet could support a relatively large undertaking while maintaining the resources to sustain a significant adverse consequence. However, investor expectations regarding sustainability of growth and consistency of dividends may materially lower the board's risk tolerance parameters. Conversely, an early-stage technology or mining exploration company with limited resources may have a higher risk tolerance. Its business model is based on a high risk/ high return strategy, and its investors recognize the speculative nature of such investments.

Strategic and other critical identified and quantifiable risks

Conventional thinking views risk tolerance as the potential adverse consequences of strategic decisions. Progressive boards treat risk tolerance as a critical input to strategic and tactical decisions. However, the consequential analysis and prioritization modules set out in sections V and VI should assist the board to understand and quantify potential exposures to the enterprise in setting risk tolerance levels.

Culture, quality of risk management systems, mitigation alternatives, and response strategies

A robust risk management system, including early warning systems and an embedded culture that identifies and balances risk, are important factors in counterbalancing potential exposures. While assessing the quality of risk management systems is somewhat subjective, a fully resourced risk management organization with well-developed, mature systems and processes adds protection to the enterprise and provides boards with added comfort in setting tolerances for risk. In addition, understanding how risks may be effectively mitigated or addressed are also factors in quantifying risk tolerance.

In setting risk tolerance parameters, the board and management should be aligned in understanding the sustainability of the enterprise and the consequences of individual and interconnected risks.

Risk appetite

While determining risk tolerance is a passive exercise in setting limits, determining risk appetite is actionable and can be a driving force for growth for an enterprise. While risk tolerance is akin to limiting exposures, risk appetite is about optimizing the enterprise's risk/return profile.

As the example below shows, risk appetite parameters are similar to risk tolerance but with two clear distinctions. First, except in highly unusual situations, the risk appetite threshold should be lower than risk tolerance. Second, risk appetite should also include a desired or expected rate of return or similar measure.

In setting risk appetite, board members should consider the same factors as they do in setting risk tolerance while overlaying expectations around returns. Some argue that the degree of risk appetite should vary depending on the nature of the decision—whether strategic or tactical. Others believe that risk appetite should be scaled against minimum returns. That is, the enterprise should set minimum return and investment guidelines but, for higher-than-minimum returns, risk appetite may increase. There is no right or wrong answer, but the question is certainly worthy of board-level discussion.

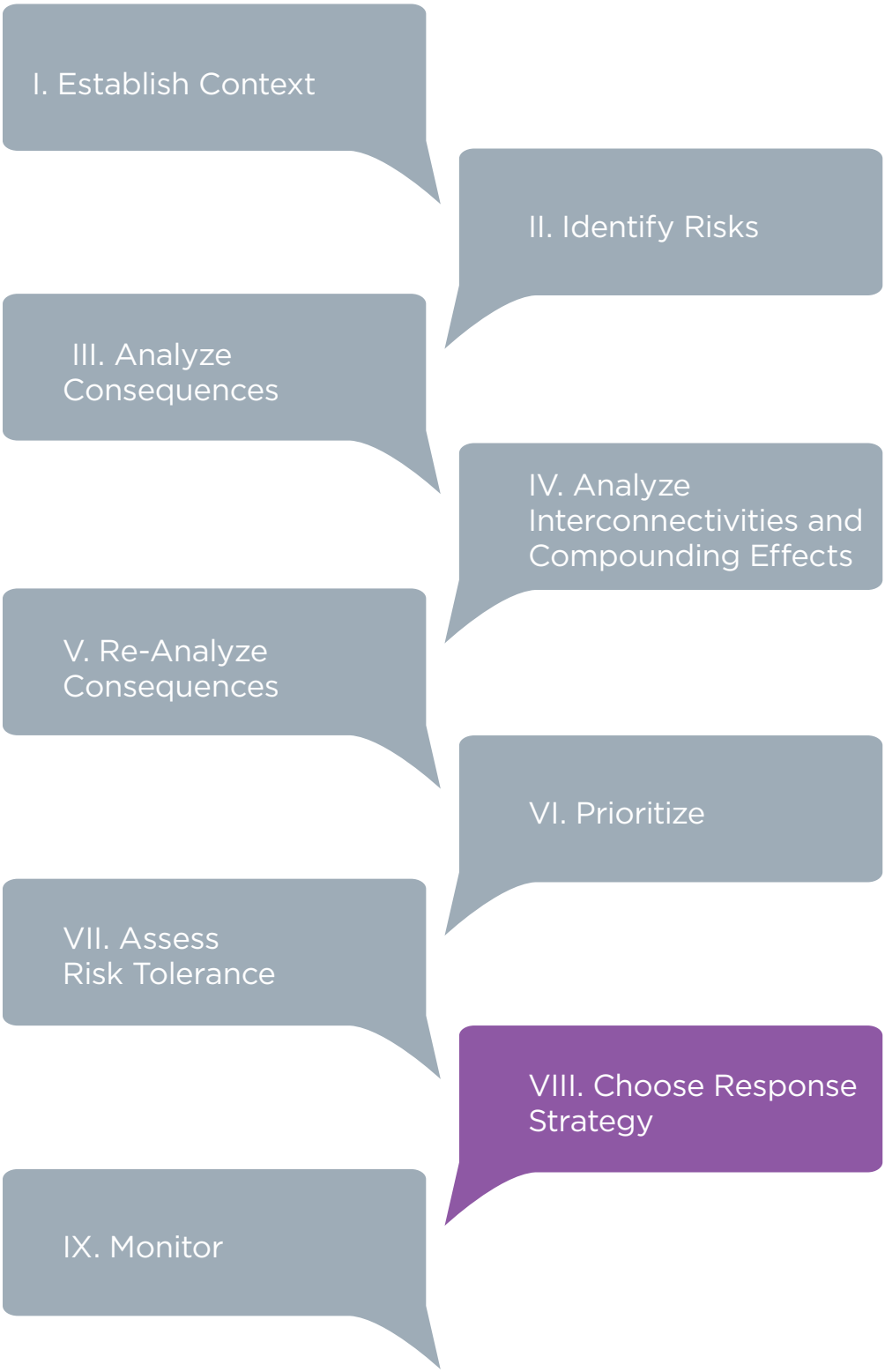
Business conditions and company performance change, and so risk appetite must be measurable, actionable and dynamic. In some cases, defining risk appetite may be straightforward, but defining expected returns may pose greater difficulty. For example, the board may set risk appetite for an acquisition at say $200 million with a minimum return of 15%. Companies make acquisitions for a variety of reasons, generally to produce incremental returns. However, sometimes acquisitions are made for defensive reasons, for example, to protect a weakening market segment position. In these cases, returns must be measured in terms of income and cash flow preservation, rather than incremental returns.

Underpinning risk appetite is the board's confidence in the organization's capability to manage risks at this level and to produce the minimum expected return.

Example

Parameter	Risk Capacity	Risk Tolerance	Risk Appetite
Capital invested in a project or acquisition	$500 million	$300 million	$200 million with a minimum internal rate of return of 17%
Total debt to EBITDA	5.5 × EBITDA	3.0 × EBITDA	2.5 × EBITDA
Cumulative earnings dilution over three years	Cumulative losses of $300 million	Breakeven for three years	30% of current earnings per share provided ultimate return of not less than 30%
Organizational change	Loss of 75% of the executive team	Loss of 20% of the executive team	Loss of 10% of the executive team
Marketing spending on new product introduction	$50 million	$20 million	$15 million

VIII Choose Response Strategy



Overview

Response strategy must be specific to each company's circumstances and include both proactive and reactive components. The proactive components should be designed to minimize residual consequences following mitigation, while reactive strategies should limit damage to the enterprise following an adverse occurrence.

There are various ways to avoid risk or to mitigate risk by reducing, controlling or sharing it. The response strategy should be balanced by both economics and recognition that not all risks may be mitigated.

Boards should look to management to provide response strategies for every material risk, with particular attention to those on the high priority list. Those strategies should then be extended to specific risk response plans that are regularly reviewed by senior management and the board.

Risk mitigation and risk avoidance can take many forms. Examples of risk avoidance might include limiting the size of acquisitions or major capital expenditure projects, and not entering highly competitive markets. Examples of risk mitigation include obtaining insurance against an "act of God" and accelerating a normal succession or external recruitment process to mitigate against a key executive's unexpected resignation.

For each material risk, plans should be considered, in varying detail depending on the circumstances, to cope after the occurrence. This often involves crisis management planning, including identifying resource requirements and establishing specific accountabilities.

Example

Continuing our manufacturing company example, the possible response strategies for the prioritized risks could be as follows.

Ineffective strategy development or execution

- Ongoing formal assessment of success using key performance indicators, external benchmarking, and other early warning tools (see "Monitor" in section IX)
- Focus on rapid corrective actions when objectives are not being met
- Development of alternate strategies and formal contingency planning

Loss of a major customer

- Executive-level attention to customer relationships, performance and satisfaction
- Independent customer surveys
- Accelerated and extensive programs to solicit new customers
- Expansion of critical services not easily replicated by competition
- Stengthen capital structure to allow the corporation to sustain short-term losses and fund reorganizations

Significant loan covenant violation or change in lender policies

- Tight financial, working capital and operational management, focusing on near-term results
- Heightened executive-level communication with lenders, with early and transparent disclosure of potential risks to covenant compliance
- Expansion of lender base, including off balance sheet financing
- Contingency planning including possible asset divestitures
- Long-term capital raising

Unplanned leadership loss

- Continuous updating of unplanned executive succession plan
- Accelerated executive development programs
- Talent upgrade through selective recruitment (potentially displacing competent but limited potential executives and senior level managers)

Continuing weak economy

- Cost reduction/restructuring planning (including hiring freezes)
- Focus on working capital and manufacturing capacity management
- Aggressive manufacturing efficiency programs
- Suspension of major capital projects

Unforeseen production disruption

- Manufacturing capacity planning (including greenfield sites or acquiring alternate facilities)
- Business interruption insurance programs
- Heightened attention to labour matters
- Reciprocal competitor capacity arrangements in the event of certain occurrences (such as acts of God)

Failure to establish a viable low-cost manufacturing operation

- Pursue joint venture with local partner
- Facility purchase

Merger or acquisition

The board is likely to identify several risks that are clearly beyond the corporation's control and unable to be fully mitigated. That is to be expected. In these cases, the board should pay particular attention to the ability of the corporation's capital structure to withstand shock. Companies with strong balance sheets often are able to survive critical unanticipated occurrences. Conversely, the bankruptcy courts are littered with companies without the capital structure to withstand unforeseen events.

IX Monitor

I. Establish Context
II. Identify Risks
III. Analyze Consequences
IV. Analyze Interconnectivities and Compounding Effects
V. Re-Analyze Consequences
VI. Prioritize
VII. Assess Risk Tolerance
VIII. Choose Response Strategy
IX. Monitor

Overview[10]

Risk monitoring is too often relegated to innocuous SWOT analyses in strategic documents or treated as an afterthought in major expenditure proposals. Board members and management should have a process to monitor risks continuously.

Having established a comprehensive process to identify risk, monitoring changes in the risk environment should be straightforward. However, boards should remain vigilant for subtle yet critical changes that could lead to unfavourable consequences. For example, union/management relations may erode over many years, such as in the automotive or steel industry, gradually resulting in an uncompetitive labour cost structure. Similarly, a fundamental structural change in an industry could be misrecognized as a cyclical change, as occurred in the U.S. defense industry encountered after the fall of the Berlin Wall.

Tools to assist boards monitor risk

Red flag identification

Management should be requested to develop an early warning system to monitor critical risks. Examples of elements that could be included in the system include:

- key performance or other leading indicators (including operational and financial metrics)
- regular customer satisfaction assessment, including new customer win/loss analysis
- competitor benchmarking and industry analyst reports
- updated financial stress testing
- current executive succession planning.

Formal risk monitoring

As part of the board's annual agenda, formal risk monitoring and review sessions should be scheduled. Such sessions might include external industry expert presentations on the state of the sector, updated competitive analyses, and reviews of key performance indicators related to risk.

Regularly scheduled, thorough risk reviews (with and without management present) should form part of a board's annual agenda. Monitoring should involve both external and internal scanning.

Risk disclosure

Publicly listed companies are required to disclose the primary risks of the business at least annually. It might be useful, and even enlightening, to review risk disclosure in public documents in contrast with the prioritized and interconnected risks identified through the use of this risk oversight framework.

10 See also CICA's Financial Aspects of Governance: What Boards Should Expect from CFOs and Guidance on Control; and ISO31000:2009.

Final Thoughts

As the 2008 financial crisis gripped world economies and financial markets, it highlighted the need for increased board surveillance of enterprise risk. The shocking demise of seemingly rock-solid institutions, such as AIG and Lehman Brothers, illustrate the necessity for boards to adopt a comprehensive framework for the oversight of risk. Sadly, in virtually all of those cases, the underlying reasons for the demises of these businesses were known or should have been known by their boards.

Effective board oversight of risk requires rigour, objectivity, a heightened sense of risk's importance, and, most importantly, the recognition that the unforeseen events and circumstances can and often do occur. Progressive boards will keep watchful eyes and a finely tuned antennas both internally and externally always being mindful that it is seldom a single issue or event that spells disaster but rather several factors occurring simultaneously. They will also exert prudency and conservatism in setting capital structure parameters. Above all, members of progressive boards will have the courage and conviction to raise unpopular or seemingly remote risks and their fellow directors will have the discipline and enlightenment to listen and assess an appropriate response.

When the consequences of the compounding effect of several risks occurring at once turns into reality, the board will be judged with 20/20 hindsight. Boards that dismiss risks too quickly because they are unlikely to occur will find their own reasoning equally dismissed by shareholders after-the-fact.

Appendix I : Heat Map Analysis Example — Manufacturing Company

Risk Category	Severity	Likelihood	Risk Clockspeed	Inability to Mitigate
Strategic				
Failure to develop and execute a strategy	Very High	Moderate	Moderate	Moderate
Insufficient new customer revenue acquisition	High	Moderate	Fast	High
Failure to execute on a business model	Very High	Moderate	Moderate	Moderate
Failure to establish a viable low-cost manufacturing site	High	Moderate	Moderate	Moderate
Insufficient capital equipment replenishment	High	Moderate	Slow	Moderate
Possible opportunistic takeover bid at a depressed value	High	Low	Very High	High
Financial				
Failure to attain bank covenant level performance	Very High	Moderate	Very Fast	High
Failure to renew current loan facilities	Very High	Low	Very Fast	High
Change in lender and loan policies and practices	Very High	Moderate	Fast	High
Reliance on shorter-term debt to support growth	High	High	Fast	High
Insufficient availability under current loan arrangements	High	Moderate	Fast	Moderate

Risk Category	Severity	Likelihood	Risk Clockspeed	Inability to Mitigate
Organizational				
Unplanned resignations at the executive level	Very High	Moderate	Very Fast	Moderate
Ineffective execution of succession plan for the President and CEO	Very High	Moderate	Moderate	Moderate
Loss of key customer-facing management staff	High	Moderate	Very Fast	Moderate
Insufficient management depth and capability to support growth	High	Moderate	Slow	Low
Insufficient key staff retention initiatives	High	Moderate	Slow	Moderate
Unfavourable change in the current union/management relationships	High	Low	Moderate	Moderate
Operational				
Loss of major customers or loss of share of wallet	Very High	Moderate	Fast	High
Failure to execute production to attain satisfactory metrics	Very High	Moderate	Moderate	Moderate
Failure to align costs with revenue	Very High	Moderate	Moderate	Moderate
Failure of supply chain execution to procure components at competitive prices	High	Low	Moderate	Moderate
Customer bankruptcy and inventory write downs	High	Moderate	Fast	Low
Lengthy production disruption	Very High	Low	Fast	Low
Insufficient capital equipment to meet customer needs	High	Moderate	Moderate	Moderate

Risk Category	Severity	Likelihood	Risk Clockspeed	Inability to Mitigate
External				
Continuing depressed North American economy	High	Moderate	Moderate	Moderate
Rapid strengthening of Canadian dollar against U.S. dollar	High	Moderate	Fast	Moderate
Acts of God	High	Low	Very Fast	Low
Rapid increase in interest rates	High	Low	Slow	High
Changes in laws or regulations	High	Low	Slow	High
Legal claims	High	Moderate	Fast	High
Other (Compliance, Hazardous)				
Inadvertent breach of laws	High	Low	Fast	High
Failure to comply with exchange listing requirements	High	Moderate	Fast	Low
Failure in internal controls	High	Low	Slow	Moderate
Significant environmental issues and claims	High	Low	Fast	High
Severe occupational safety incidents	Moderate	Low	Fast	High

Appendix 2 : Framework Implementation

Activity	Background Material	Board Focus
Phase 1—Review of Oversight of Risk Framework and Kick-Off		
Board discussion of framework, board and management	Framework, proposed assignments and timeline	
Phase 2—Establishing Context		
Review of macroeconomic and geopolitical environment, size, characteristics of the industry, and competition	Description of the current macroeconomic and geo-political environment Industry characteristics – size (revenue, profit pools), nature of market and customer characteristics, customer concentration and buying power, level of competitive fragmentation Current market position; relative size of competitors; basis of competition	Broad understanding of external and industry environment
Phase 3—Risk Identification		
Strategy		
Review of market and customer dynamics	Trends, emerging areas for growth, maturing sectors, potential for new entrants Description of key competitive drivers for success	Key market risks and competitive drivers
Company positioning	Current relative size competitively (share of market(s)), underlying reasons for current trajectory Customer value proposition and key elements of strategic differentiation Competitive advantages and disadvantages against competitive drivers for success Summary of most recent independent customer survey results Breadth of capabilities Current state of geographic locations/facilities	Key status quo risks

Activity		Background Material	Board Focus
	Competitive benchmarking and analysis	Relative size Review of comparative business models Comparative competitive advantages and disadvantages against key drivers for success Comparative competitor breadth of capabilities Detailed comparative financial analysis including assessment of reasons for performance differences Summary results of recent customer surveys including competitor customers Summarize key strategies and major initiatives	Assess strength of competitive position
	Description and analysis of key strategies	Summary of key assumptions Outline of critical overall and functional strategies Analysis of key strategic initiatives using framework set out on page 23	Assess validity of strategies including timeliness and capability to execute
	Financial modelling	Stress test strategies by varying underlying assumptions and degree of success of strategies	Financial impact range of strategic risk profiles
	Mergers and Acquisitions		
	Review of acquisition criteria and comprehensive fit analysis	Tightly defined criteria in rank order for making the acquisition Early screening and assessment of acquisition candidate against criteria Final candidate post-due diligence assessment against criteria, including valuation	Assess critical fit and value creation model
	Due diligence and integration planning	Review of due diligence framework and planning Review of integration requirements and planning Candidate leadership assessment Detailed review of post-due diligence findings and potential exposures	Understand potential acquisition risks and potential impact of valuation and future performance

Activity		Background Material	Board Focus
	Strategic validation	Use of external sources and other means (see pages 21-22), validation of efficacy of the acquisition candidate's current strategy and post-acquisition plans Benchmark financial results and other quantitative measures against competitor data	Objective assessment of candidates competitive advantage
	Financing	Closely examine shorter- and longer-term acquisition financing plans and post-acquisition capital structure (see page 27)	Understand capital structure exposure in acquisition financing
	Stress testing through financial modelling	Consolidation modelling under multiple scenarios to stress test expected returns and capital structure vulnerability	Assess validity of forecast returns and post-acquisition capital structure exposure
	Finance		
	Define capital structure	Detailed description of current capital structure (including current market capitalization and all indebtedness) Description of all material off balance sheet obligations, including pension plan and post-retirement benefits, and leases (operating and capital) Major commitments on capital expenditure projects Dividend obligations Reports from external advisers on appropriateness of current capital structure	Obtain a full understanding of all material liabilities and future cash obligations
	Debt duration analysis	Detailed analysis of principal and interest payments of all shorter- and longer-term debt Analysis of major off balance sheet obligations, including capital expenditures Review of plans and timing for refinancing and shorter-term debt rollover	Develop a profile of timing and amount of future cash requirements related to debt and other obligations

Activity		Background Material	Board Focus
	Cash flow forecasts	Detailed longer-term (typically three to five years) cash flow analysis based on strategic plans Key long term plan assumptions Detailed financing assumptions, including interest rates, debt refinancing timing, and amounts and structure	Understand cash generation and cash requirements and gaps if any
	Capital availability review	Expert assessment of current capital markets identifying availability and potential sources of capital	Understand refinancing risk
	Liquidity analysis and stress testing	Multiple scenario analyses varying assumptions, outcomes of strategic plan and potential inability to refinance or roll over debt	Understand liquidity vulnerability under various scenarios
	Operations		
	Customer satisfaction	Analysis of recent independent customer interviews and surveys Lost customer analysis Customer share of wallet analysis Market share trending analysis	Measure competitiveness in meeting current and future key customer requirements
	Product quality	Production or service quality analysis and trending In-field product failure analysis	Assess quality performance
	Capacity constraints	Capacity constraint analysis of multiple scenarios	Understand capacity limits, time and cost to expand, and potential overcapacity in a downside scenario
	Competitive margin analysis	Detailed gross margin competitive analysis, with analysis to explain differences	Critical assessment of competitiveness and validity of current business model
	Vendor and distribution dependencies	Analysis of critical vendor and distribution dependencies, including sole-source arrangements or capacity constraints should one vendor be unable to meet supply requirements	Understand supply chain or downstream vulnerability in reliance on critical third-party dependencies

Activity	Background Material	Board Focus
External Risk		
Macroeconomic and geopolitical vulnerability	Beyond contextual assessment (see page 16), detailed analysis of critical exposures to changes in global or regional economies Assessment of vulnerability to current and potential changes to the geopolitical environment Stress testing through financial modelling of multiple scenarios	Assess degree of exposure to significant change in the economy or geopolitical environment
Industry cyclicality	Understanding of degree and impact of industry cyclicality and key market dependencies Assessment of strategy and capability to manage through both industry upswings and downturns Stress testing of capital structure under multiple scenarios	Understand vulnerability and strategic capability to manage in cyclical downturns
Industry structural change	Broad examination of industry changes and trends that signal fundamental change in basis of competition and end market dynamics, including demographic effects	Understand exposure of failing to act on potential major structural change
Emerging trend or new entrant threat analysis	Close examination of underlying reasons for success of emerging smaller competitors Objective assessment of potential impact of emerging technologies (product, capital equipment, consumer-oriented technologies, and applications such as social media)	Examine potential threats from new entrants or technologies
Regulatory change or potential intervention	Examination of potential threats from changes in government-imposed regulations or intervention	Assess regulatory or other government-initiated exposures

Activity		Background Material	Board Focus
Phase 4—Initial Consequential – Heat Map Analysis			
	Rank ordering of risks	Ordering of identified risks in terms of potential severity, regardless of the probability of occurrence (rank ordering need not be numerical; three-or four-part scale should suffice)	Risks that materially affect asset or shareholder value and those that may adversely impact longer-term performance
	Assess likelihood of occurrence	Application of judgment unless data is available to better assess probability (a three- or four-part scale should suffice)	Be conservative and use care before dismissing seemingly unlikely potential threats
	Assess clockspeed	Risk-by-risk assessment of time available to anticipate and react to an occurrence	Fast clockspeed risks obviously require attention; be mindful that even slow clockspeed risks can have significant adverse consequences
	Mitigation capability	Identification and understanding of capability and tools available to fully or partially mitigate risks Assessment of residual risk after mitigation	Focus on higher residual risk areas
	Overview heat map	Visual review of heat map to clarify focus on areas requiring board attention	Re-rank identified risks in accordance with four dimensional analysis

Activity	Background Material	Board Focus
Phase 5 — Interconnectivity, Compounding Effect, and Vulnerability Analysis		
Assess potential interrelationship of risks	Examination of each risk to determine if there was an occurrence would this trigger other identified risks to follow. The so-called domino effect. This might involve high risks areas that cause lower severity or likelihood risks to follow	Look for increased exposure though simultaneous adverse consequences due to linkages among risks or serendipitous multiple occurrences
Compounding risk analysis	Separate examination of identified risks from the standpoint of one or more occurring simultaneously ("perfect storm") to understand potential compounding effect of severity	
Assess imbedded vulnerabilities	Development of list of vulnerabilities, with focus on critical areas such as areas of weak competitiveness, declining product revenue, margin pressures, organizational gaps or retention exposure, weak balance sheet, and distribution or vendor dependencies	In light of vulnerabilities, consider the other identified risks that could be a tipping point for potentially serious adverse consequences.
Phase 6 — Re-Consequential Analysis		
Refine severity of risks following Phase 5 analysis	Following the interconnectivity, compounding effect and vulnerability analysis, modification of heat map developed in Phase 4 (if warranted).	Reassessment of exposures
Phase 7 — Prioritization		
Rank ordering of importance for detailed review of response strategies and monitoring requirements	Final reconfigured list of critical risks ranked in priority based on severity, likelihood, clockspeed, and capability for mitigation, after consideration of potential compounding effect from multiple occurrences	Clear identification of exposures and vulnerabilities for further board deliberation and response strategy development

Activity		Background Material	Board Focus
Phase 8 — Assess Risk Capacity, Risk Tolerance, and Risk Appetite			
	Risk capacity	At a minimum, establishment of enterprise's financial capacity, defined as liquid assets, current debt capacity and other assets that could be quickly monetized	Understanding the insolvency threshold
	Risk threshold	Development of quantifiable and qualitative analysis to determine limits that enterprise would never exceed light of prioritized risks, risk capacity, enterprise performance, industry dynamics, shareholder expectations, and risk mitigation alternatives	Rigorous discussion of limits and willingness to accept risk in pursuit of defined returns
	Risk appetite	Development of model and matrix, based on risk tolerance, to determine limit of exposure enterprise is willing to accept in pursuit of long-term goals; analysis must be related to expected returns	
Phase 9 — Response Strategy			
	Prioritized, proactive risk mitigation strategies	Development for each risk of list of proactive responses, in rank order, to avoid or lessen, limit and avoid each exposure before occurrence	Minimization of exposure at an acceptable cost
	Quantify residual exposure	Determination for each risk, in quantifiable and qualitative terms, of residual exposure after considerations of all response strategies	Understanding unmitigated, residual exposure
	Compare residual exposure against risk tolerance	Analysis of residual risk exposure against risk tolerance. Development of sensitivity analysis for multiple simultaneous occurrences	Test exposure against pre-determined limits; consider necessary actions if residual risk exposure nears or exceeds risk tolerance
	Reactive post-occurrence strategies	Development of crisis management plans (including resource requirements and defined accountabilities) for each major exposure on assumption that risk materializes	Advance preparedness

	Activity	Background Material	Board Focus
Phase 10 — Monitoring			
	Key leading indicators (including operational and financial metrics)	Development of indicators for each prioritized risk in order to create early warning of a potential adverse occurrence (indicators can take many different forms, including quantitative and subjective)	Scheduled board agenda items
	Regular customer satisfaction assessment and new customer win/loss records	Tracking of trends in customer satisfaction and new customer/client acquisition win/loss analysis to provide insightful information to assess the effectiveness of successful customer-facing strategies	
	Competitor benchmarking and industry analyst reports	Comprehensive competitive analysis and tracking industry trends	
	Updated financial stress testing	Comprehensive financial modelling, including assumption variability for risk exposures	
	Current executive talent management and succession planning	Executive depth charts and immediate replacement plans for unanticipated executive departures	

Where to Find More Information

CICA Publications on Governance*

The Director Series

The 20 Questions Series

20 Questions Directors and Audit Committees Should Ask about IFRS Conversions (Revised)

20 Questions Directors Should Ask about Building a Board

20 Questions Directors Should Ask about CEO Succession

20 Questions Directors Should Ask about Codes of Conduct (2nd ed)

20 Questions Directors Should Ask about Crisis Management

20 Questions Directors Should Ask about Crown Corporation Governance

20 Questions Directors Should Ask about Director Compensation

20 Questions Directors Should Ask about Directors' and Officers' Liability Indemnification and Insurance

20 Questions Directors Should Ask about Executive Compensation (2nd ed)

20 Questions Directors Should Ask about Governance Assessments

20 Questions Directors Should Ask about Governance Committees

20 Questions Directors Should Ask about Insolvency

20 Questions Directors Should Ask about Internal Audit (2nd ed)

20 Questions Directors Should Ask about IT

20 Questions Directors Should Ask about Management's Discussion and Analysis (2nd ed)

20 Questions Directors Should Ask about Responding to Allegations of Corporate Wrongdoing

20 Questions Directors Should Ask about Risk (2nd ed)

20 Questions Directors Should Ask about the Role of the Human Resources and Compensation Committee

20 Questions Directors Should Ask about their Role in Pension Governance

20 Questions Directors Should Ask about Special Committees

20 Questions Directors Should Ask about Strategy (3rd ed)

Director Briefings

Climate Change Briefing — Questions for Directors to Ask

Controlled Companies Briefing — Questions for Directors to Ask

Diversity Briefing — Questions for Directors to Ask

Long-term Performance Briefing — Questions for Directors to Ask

Shareholder Engagement — Questions for Directors to Ask

Sustainability: Environmental and Social Issues Briefing — Questions for Directors to Ask

Director Alerts

The ABCP Liquidity Crunch — questions directors should ask

Executive Compensation Disclosure — questions directors should ask

Fraud Risk in Difficult Economic Times — questions directors should ask

The Global Financial Meltdown — questions for directors to ask

Human Resource and Compensation Issues during the Financial Crisis — questions for directors to ask

New Canadian Auditing Standards — questions directors should ask

Shareholder Engagement — questions directors should ask

Social Media — questions for directors to ask

The Not-for-Profit Director Series

NPO 20 Questions Series

20 Questions Directors of Not-for-Profit Organizations Should Ask about Board Recruitment, Development and Assessment

20 Questions Directors of Not-for-Profit Organizations Should Ask about Fiduciary Duty

20 Questions Directors of Not-for-Profit Organizations Should Ask about Governance

20 Questions Directors of Not-for-Profit Organizations Should Ask about Human Resources

20 Questions Directors of Not-for-Profit Organizations Should Ask about Risk

20 Questions Directors of Not-for-Profit Organizations Should Ask about Strategy and Planning

Liability Indemnification and Insurance for Directors of Not-for-Profit Organizations

NPO Director Alerts

Pandemic Preparation and Response — Questions for Directors to Ask

Increasing Public Scrutiny of Not-for-Profit Organizations — Questions for Directors to Ask

New rules for charities' fundraising expenses and program spending — Questions for Directors to Ask

New Accounting Standards for Not-for-Profit Organizations — Questions for Directors to Ask

The New Canada Not-For-Profit Corporations Act — Questions for Directors to Ask

Other Publications

A Guide to Financial Statements of Not-For-Profit Organizations — questions for directors to ask

Accountants on Board — A guide to becoming a director of a not-for-profit organization

The CFO Series

Deciding to Go Public: What CFOs Need to Know

Financial Aspects of Governance: What Boards Should Expect from CFOs

How CFOs are Adapting to Today's Realities

IFRS Conversions: What CFOs Need to Know and Do

Risk Management: What Boards Should Expect from CFOs

Strategic Planning: What Boards Should Expect from CFOs

*Available at www.rogb.ca.

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John E. Caldwell

John Caldwell has extensive executive level and board experience having served as a chief executive officer in three public companies for over eighteen years. Through his career he has also served on a total of thirteen boards of directors.

John recently retired from being President and Chief Executive Officer of SMTC Corporation, an international public electronics manufacturing services company. John was also President and Chief Executive Officer at CAE Inc., the world leader in civil and military flight simulation and training services and Geac Computer Corporation, a leading ERP software company.

Currently, John is a director for Advanced Micro Devices, Inc., a world leader in semiconductors for computing and consumer electronics; Faro Technologies, Inc., the world leader in three-dimensional manufacturing measurement systems; IAMGOLD, a leading mid-tier gold mining company; and Samuel Son &Co Limited, one of the largest North America metal processor and distributor. He sits on three audit committees, chairing two; four corporate governance committees, chairing one and three compensation committees.

John has broad board and executive level experience in distressed situations including Stelco Inc., Geac Computer Corporation, Mosaic Group and SMTC Corporation providing valuable insight into enterprise risk. Previous boards also include ATI Inc., CAE Inc., Cognos Inc., Parmalat Canada, Rothmans Inc., and Sleeman Breweries.

John also has a background in finance, having served as a chief financial officer of CAE Inc., and Carling O'Keefe Breweries and attained his chartered accountant designation with PriceWaterhouseCoopers.