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Beating the Odds

Leading an organization through a risk-laden environment is often a game of chance. But enterprise risk management can help your odds.

EDS

Unwelcome Surprises

By Al Decker

Towers Perrin

Coming of Age

By Prakash Shimpi

Microsoft

Defending the Crown Jewels

By Ron Markezich

Oracle

Protect, Detect, Deploy

By Vipin Samar

Dell

Super Power

By Dr. Reza Rooholamini

Sun Microsystems

Tapping Tag Power

By Jim Del Rossi

Xerox

For the Record

By Charles P. Brett

EMC

Reaching Out

By Gregg Therkalsen

Cisco Systems

A Matter of Self Defense

By Bob Gleichauf

EDS

Conversations

With Ron Rittenmeyer

Microsoft

Up Close and Personal

With Ron Markezich



By Prakash Shimpi, Towers Perrin

Coming of

As Enterprise Risk Management Matures, So Does Its Value in Strategic Planning



Age

At the most fundamental level, a company is a machine for turning some money into more money.

We're familiar with the formula: investors provide capital to the organization. Investors take a risk. If all goes according to plan, the investors enjoy a return on their investment.

Clearly, a good capital and risk management strategy is the key to success.

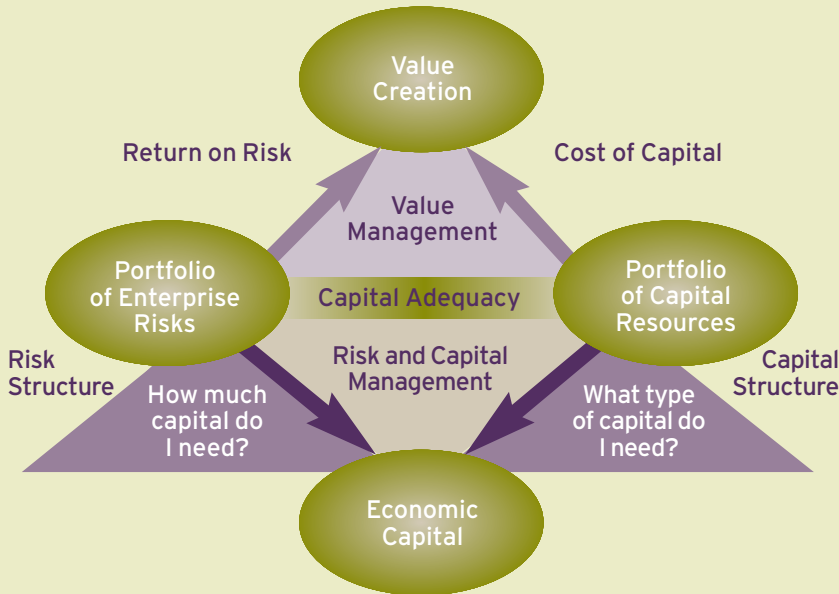
But in truth, many industries still tend to view capital and risk management from a narrow perspective by doing one of the following: managing risk and capital in silos based on business divisions, regions, or products; limiting the breadth of risk to be managed; or focusing too much on certain types of risks (hazard risk, for example) and not enough on other risks, such as competitive marketplace risk or human capital risk.

Having a narrow perspective reflects a number of constraints. Many enterprises, outside of the banking and insurance industries in particular, lack the tools for accurately measuring risk. Often their organizational structures discourage an enterprise-wide perspective, and they continue to focus separately on insurable risks and capital management. In many cases, senior management is reluctant to spend resources and time on an enterprise-wide approach to managing risk when the payback is unclear. >>

Figure 1

Risk-Capital-Value (RCV) Framework

Maximize value by relating a firm's decisions on the risks it takes to the decisions on the capital it uses to finance its business.



In recent years, a number of factors have converged to bring enterprise risk management (ERM) into focus for senior management in order to demonstrate its value. First, because of performance pressures in an increasingly competitive landscape, the ability to understand or mitigate risks across the organization becomes an imperative. Second, shareholders, regulators, and rating agencies expect more complete risk and capital information from enterprises. Third, more tools have been developed to help organizations measure and manage their risks. Finally—and not insignificantly—some early adapters have used risk management to gain competitive advantage.

In 2001, a comprehensive effort to create a framework for enterprise risk management was undertaken by the **Committee of Sponsoring Organizations of the Treadway Commission (COSO)**, a U.S. private-sector initiative formed in 1985 to address fraudulent financial reporting. The committee's *Enterprise Risk Management—Integrated Framework* has become a widely accepted standard for key ERM principles and concepts. Standard & Poor's and other rating agencies are increasingly mindful of enterprise risk as they apply rating criteria in certain industry sectors.

Today, whether prompted by competitive, financial, or regulatory pressures, the question for senior managers is how to cope with key risks in a coherent, unified framework. In the aggregate, which courses of action are likely to add value by returning more than the cost of capital employed to pursue them?

It's important to understand this risk/capital/value (RCV) concept because, supported by ERM, it becomes a crucial strategic planning platform. For example, using ERM tools to analyze an acquisition opportunity will help identify risks and uncertainties that might otherwise threaten the financial viability of a transaction. An RCV approach also translates the statistical language of risk into the language of corporate finance. Although tightly linked, the worlds of risk and capital literally don't speak the same language. The risk world is dominated by the language of statistics, and the capital world is dominated by the language of corporate finance—and it's not easy to get practitioners to make the link.

The RCV relationship (see Figure 1) is based on the assumption that management has two primary areas of concern: the management of risk and the management of capital. The process begins with the question, "How much capital do I need?" To answer this question, a company can deploy the statistical measures of risk to define the risk structure of the firm—the type of risk, its properties, and how it unfolds over time and scenarios.

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Once risk is quantified, management is able to determine the amount of capital that must be used. But what type? Senior management is accustomed to answering the capital structure question but doesn't always consider risk transfer as part of the capital mix. Capital efficiency can be enhanced by including such risk-transfer instruments as insurance, reinsurance, and hedging—in addition to various forms of equity and debt. Each risk must earn a sufficient return to the firm to be a worthwhile undertaking. At the same time, each capital instrument has a cost. Management's objective, then, must be to ensure by its actions that the return on risk always exceeds the cost of capital.

The Evolution of ERM

Enterprise risk management is a branch of thought and practice that developed in the financial services industries as a way to bring these issues to the forefront. Over the last decade, the insurance and banking industries have had a sharper understanding of risk and how it interacts within the organizational context to create or destroy value. Among non-financial service companies, energy and utility firms are at the forefront because of their exposure to commodity and capital markets risks. The spread of ERM into other sectors is commonly regarded as “only a matter of time.”

An ERM framework can help enterprise leaders:

- identify and quantify risk across the organization
- determine which risks threaten the organization's operations (based on the organization's risk threshold)
- identify which risks the organization might take (investments, acquisitions, etc.) and how they could affect the organization
- identify which risks should be managed or mitigated by eliminating them, minimizing them, or financing them

In short, ERM helps break down the risk silos that exist in organizations. One way it does this is by helping company leaders develop a common language for discussing risk and common tools for viewing and managing risk. As early adapters of ERM, insurers and banks developed a suite of techniques based around stochastic modeling that aimed to provide management with both a snapshot of the level of risk the company was exposed to at any given time, as well as ways of organizing that data to provide insight into how the company's risks could develop over time given different scenarios.

Because risk posture and philosophy vary from organization to organization, so will the application of enterprise risk management. Indeed, an ERM approach is a complicated endeavor, and no one size or shape fits all. Even those firms that have been traveling down the ERM road for a number of years will readily admit that it's a constant challenge and a moving, evolving target. Equally, those that are best at it will contend that the insights and understanding they achieve from the process provide significant payback for their investment in time and money.

If every company must build its own ERM process, there's one thing they all have in common: a focus on risk as the foundation for analysis. It's this focus on risk that has brought ERM from the margins of corporate management to the center of the nexus between strategy, corporate finance, and management practice.

ERM, Strategy, and Corporate Finance

The insurance industry is the aggregator and redistributor of many of society's risks. The most forward-thinking insurers have always tried to develop a good understanding of how the risks within their portfolios build up and impact each other. Over the last 10 years, the information technology revolution has boosted this understanding to new levels of sophistication, enabling those insurers that are best at analyzing their risks to work towards slicing, dicing, and manipulating their risk portfolios to maximize the value they create for shareholders.

For instance, one large U.S. insurance company has been pursuing ERM for more than four years. The company has developed a proprietary tool that models the firm's risk portfolio and allows management to instantly see how external events such as natural catastrophes, changing weather patterns, or even an influenza pandemic would affect the company against its established risk tolerance. The tool can also show management the impact of internal events and decisions. Different strategies, changing capital allocations, alternative organizational structures, or new product launches can also be modeled to evaluate the impact on the company.

Banks, too, have developed increasingly sophisticated techniques for understanding, measuring, and quantifying their risks in their credit and market portfolios, and they're integrating these techniques with a growing understanding of operational risk. In the mid '90s, in response to the huge trading losses suffered by such companies as Barings, Daiwa, and Kidder Peabody, many banks invested in risk management systems with >>





sophisticated stochastic engines designed to calculate their aggregate levels of trading risk. Several software vendors have sprung up to provide modeling options designed to calculate aggregate risk positions given the volume and volatility of a number of trading variables, including equity prices, interest rates, foreign exchange, and commodity prices.

The tools and techniques developed independently in the insurance industry and the world of banking actually have a lot in common. First, they both use risk as the foundation for their analysis. Second, in both industries, regulators, rating agencies, and the markets are putting increasing emphasis on companies' abilities to understand and manage the risks that sit within their portfolios. As we mentioned earlier, rating agencies have begun focusing on financial services industry ERM capabilities in rating criteria and assessments. Regulators around the globe have written ERM requirements into financial services law.

More recently, ERM has been embraced by a growing number of companies outside of financial services. As noted above, this is especially true in the energy and utility sectors, where commodity and capital markets risks are comparatively more acute. On a basic level, ERM techniques for risk identification and assessment have been found valuable in helping companies meet compliance requirements while adding a higher degree of financial transparency. CEOs also realize that the markets equate poor risk management with poor business management and will punish companies that experience risk management failings over and above expected losses.

ERM capabilities are now a potential source of competitive advantage for companies that do it well. Business collapses of the early 2000s drew laser-like attention to the quality of internal control and corporate governance of business in the United States and across the world. Regulators have come down hard on risk management failures, with the **Sarbanes-Oxley** (Sarbox) regulations on accounting and disclosure the most high profile of a number of new measures.

Compliance isn't cheap. According to a study by research firm **CRA International**, a business consulting firm, in the first year of Sarbox implementation for companies with market capitalization of at least US\$700 million, the average direct cost of Section 404 relating to internal control management was \$8.5 million. For public companies with market capitalization between \$75 million and \$700 million, the average cost was around \$1.2 million for just the internal control piece of the risk management puzzle. Not surprisingly, given these figures, investment in risk management systems and processes has skyrocketed in the last five years. >>

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Case Study ABC Solar Cells

EDITOR'S NOTE: THE FOLLOWING IS A COMPOSITE CASE STUDY AND IS INTENDED FOR ILLUSTRATIVE PURPOSES ONLY.



ABC Solar Cells produces solar panels. Based in Nevada, it's a subsidiary of a large conglomerate that has industrial interests in, among other things, silicon chips and specialized energy equipment.

Solar panels are produced largely from low-quality silicon, but most manufacturers of silicon are focused on the high-quality market, supplying product to integrated circuit manufacturers. The market for high-quality silicon was in extremely short supply as a result of the high-tech boom over the last few years. At the same time, the market for solar panels was also very tight, driven by demand for alternative energy sources, mainly in Europe.

ABC's main customer base is in Germany, but it does supply some product to local solar panel distributors.

ABC sources much of its supply from three U.S. manufacturers of industrial silicon. All three of these suppliers are unreliable to differing degrees, and both product quality and price are extremely volatile. A number of silicon producers have identified the unfilled demand in the solar panel industry and have started to invest in plants to produce low-quality product, but it will take two years for this supply to come on stream. Forecasts show that the supply of solar panel-quality silicon in 2007-2008 will dramatically increase.

ABC's parent company, under pressure from the markets to explain its strategy more succinctly, embarked on an ERM

project in order to better understand the businesses it was in and if they complemented each other. As part of this project, ABC's CFO first undertook a risk identification process to identify which risks were the biggest threats to the company's strategic objectives.

A shortened list of risk priorities:

- silicon supply volatility
- silicon price volatility
- fluctuations in the value of the euro
- demand volatility and market risk as dynamics of supply change

With this information, the CFO's team structured a stochastic model designed to provide insight into how the various risk issues were likely to impact the company's results going forward under various scenarios. The model gave senior management a number of ideas about how the market was likely to change over the next few years and how these changes would impact the company.

There were a number of results from the exercise, some dramatic, and others less so. The first thing management did was to put in place a hedging program to manage the company's exposure to fluctuations in the value of the euro. More significantly, ABC collaborated with its sister company, which produces silicon chips, to buy a silicon plant that could easily be adapted for steady supply of both chip-quality and solar panel-quality silicon.



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While the investment in risk management systems and processes is vital, CEOs discover they may be wasting money unless they also create a risk-aware culture. Large risk management failures and corporate malfeasance are much less likely to occur in cultures that encourage responsible and accountable risk-taking on a foundation of sustainable values.

What becomes clear after thinking carefully about ERM is that the process of integrating credit, market, portfolio, control, people, and culture risks into a credible enterprise-wide framework both helps in the shaping of strategy as well as its achievement on a smarter and more analytical basis.

Applying ERM Tools

The strategy process should include a hard-nosed assessment of where an organization thinks it can create value. When planning for business, management needs to think about the forces (risks) that can impact the profitability and viability of the business, and whether those forces represent more downside risk than upside reward.

The best companies create a clear framework in which risk is acceptable, and are able to frame many of the crucial aspects of the organization within that—including corporate finance and capital management, people policies, and mission statements.

Because they were developed as risk management tools, ERM techniques go to the core of this challenge. ERM tools draw techniques from the worlds of statistics and actuarial science, corporate finance and the capital markets, and corporate risk management. They can be used at any level of granularity to assess business prospects. They include:

■ FORMAL PROCESSES FOR IDENTIFYING, QUANTIFYING, SOLVING, AND EXECUTING RISKS

By helping managers focus on the risks that have the biggest influence—both positive and negative—ERM processes provide a powerful way of ensuring that people are focused on the most critical issues, rather than fighting fires from day to day. These can be applied at the level of the individual project, at divisional level, or at group level.

■ PORTFOLIO RISK ANALYSIS

By applying ERM techniques to an organization's portfolio of businesses, management can identify diversification opportunities both inside and outside the company that may provide for more stable and

ERM Definitions Differ in **Emphasis**

Emphasis on risk control

COSO (The Committee of Sponsoring Organizations of the Treadway Commission): Enterprise risk management is a process, effected by an entity's board of directors, management, and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives.

Emphasis on creating value

Casualty Actuarial Society Advisory Committee: Enterprise risk management is the process by which organizations in all industries assess, control, exploit, finance, and monitor risks from all sources for the purpose of increasing the organization's short- and long-term value to its shareholders.

predictable performance. Is the sales impact of rising interest rates hedged to some degree by the impact on investment returns? Do the company's holdings in euros provide insurance against increasing European supplier costs? This kind of analysis enables companies to recognize sources of cash or capital drain, and the kinds of capital resources that companies will need to implement.

■ **ECONOMIC CAPITAL (EC) ANALYSIS**

EC is a common measure of the financial impact of a company's risk exposures as they unfold over time and in multiple scenarios. This technique enables companies to understand the real impact of risk on their capital structure and provides an indication of how much capital companies need to hold against risk for a particular business line. For example, banks and insurers are able to determine EC by running a dynamic stochastic model that simulates a company's financials over a range of possible scenarios and produces the minimum amount of capital that the firm needs to bear its risks.

■ **TREASURY RISK MANAGEMENT**

Combining capital markets risk management methodologies with ERM techniques and applying them to corporate treasury activities provides corporations with an effective

lens through which to view financial risk management. Commodity risk, interest rate volatility, foreign exchange, and other financial risk exposures lend themselves to extremely powerful modeling within an ERM framework.

ERM isn't easy. Understanding the risks facing your company, which risks pay for themselves and which do not, how they interact with each other, and where the company is most vulnerable, is easier said than done. At the same time, those organizations that are doing this work are finding that their understanding of their business blossoms, the value it adds to their strategic planning processes far outweighs the investment, and they have greater insight into how their company makes money.

ERM has benefited from a number of concurrent trends. Powerfully effective tools for corporate strategic planning have grown up from the differing worlds of actuarial risk management and capital markets risk management. Meanwhile, huge losses and bankruptcies across many different industries have given regulators an impetus to push for managers to understand and manage the risks they face. |s|

About the Author: Prakash Shimpi is enterprise risk management practice leader at Towers Perrin. He's the principal author of *Integrating Corporate Risk Management*, a practitioner's reference book on the convergence of insurance and capital markets.