

Balanced Scorecard **REPORT**

THE STRATEGY EXECUTION SOURCE

ON BALANCE

Risk Management and the Strategy Execution System

By Robert S. Kaplan

Besides rethinking strategy, perhaps nothing has preoccupied business leaders these past months more than their failures in risk management. In this opening gambit, Robert Kaplan explores how risk management can be better integrated into strategy execution. An analysis of risk management—its history and mainstream approaches—and of resulting market failures leads him to conclude that risk management should be viewed as a third leg of shareholder value creation, along with revenue growth and productivity. Here, Kaplan introduces two important concepts: a three-level hierarchy of risk; and the risk indicator scorecard, a parallel to the strategy scorecard that he and David Norton conceived nearly two decades ago.

The financial crisis that erupted in 2007 revealed a major gap in the management systems of companies, especially those in the financial sector. Companies' management systems were focused on shareholder value, revenue growth, productivity, cost control, and quality. But few explicitly incorporated risk. At recent speaking events, I have been asked whether using the Balanced Scorecard would have helped the failed companies avoid the catastrophe they inflicted on shareholders, creditors, and the world economy. I usually respond by articulating the hope that adopting the BSC, whose underlying philosophy entails seeking a balance between achieving short- and long-term strategic objectives, would have mitigated some of the excessive risk taking that the failed companies pursued for short-term financial gain. But, candidly, the measurement, mitigation, and management of risk have not been strongly featured in David Norton's and my work.¹ So the events of recent years have forced us to think more deeply about how to incorporate risk management into our strategy execution framework.

Risk management is not new. People have been studying risk and its mitigation for centuries.² International regulations, such as the Basel I and Basel II rules, have institutionalized risk management for banks.³ Actuarial societies and COSO (the Committee of Sponsoring Organizations of the Treadway Commission) have formalized a new discipline of enterprise risk management (ERM) and promulgated standards for implementing it. Many companies established risk management departments led by a C-level chief risk officer to comply with these and other regulations (such as Sarbanes-Oxley) as well as to help the enterprise manage its risk exposure. Risk professionals have their own organizations (the Global Association of Risk Professionals, the Risk Management Association), certification examinations, and a rich array of sophisticated risk modeling processes at their disposal. Yet despite risk management's extensive history, sophisticated models of risk exposure, and a large population of risk management professionals, many companies affected by the crisis failed because of their excessive exposure to risk. Apparently, all were doing their jobs, and yet the system failed. Many interrelated factors contributed to the failures,⁴ but two in particular stand out:

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SPECIAL RISK MANAGEMENT ISSUE

In the aftermath of the global economic meltdown, risk management has taken on new importance, not only in the financial services sector, but across industries. This first-ever theme issue of *Balanced Scorecard Report* is devoted exclusively to the nexus of risk management and strategy. BSC cofounder Robert Kaplan presents his opening gambit on the subject (opposite); and we offer three Case Files from organizations as diverse as a NASA agency, a unit of a major bank, and a consumer products giant. These stories are based on presentations delivered at the Palladium Group's 2009 Strategic Risk Conference, "Turning Risk into Opportunity."

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What Bad Things Could Happen? Risk Management at Jet Propulsion Laboratory

Following two space shuttle disasters, NASA completely overhauled its risk management process to foster a culture focused on risk. Gentry Lee, chief engineer of JPL's Planetary Flight Systems Directorate (which oversees all robotic planetary spacecraft), reveals the organization's approach at every stage of a mission.

Case File10

Leadership and Strategic Risk Management: An SFO Approach

No new processes or data required: it's all about orientation. Here's how one banking executive has made risk management as day-to-day a process as strategy management. Foster the right mindset with leadership, he advises, and use the SFO principles as a natural framework.

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Integrating Risk Management into the Strategic Planning Process at Canadian Blood Services

Have a glance at this BSC Hall of Fame organization's pioneering approach to integrating risk management with strategy management.

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Managing Operational Risk at Mars, Incorporated

The company known for everything from M&Ms and Uncle Ben's rice to Pedigree pet food has an impressive and rigorous system for identifying and managing operational and strategic risk. Besides its ERM process, Mars relies on a rich trove of analytic data to anticipate, prioritize, and mitigate risks—and share effective tactics across its business units and segments. Inc. and used by permission.

companies' failure to explicitly account for risk when formulating their strategies, and their failure to monitor and manage the risks they had assumed.

Fifteen years ago, Norton and I surveyed managers and learned that 85% of senior executives spent less than one hour per month discussing strategy; 50% reported they spent zero hours per month on strategy. But most senior executives spent even less time managing risk than they did managing strategy. Then, as now, they viewed risk management as a compliance function—something they could delegate to their risk professionals, who in most firms tend to be siloed and subordinate. If companies are to get serious about risk management, it must be embedded into the routines and processes of senior management, much as we have promoted strategy management within the organization through the use of our six-stage strategy execution system.

The Risk Management Framework

Enterprises face many different types of risk. I have found it useful to classify risks into three categories, based on their degree of predictability, controllability, and management, and, most important, on the magnitude of their consequences to the enterprise. Level 3, the lowest category, encompasses routine operational and compliance risks. Level 2 represents strategy risks, and Level 1 captures global enterprise risks.

Level 3: Routine Operational and Compliance Risks

At the bottom of the risk hierarchy, Level 3 risks arise from errors in routine, standardized, and predictable processes that expose the firm to substantial loss. In our work on linking strategy to operations, we distinguish between

strategic processes—those that are identified in the process perspective of an entity's strategy map and scorecard—and vital processes: those vital to conducting business but that do not contribute to the differentiation of the strategy. Examples of Level 3 vital processes are maintaining and updating the financial accounting and tax systems (such as posting entries to the general ledger and the accounts receivables and accounts payables ledgers; and paying and receiving cash), protecting assets and information, and ensuring information security, privacy, backup, and disaster recovery. They also include the internal control processes that protect the firm from fraud, negligence, legal, and other potential regulatory liabilities. Any breakdown in a Level 3 process could expose the company to significant financial and information losses and expensive regulatory and litigation procedures. But even when these processes are performed perfectly, the company could still fail in its strategy execution.

Through the extensive training of personnel and the establishment of standard operating procedures and internal controls, including the segregation of duties and dual authorizations, companies attempt to have zero defects in Level 3 processes. The internal audit department plays a key role in monitoring Level 3 risks by verifying that standard operating procedures are being followed without exception and by highlighting defects and deviations in compliance and routine operating processes. Further, Sarbanes-Oxley audits are performed on Level 3 processes to provide external assurance on the effectiveness of a company's internal controls. In short, Level 3 risks are known and avoidable. Risk management of these processes strives to achieve 100% compliance and zero defects.

Balanced Scorecard Report

Editorial Advisers

Robert S. Kaplan
Professor, Harvard Business School
David P. Norton
Director and Founder, Palladium Group, Inc.

Publishers

Robert L. Howie Jr.
Managing Director, Palladium Group, Inc.

Edward D. Crowley
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Harvard Business Publishing

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Randall H. Russell
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Janice Koch
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Circulation Manager

Bruce Rhodes
Newsletters, Harvard Business Publishing

Design

Robert B. Levers
Levers Advertising & Design

Letters and Reader Feedback

Please send your comments and ideas to
editor@thepalladiumgroup.com.

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Level 2: Strategy Risks

Companies select strategies that they hope will create and sustain a competitive advantage that leads to superior financial returns. But earning superior returns requires companies to accept some risk. Companies wanting a risk-free strategy would have to invest all their capital in default-free and inflation-protected government bonds, an action that any of their shareholders could do individually just as well, and probably more cheaply.

Strategy risk can be straightforward and easily quantifiable, as when a company accepts the risk of default when extending credit to customers; or it can be more speculative, as when a company invests in developing an entirely new product line or entering a new geographic market. To manage its various Level 2 risks, a company should identify the major plausible risks inherent in the strategy, attempt to mitigate and manage those risks, and then continually monitor the risk exposure it has accepted to earn superior returns.

The risk management literature identifies a long laundry list of possible strategy risks, such as financial risk; customer, brand, and reputation risk; supply chain risk; innovation risk; environmental risk; human resources risk; and information technology risk. Such a list implies a complex risk management process perhaps specific to each type of risk. Recall, however, that the strategy map and Balanced Scorecard already contain all of an entity's strategic objectives and the interrelationships among them: the learning and growth perspective contains objectives for people and technology; the internal process perspective has objectives for managing operations, customers, innovation, and environmental, regulatory, and social processes; the customer perspective shows

those linked to the customer value proposition and customer outcomes; and the financial perspective depicts those related to revenue, price, and margin objectives. The strategy map thus provides a natural framework for identifying, mitigating, and systematically managing the risks to a company's strategic objectives in an integrated and comprehensive manner.

Some companies, particularly those in financial services such as Bank of Tokyo-Mitsubishi UFJ and SwissRe, already incorporate a risk management strategic theme into their strategy maps. (This theme is in addition to traditional strategic themes relating to operational excellence, customer management, and innovation.) Defining a risk management strategic theme highlights risk management as a key component of the company's strategy and makes it visible for resource allocation, monitoring, and discussion at strategy review meetings. I have tentatively concluded, however, that measuring and managing risk differs so substantially from measuring and managing strategy that it may be preferable to develop a completely separate risk scorecard. Strategy is about moving the company forward toward achieving breakthrough performance. The strategy map and scorecard provide the road map to guide this strategic journey. Risk management, in contrast, is about identifying, avoiding, and overcoming the hurdles that the strategy may encounter along the way. Avoiding risk does not advance the strategy; but risk management can reduce obstacles and barriers that would otherwise prevent the organization from progressing to its strategic destination. The metrics for a risk scorecard and associated initiatives for preventing or mitigating risks seem fundamentally different from the BSC metrics and initiatives used to move a strategy forward.

At this time, the development of a risk scorecard is more conjecture and concept than actual fact. So I cannot present a working example of a complete, actual risk scorecard. But it would not be premature to consider some general principles for developing a risk scorecard and its associated initiatives.

What Would a Risk Scorecard Look Like?

Let's start with the entity's strategy map of linked strategic objectives. In building the BSC for the strategy map, we would, of course, formulate metrics for every strategy map objective, followed by targets for each metric and, finally, strategic initiatives designed to close the gap between targeted and current performance.

Working from the same strategy map, we could build a risk scorecard by first identifying for each strategic objective the primary risk events that would prevent the objective from being achieved. For each risk event, we would select metrics that would be early warning or leading indicators of when the risk event might be occurring. Take, for example, the common learning and growth objective "Achieve strategic job readiness," in which all employees in strategic job families have the skills, experience, and knowledge to perform their processes at a high level of excellence. This objective would typically have a BSC metric "percentage of employees in strategic job families rated as 'very good' or 'excellent' for relevant skills, experience, and knowledge"; a target of 90% or higher; and strategic initiatives involving in-class and on-the-job training, a pay-for-knowledge incentive plan, and planned job rotations.

What risk events would threaten this strategic objective? They could be high turnover or retirements of experienced employees

in strategic job families, ineffective training programs, or lack of mobility. Risk metrics would thus reflect each of these potential problems—current turnover rates, number of actual or anticipated retirements, evaluations of training program relevance and effectiveness, and gaps between the demand and supply of fully qualified employees (such as when some locations have an excess supply of employees, while others, perhaps in different countries or continents, have serious shortages). For an innovation objective at a pharmaceutical company, the risks could be failed or delayed clinical trials. Supply chain risks could be disruptions in a supplier's plant or bottlenecks at a distribution center. Following this approach, each strategic objective on the strategy map would have one or more risk metrics that would provide an early warning signal about when performance along that strategic objective is in jeopardy. A rising trend in a risk metric, or even a single observation above a pre-set control limit, would generate a management alert requiring immediate attention.

Risk management should be anticipatory and preventive, not reactive. Therefore, rather

than wait for risk metrics to signal an adverse condition, management needs to estimate which risk events are the most likely to occur and will have the most adverse consequences to the strategy. Certainly this is easier to advocate than implement. In some circumstances, companies have sufficient historic data to estimate the likelihood of many types of risk events. Insurance companies can estimate the probabilities of events they insure against, including mortality, natural disasters, sickness, and car accidents. Financial firms have extensive historical data on the prices and correlations of financial instruments such as stocks, bonds, and derivatives, which give them the apparent ability to forecast the likelihood of losses of a given magnitude and to summarize their risk exposure with an aggregate metric known as “value at risk” (VaR).⁵ Unfortunately, the risks of some of the newer and more complex financial instruments, particularly mortgage-backed securities and their derivatives, were estimated from historic time periods that did not include a decline in U.S. housing prices. When housing prices began a nationwide decline in 2006 and 2007, the default rate and correlations among mortgage securities

and their derivatives turned out to be far higher than had been assumed in the VaR models, leading to the collapse of many financial institutions such as Bear Stearns, Lehman Brothers, Wachovia Bank, and Washington Mutual.

When historic data are not available or adequate to quantify risk exposure, risk managers use another tool, the heat map, as a framework for stimulating discussion and, they hope, for gaining consensus on their subjective estimates of risk events. For each identified risk event—e.g., high turnover in a given strategic job family, an ineffective training program, unexpected retirements—managers estimate, usually on a 1-to-5 scale, two parameters: the likelihood of the event and the magnitude of the event's consequences (see *Figure 1*). They multiply the two ratings to produce a heat map score of between 1 and 25. (See *Figure 2*.)

Managers use the heat map score to set priorities for selecting and funding risk prevention and mitigation initiatives. Risk events that score 15 or higher on the heat map are the most likely and consequential; they get priority for the limited funds available for initiatives to prevent or mitigate risk.

Thus the planning for coping with Level 2 strategic risks requires that managers identify the major risks to the strategy, establish an early warning risk scorecard to signal when adverse conditions are occurring, and set priorities for funding initiatives that will prevent or mitigate the most likely and consequential of the strategic risk events. Because of the comprehensive nature of the strategy map, which includes the processes most critical for successful strategy execution, the firm will be anticipating and planning for its most significant *operational* as well as strategic risks.

Figure 1. Calculating a Risk Score

Likelihood of the Event					
Score	5	4	3	2	1
Rating	Virtually certain	Likely	Even odds	Unlikely	Remote
Probability event will occur in the next 36 months	95%	75%	50%	25%	5%

Magnitude of the Event's Consequences					
Score	5	4	3	2	1
Consequence	Highly adverse	Adverse	Moderate impact	Some impact	Little impact

For each identified risk, managers estimate the likelihood of an event's occurrence and the magnitude of its consequences, usually on a 1-to-5 scale.

To be effective, risk management cannot be done in a siloed fashion by risk professionals only nor delegated to middle management functions and departments. Senior managers, during their monthly strategy review meetings (Stage five in the strategy execution system, Monitor and Learn), should allocate time to discuss critical operational and strategy risks. Risk professionals can lead or facilitate discussions of risk indicators and risk initiatives at these senior management meetings. Such periodic reviews would ensure that executives regularly discuss the company's risk exposure and assess how well they are mitigating these known risks to the strategy.

Level 1: Global Enterprise Risks

Level 2 risk management addresses the “known unknowns.” But the failures of many companies are triggered by the “unknown unknowns”: the unpredictable, unprecedented occurrences that create existential risk. Such events are often referred to as “black swan” events, based on the title of a highly popular book by Nassim Taleb that mocks attempts by companies to use quantitative models to measure and manage risk.⁶ Consider the VaR models used by many financial institutions (and the risk models used by credit rating agencies). These were based on data going back several decades during which there was no nationwide decline in housing prices. Senior managers at many financial institutions apparently believed that such an across-the-board decline was an extremely unlikely event, outside the 99% confidence interval of their VaR models. As a result, they had no alternative or complementary process for assessing or mitigating their exposure to rare events. Referring to the heat map tool, one can interpret a black swan event as having a probability ranking of *less than 1* (highly unlikely) and a

consequences ranking of *higher than 5* (highly adverse).

Myopia to existential risk was not confined to financial firms. The black swan event for General Motors and Chrysler was the doubling or tripling of oil prices, which made their profitable product lines of large, fuel-inefficient vehicles essentially unsalable to U.S. consumers, causing massive losses and tipping the already financially strapped and highly leveraged companies into bankruptcy. Neither company had planned or implemented a strategy that could generate positive cash flows in a world of high gasoline prices.

Companies need to consider what unlikely event or combination of events could lead to their demise. As much as David Norton and I have preached for 20 years that you cannot manage what you don't measure, Level 1 enterprise risks have humbled and chastened me. I now agree with Taleb that quantitative models may have limited applicability in predicting the likelihood of Level 1 risks, especially within a given time period. But I disagree with Taleb that managers cannot plan for or mitigate them. Using a physical

Figure 2. A Heat Map

		Magnitude of the Event's Consequences		
		Low	Medium	High
Likelihood of the Event	High	5	15	25
	Medium	3	9	15
	Low	1	3	5

By multiplying the “likelihood” rating by the “magnitude” rating, managers arrive at a heat map score of between 1 and 25. A score of 15 or higher represents a risk event that is most likely to occur and most consequential and should get funding priority for mitigation and prevention initiatives.

metaphor, a Level 1 risk to California is a severe earthquake along the San Andreas fault. Scientists believe that such an event is plausible within the next several decades, but they cannot predict either the year it will occur or its magnitude. Nevertheless, citizens can mitigate in advance the consequences of such an earthquake by constructing buildings that are earthquake resistant and by formulating emergency and disaster relief plans.

Some companies do their Level 1 risk planning by conducting active discussions of unlikely events and their consequences. Goldman Sachs and JP Morgan Chase hold regular tail-risk meetings of senior management where they discuss the consequences of unlikely external events. (They are called tail-risk meetings because the likelihood of the events are in the “tail” of the probability distribution.) Such events could include a tripling of energy prices, a devaluation of the U.S. dollar, civil insurrection in China, a devastating earthquake or hurricane in a sensitive region, or war in the Middle East. The group assesses the ramifications of the event, the

impact on the company's strategy, and what might be done to avoid or mitigate the adverse consequences should it occur. As the chief risk officer of JP Morgan Chase told me, "Most of the events we discuss at these meetings never occur, thank God; but a few of them have happened, and we have either already mitigated their consequences or, because of our prior contingency planning, acted rapidly to minimize the damage."

Scenario planning provides a systematic process to help managers consider the correlated consequences of future events. The scenarios are often triggered by natural acts (earthquakes, hurricanes, tsunamis), global economic phenomena (dramatic changes in energy prices, currency exchange rates, interest rates, economic growth rates, or regulation), or competitors' actions. LG Display, the Korean producer of large LCD displays, conducts two-day war games three times a year in which four management teams (one representing LG Display; the others, its three largest competitors) assess how the company's current strategy would perform against those that its competitors might deploy or counteract with.

Following the Kaplan/Norton Strategy Execution model, managers can address these Level 1 enterprise risks during their deliberations in Stage six of the strategy execution system, Test and Adapt the Strategy. The CEO could lead a discussion around "the three things that would cause our strategy to fail."⁷ The leadership team could engage in scenario planning, war-gaming, and tail-risk stress-testing to learn the sensitivity of the company's strategy to events that occur outside normal business operations that they cannot control. From evolutionary biology, we learn that species that have become too specialized in a particular environment will

not have the requisite variety to survive changes in that environment. The discussions around Level 1 risks help the leadership team determine whether the company's strategy is sufficiently robust to survive the disruptions that might occur from black swan events in its physical, economic, and competitive environments.

Mitigate, Plan, Lead

"Prediction is very hard, especially about the future."⁸ Risk management requires predicting events, particularly unlikely ones that have never occurred. But despite the difficulty of risk management, senior executives who avoid, de-emphasize, or delegate it do so at their peril.

Risk comes in many forms and combinations. Some risks—Level 3 risks—are known and avoidable. We attempt to minimize their incidence through standard operating procedures, internal controls, and internal audits. Other risks, which we classify as Level 2 risks, are inherent in the firm's strategy. The firm accepts them as necessary in its pursuit of superior returns but attempts to reduce their likelihood of occurrence or mitigate them. The strategy map provides a powerful framework for identifying strategic and key operational risks, which can then be monitored with a separate risk indicator scorecard. Heat maps display the likelihood and impact of risk events, helping managers set priorities and fund risk mitigation initiatives. Finally, some risks, from uncontrollable, external events, can threaten the firm's existence. These Level 1 risks are especially difficult to predict but can be the most devastating should they occur. We advocate the regular use of tools such as scenario planning, tail-risk meetings, and war-gaming to make executives aware of such potential Level 1 risks—hoping that these tools encourage managers to adopt strategies that can survive

these risks and to develop countermeasures they can deploy should they occur.

Ultimately, risk management requires leadership, especially when times are good and no clouds are visible on the horizon. CEOs must have the courage to turn down apparently profitable opportunities that expose the company to excessive risk. As M.D. Ranganath, chief risk officer of Infosys (a BSC Hall of Fame company), observed at the 2008 Harvard Business School Global Summit:

Everyone does risk management in bad times. The strong test of risk management is whether it works in good times. Will top management stand behind the risk managers, avoiding temptation and saying no to things that put the enterprise at risk? ■

1. As an exception, see the discussion of risk management as an internal process in pp. 73–77 of R. S. Kaplan and D. P. Norton, *Strategy Maps* (Harvard Business Publishing, 2004).

2. An excellent reference is Peter L. Bernstein, *Against the Gods: The Remarkable Story of Risk* (Wiley, 1996).

3. Basel I, supplanted by Basel II, focuses on credit risk, establishing minimum capital requirements for banks.

4. Among them: using the wrong measures or not fully understanding the properties of the risk measures being used, using incorrect data for estimating risk measures, failing to understand correlations between risk measures, and taking big bets that unlikely events would not occur.

5. Value-at-risk is an estimate of the amount that can be lost at a specified probability of occurrence during a specified time interval. For example, a securities trader with a five-day, 99% VaR of \$50 million has estimated that the current trading position has less than a 1% chance of a loss exceeding \$50 million over the next trading week.

6. Nassim N. Taleb, *The Black Swan: The Impact of the Highly Improbable* (New York: Random House, 2007).

7. R. Simons identified three such occurrences in "How Risky Is Your Company?" *Harvard Business Review* (May 1999).

8. This quote has been attributed to people as diverse as Niels Bohr and Yogi Berra.

TO LEARN MORE

A pioneering approach is highlighted in "Aligning Enterprise Risk Management with Strategy Through the BSC: The Bank of Tokyo-Mitsubishi Approach," in BSR September–October 2005 (Reprint #B0509D).

Reprint #B0911A