CHAPTER 1

Operational Risk Management 101

An Executive Summary

THE ACCELERATED DEVELOPMENT OF OPERATIONAL RISK MANAGEMENT

Operational risk has been a challenge for financial service firms for years, but because of the infrequency of losses, it has not been recognized for its full potential until recently. Large loss events had occurred before. One-off events had caused both mass embarrassment and/or collapse, but they were widely considered to be extremely remote and perhaps even aberrations. Thus, operational risk didn’t attract such significant attention until the 1990s, when a series of life threatening or fatal operational loss events at a number of different financial firms caused reorganization, management shakeup or a refocus on control environments, and a new focus on operational risk. Even more noteworthy was that operational losses were occurring at high profile and respected firms in the United States and Europe (i.e., Barings, Prudential, Kidder Peabody), thus further underscoring the danger of ignoring this area.

This series of loss events, coupled with a changing risk landscape, has perhaps forever changed management’s perceptions and priorities. At one time, operational risk could be defined as an area characterized by frequent small and predictable events such as processing errors, reconciliation breaks, or system glitches, accompanied by the one-in-five-or-ten-year large system failure and loss, defalcation, or customer dispute. More recently, however, these larger loss events have become far too commonplace and visible in the industry news for management’s comfort. Couple this with the advent of increased management and directorship accountability forced by legal actions against officers and directors and a chain reaction has been set in motion.
Recent trends in business complexity, highly visible operational losses, and the need to manage risks associated with them have given rise to a new field called operational risk management (ORM). Many of its underlying component parts, like the existence of various control functions, have been in place for years. There is a new recognition, however, of the importance of identifying, understanding, and measuring operational risks more intelligently, as well as weaving an effective web of approaches to managing them given their complexity and potentially devastating impact on firms today.

Management, bank boards, and regulators have been forced to ask questions like, “What else besides credit and market losses can put our firm at substantial risk? What is operational risk? How do we define, measure, and best manage it? Can we hedge it? Perhaps we should be thinking more holistically about risk on a truly enterprise-wide basis so we are not blindsided in the future.”

This chapter is an overview—an executive summary, focused on key trends in operational risk management, as well as on the changes in the underlying risk factors that could well serve to increase the focus even further. It covers executive management needs and perspectives, ORM trends to date, the ORM upside opportunity, risk assessment, performance measures and risk finance. Last, it includes a brief overview of Bankers Trust’s early work on operational risk measurement, including our advancements on operational risk-based capital, and in the general implementation of operational risk management. As a credited pioneer in operational risk management, the work of Bankers Trust (BT) on risk measurement and risk financing still remains a beacon of insight and innovation even today.

**EXECUTIVE MANAGEMENT NEEDS AND PERSPECTIVES**

In the wake of headline losses and business and technology changes, chief executives and senior managers at the best firms have concluded that they must:

- Understand more fully the extent of the impact of operational risk (i.e., risk identification and risk capital measurement).
- Obtain management information about operational risk: its sources and causative factors.
- Determine capital adequacy for operational risk just as they have done for market, credit, and liquidity risks.
- Effect risk response through clearly assigned ownership and responsibility for risk management.
- Provide incentives for risk management through performance measures such as risk capital attribution and links to incentive compensation.
- Make better-informed decisions about hedging or risk financing (e.g., risk reserves, insurance, and other financing techniques).
Combine the net impact of operational risk with credit and market risk potential for a firmwide view of risk and aggregated risk capital adequacy.

Balance risk management investment against upside from operational risk management efforts.

Before we begin to discuss the practical details of operational risk management, it is important that we dispel a common myth. (ORM Myth: “Risk Measurement = Risk Management.”) No one actually makes this statement, of course, but it is often implied. Many risk practitioners and consultants say risk management, when they are actually practicing risk measurement. Risk measurement is a subset, of course, of risk management (i.e., once you identify risk, you should evaluate, analyze, and measure it, before mitigating it through risk controls, and financing or hedging it). Although measuring risk adds much value in drawing attention for mitigation and management purposes, in isolation the measurement process does not have much value until the numbers are integrated back into management, for instance, and used in a performance management or behavior modification sense. Without a doubt, the most effective methods are those that have a direct impact on incentive compensation. For instance, quantifying the possible loss costs of weak controls in sales or trading systems is all well and good, but you haven’t achieved much unless you reduce or withhold a manager’s bonus until such time as the controls are strengthened.2

What are we actually going to do about the risk once we have identified it, understand it, and have dimensioned it? Here we want to look into the various types of control measures, behavioral modifications, and other means of mitigating risks that we are looking to minimize—or shed altogether—from the organization.3 The primary objective of risk mitigation is simple enough: to reduce the risk of operational losses. It’s the strategies, methods, tools, and style of implementation that make up the complex part.

It is also important to clarify a few key points about operational risk mitigation. Few, if any, have suggested that operational risk management subsume existing control infrastructures. So, a key part of the risk mitigation challenge will be to provide support and enhance the existing risk-control environment. To do this we need to do two things: First, create incentives for the business manager to improve upon control and behavioral risk-indicator results, thus improving the overall state of operational risk management in the firm; second, provide incentives to support existing functions, such as policy and procedures and internal audit, and link those to the numbers in operational risk management.4

However, we want to go even one better than that. The logical objective argument from a business manager’s perspective will be even more progressive,
and perhaps seem a bit radical relative to the traditional risk management perspective. Thus, armed with information, incentives, and leverage, we will support strategic decision making and strategic advantage. As such, we will be seeking to “turn” the firm’s risk profile into a competitive advantage.

THE REAL OPPORTUNITY: BUILDING MORE EFFECTIVE ORGANIZATIONS

Many people believe that operational risk only consists of a downside. That is unfortunate. The position goes something like, “If we can simply limit the losses caused by operational risk, then we will have fulfilled our mission and will be in a much better position overall.” Or, another perspective limits its sights on finding the most technically correct calculation of risk in order to minimize the impact of prospective regulatory capital charges by the financial service regulatory community. Although both are noble goals in and of themselves, and will contribute, there is a far greater cause here.

The opportunity is to propel the new strategies, tools and techniques forward to transform not just a part of risk management, but to fill an important gap in the management of business strategy and day-to-day business operations for an upside: enhanced shareholder value. We have arrived at a point in time that corporate strategy and shareholder value initiatives are in need of the very tools that are emerging in the operational risk management discipline. This direction is far more than just some grand scheme to elevate the stature and importance of operational risk professionals. In order to be successful, operational risk management needs to hold the attention of senior executives, managers, and staff alike if it is to achieve its own goals of risk mitigation. One might do so by focusing on critically important targets like shareholder value.

Throughout this book we will be seeking to take all of this operational risk management effort to yet another level, to lobby for the real endgame: to link with broader enterprise-wide strategies that are seeking to build shareholder value through more effective organizations. Few would argue against the notion that General Electric has created real shareholder value with its management and control initiatives grounded in its Six Sigma quality approach. Similarly, few would argue with the statement that J.P. Morgan enjoyed a stellar reputation for quality and integrity during the course of most of its storied history in financial services, or that firms like HSBC (Hong Kong Shanghai Banking Corporation) and The Bank of New York have created value for their shareholders through their own unique control-oriented styles. In the broadest sense, these cases are all examples of the optimizing benefits of operational risk management.
Peter Drucker introduced the world to results-oriented business and performance measures as early as the 1960s. Over time the best firms have continued to excel using performance measures. As risk management has matured, firms have begun to harness the power of risk-adjusted performance measures. And now, the challenge has become finding ways to leverage the risk–reward possibilities from more effective management of operational risks.

Some firms, particularly corporate entities, are already using Economic Value-Added (EVA) measures to determine true economic benefits. These can provide a foundation. For financial firms, Daily Price Volatility (DPV) or Value at Risk (VAR) have become common measures of risk and might seem like an obvious place to start. But when it comes to operational risk, daily or short-term variations would be extremely difficult to measure because many types of operational losses occur so infrequently. The basic idea of calculating exposure to operational risk makes good sense. Thus, the underlying concept of VAR over a longer term, of say one year, is much more relevant and compelling.

These measures become most useful for managing risk and influencing behavior, however, when linked to performance measures and incentives. It is only at this point in which we move from measuring risk to begin the process of managing risk.

At Bankers Trust, Risk-Adjusted Return on Capital (RAROC) was our primary risk-adjusted performance measure for many years. We completely overhauled our approach to Operational RAROC during 1991 through 1995 and reintroduced these models into production during and following the banks leveraged derivative transaction troubles during the first quarter of 1996. The models were based on long-term Value-at-Risk calculations in our risk measurement model (one-year time horizon, 99% confidence level).

The decision to develop measurement tools was an easy one. RAROC had been an applied concept at BT since the 1970s. And since its time horizon and confidence level characteristics are far more relevant to operational risk’s more gradual evolutionary tendencies, it served as an appropriate basis for our new operational risk models.

Our next challenge was to find an analogue for market price volatility. After some deliberation, we concluded that actual operational loss experience, and the variance of loss experience from expected ranges, would fit the bill. Observing actual losses at all firms in the global marketplace at large painted a valuable picture. The variance of losses from small routine errors, reworks, and claims, to larger scale failures, redesigns, and legal costs provided operational risk’s own unique picture of volatility.

One of our previously noted objectives was to confirm capital adequacy. Thus, we reintroduced our risk measurement model in a significantly
upgraded analytical format. Another objective was to support our risk-control environment. To meet this second objective we needed an incentive-based system. The concept of Operational RAROC seemed perfectly aligned with this objective. Under our system, operational risk capital was attributed to business units based on model measures of their operational risk profiles, thereby raising the performance hurdle for the business, and engineering operational risk management into the business managers’ agendas. A third objective was to support strategic decision making.

EMERGING OPERATIONAL RISK MANAGEMENT FUNCTIONS

There are at least five perspectives on operational risk management organizational structures emerging in the financial services community today. They include focus from that of risk management analytics and risk measurement, the control group focus, business line management teams, insurance risk management, and enterprise-wide multidisciplined operational risk management functions.

In this latter and broadest enterprise-wide risk management group, practitioners believe that the most effective operational risk management programs will select the most effective tools of all four of the analytics, control group, insurance risk management, and business risk measurement groups. They intend to apply those tools to dimensioning the size of the operational risk challenge, applying the most effective risk management and risk control tools, and also monitoring risk drivers and indicators. They will use these tools—key risk indicators, scores, event data, analytics, and management information systems (MIS)—like warning lights for the business manager pilot in the cockpit, with an objective of creating a comprehensive operational risk management program. Taken together, information from all of these efforts contributes to what we have begun to refer to as a firm’s operational risk profile.

This optimal blend of objectives, strategies, methods, and tools is poised to emerge as accepted industry practice, and thus is important background. Exhibit 1.1 outlines some of the progress and emerging trends in operational risk management.

ORGANIZATIONAL FRAMEWORK FOR OPERATIONAL RISK MANAGEMENT

Most risk practitioners live by the principle that responsibility for risk management should reside with those in the best position to manage it. This generally dictates that line management own the risk and is held accountable for its management. In practice, however, risk management is addressed by a part-
The best firms are making heroic strides toward risk definition, data
collection, aggregation, and first-level analysis.
Some of the key trends include:

1. Enterprise-wide risk management and operational risk recognition are on
   the rise.
2. Early consensus is beginning to emerge on the definition of operational risk.
3. Companies and risk managers have recognized the value of operational
   risk data and creating internal risk loss event database systems.
4. External commercially available databases have become available.
5. Corporations have begun to set up internal accounting codes to trace
   losses resulting from operational risk.
6. Firms have begun to track risk issues on both corporate and business
   line levels.
7. Organizations use external risk data (commercial vendors) to
   supplement their internal risk loss data for statistical analysis in support
   of experimental risk capital calculations.
8. Regulators are beginning to impose industry standards and guidelines
   for handling operational risk, data, and capital.
9. Risk mitigation is being enhanced through the interpretation of
   operational risk data.
10. Incentives are being developed for operational risk management through
    performance measures such as risk capital attribution and links to
    incentive compensation.
11. Insurance risk managers recognize that they too will need operational
    risk data for effective evaluation of insurance and risk finance hedge
    structures.
12. New risk information measures and technology applications have begun
    to emerge for improved operational risk management decision making.
13. Firms are recognizing that there is an upside value to managing
    operational risk!

EXHIBIT 1.1 Operational Risk Management Trends to Date

nership between line and corporate management. Line management should
have the responsibility for strategy and day-to-day management of operational
risk, both expected and unexpected. In contrast, corporate management is usu-
ally in the best position to capture an enterprise-wide perspective of the firm’s
risk profile, including the larger scale impact of operational interdependency
and concentration risks, and capitalize on economies of scale in hedging the
risk. Thus, a corporate (or group) risk management function should add sig-
nificant value by sharing perspective (and analytics) on the bigger picture with
line management who must manage it on a daily basis.
From both a corporate and business line management perspective, generally speaking, the contribution to risk management can be categorized in two ways. One is in providing a businesswide or firmwide *process and framework* that is needed to assure consistency in approach. At both line management and corporate levels, this role generally involves policy setting, developing risk management standards, monitoring, and portfolio management (of data or of hedges, etc.) of measuring firmwide operational risk capital. The second is a *transactional role*, such as active involvement and consultation in deal review because of specialized knowledge (e.g., of risk management techniques such as contract engineering, or of insurance and risk finance, for instance, at the corporate level). In short, the two dimensions—process and transactional—lessen the danger that a centralized operational risk management function might either find itself too detached from the firm’s business flow or miss the big picture (e.g., tail risk).

**OPERATIONAL RISK ASSESSMENT AND MEASUREMENT**

Risk assessment and risk measurement are fundamental in the initial steps of the process. Understanding and measuring the risks are key. Because of the difficulty in measuring operational risk, however, a balanced qualitative and quantitative approach is necessary in order to achieve a complete picture of the risk.

Scenario analysis is an important *qualitative* strategy. The objective is to come up with forward-looking scenarios and then do the scenario analysis itself. One way to do this is to use the Delphi technique. This consists of pulling a number of people that represent the area, along with experts from the field, into a room together to get their opinions on what may go wrong.6

An effective *quantitative* technique that can be valuable is using statistical and actuarial projections to come up with a number, or series of numbers, that represent the loss potential. Risk capital calculations would then use those numbers as a means of representing the risk to the firm’s capital structure, should they occur in either the “normal” expected loss sense or the extreme or catastrophic loss scenario.7

A third component is the use of an operational risk management information system (ORMIS) that draws useful qualitative and quantitative information about all the different types of variables and risk indicators, whether they are people-related, technology-related, tracking issues, loss incidents, or actual losses themselves.8

**OPERATIONAL RISK DATA AND INFORMATION**

Information is the key to business operational risk management. Operational risk information is becoming critically important for both business line management and at corporate levels at many financial firms. In fact, it
is becoming clear that in looking ahead some of the most successful risk managers will be adept at collection, analysis, and presentation of relevant risk information, balanced with effective hands-on risk mitigation measures.

At the outset, one must recognize that he or she is confronted with unique challenges in managing operational risk. The first, and most significant, problem is the availability of data, not to mention information, in usable formats. With the exception of relatively small loss events, most of which represent processing risk (e.g., errors, outages, system glitches), data on larger and “unexpected” losses is not readily available. This is either because they have not occurred, have only occurred very infrequently, or that have not been documented and collected. Second, most organizations that have attempted to measure their own operational risk have done so in a vacuum and thus are only working with their own firm’s (hopefully) limited experiences with operational losses. This yields an incomplete picture at best (i.e., an insufficient statistical sample). Third, although loss events can be dissected, post mortems conducted, and lessons identified, at best the exercise results in observations of circumstances that were in place prior to, and at the time of, the loss. The relationship between cause and effect has all too often not been proven statistically. Neither have control variables been proven statistically. Thus, in both areas there is room for data collection and correlation analysis.

The data challenge caused us to create some of the first operational loss databases to support our early modeling efforts (see Chapter 10, “Databases and Consortia,” and Chapter 16, “Economic Risk Capital Modeling”).

**RISK MEASUREMENT: TYPES AND CONCEPTUAL FOUNDATIONS OF MODELS**

From a modeling standpoint, an obvious difference between operational risk and credit or market risk is the availability of data. For the more liquid financial markets, price data for market risk measurement are plentiful. For credit risk, although default and other data may not be nearly as plentiful, they have been more so in recent years. In contrast, operational data, predictors, and models are still in their relative infancy. Another challenge in operational risk modeling is the need to represent tail risk in such a way that makes a convincing case with a business manager for its importance.

In response to managers’ desire for a full and complete view of firmwide risk at their firms, operational risk must be represented on terms comparable to market and credit risk. Thus, before beginning any modeling exercise, a key consideration will be to achieve a result that can be aligned with other risk disciplines. The last thing you want to do is find yourself in a modeling vacuum. Thus, successful risk practitioners have worked to align with credit and market risk measurement to find a common language.
There are a number of possible conceptual foundations for operational risk modeling, of course. As examples, one could make a case for one or more of the following:

- **Economic Pricing Models:** These base forecasts on economic models. One such operational risk model uses the Capital Asset Pricing Model (CAPM) to suggest a relative distribution of pricing of operational risk among the other price determinants for capital.

- **Scenario Analysis/Subjective Loss Estimate Models:** Used to capture diverse opinions, concerns, and experience/expertise of key managers and represent them in matrix and graphic form.

- **Expected Loss Models:** Simplistic models based on expectations of loss and derived by a multiple of expected frequency and expected severity.

- **Statistical/Actuarial/Loss Distribution Loss Models:** Actual loss data are used to construct representations of loss frequencies and severities in the form of statistical probability distributions. Simulation techniques are then used to combine the distributions in modeling expected losses for the future.

- **Factor-derived Models:** Apply loss and/or causal factors to build a bottom-up prediction of loss expectancies. For instance, these models are being applied in operations and processing units in conjunction with Baysean Belief Networks and Value at Risk.

In most cases the best firms will conclude that a combination of model types will yield the best results. This was our conclusion at Bankers Trust after having experimented with several of the model types above in the 1980s and early 1990s.

**PUTTING INSURANCE AND RISK FINANCE TO THE TEST**

When structured properly, insurance and risk finance programs will serve as an economic hedge for operational risks. As a first step in applying them, however, we must break out of insurance conventions and insurance-like risk classes that drive many risk finance and insurance programs, with all of their Definitions and Constraints. Operational risk-based capital provides some with a conceptual escape. That is, it forces the practitioner to work with a broad definition of operational risk (e.g., loss from people, process, systems and external events), not more narrowly-defined insurance risk, classes. Insurance convention forces a risk practitioner to think in classes like Blanket Bonds with their very specific definitions of crime risk, for instance, rather than starting more broadly
with all the possible sources of crime or fraud losses. The same is true with technology and processing risk, and so on.

**Risk Finance Objectives**

In order to keep the value of risk finance and insurance in perspective, we cannot lose sight of two key objectives. Most financial firms arrange for risk finance and insurance programs for two key reasons, even though they might not identify them explicitly. These are either (1) to protect their earnings, or (2) to protect their balance sheet, or perhaps (3) both. Nonfinancial corporate firms might also arrange for risk finance and insurance to protect cash flow or liquidity, but that is often not necessary as a prime objective for financial entities.

Ironically, these key objectives also find themselves at the nexus of contention between insurers and insureds when one relies on insurance alone to hedge risk. That is, there are timing problems with regard to traditional insurance claim settlements and loss accounting periods. In addition, traditional insurance limits have not provided true catastrophe protection.

**Risk Finance and Insurance Performance**

Based on several different surveys of our database of industry losses, we found that aggregate insurers’ coverages respond to only about 20 to 30% of OR losses. (Because of the complexity of insurance terms and conditions, it is difficult to settle on a precise rate of performance.) To achieve the higher end of that range you must assume that payments would be made in cases where the claim situations contained one or more parts that might be problematic from a claim perspective (i.e., might run afoul of policy terms, conditions, or exclusions). This is probably an unlikely assumption, indeed.

The winds of change are beginning to blow, however. Already some insurance underwriters (e.g., at Lloyds of London, in continental Europe and the United States) are beginning to entertain more holistic and coordinated insurance approaches for operational risk classes, rather than just for insurance classes. In addition, capital market solutions have been explored to bring increased limit capacity to the traditional insurance markets.

Thus, a more comprehensive result for risk finance strategy at a financial firm might involve “earnings protection” or loss accounting smoothing at relatively low levels of risk; attempts at improving the timed alignment of accounting treatment for losses and recoveries; and targeted large loss structures as a start toward “balance sheet protection.”
ACHIEVING A FULLY INTEGRATED FUNCTION

An organization derives several key benefits from using a fully integrated approach to Operational Risk Management (ORM). The organization is able to:

■ Create forums for collaboration by getting different groups to work together
■ Measure exposures more completely
■ Develop incentives for productive behavior
■ Clarify transaction and deal flow
■ Streamline internal risk controls, eliminating redundancy
■ Derive value from management information systems (MIS) by using them to support operational risk management

By definition, these activities are collaborative between corporate, or group level, and business line level. Internal Audit, in contrast, differs by its necessary independence and arms length. Key sources of enterprise-wide operational risk data are varied: loss data and analysis, qualitative self-assessment or risk assessment, and process risk assessment—from throughout the firm. Many are paper-based today but will be automated with loss and data capture. For process-risk analysis of key performance and risk indicators, at both a business level and firmwide, the key is integrating that data and making it available to corporate and business managers.10

DYNAMIC AND INTERACTIVE RISK MANAGEMENT

Some aspects of operational risk management have already become abundantly clear. For instance, one-dimensional and territorial operational risk management thinking and tactics are destined to fail. The complex operational risks of today demand a flexible series of multidimensioned solutions working in tandem. We will be far more effective as risk managers if we recognize this and blend a number of the tools and initiatives—from risk indicators to qualitative risk assessment, from issues tracking to quantitative analysis, and from risk systems to risk finance—into a mosaic, not exclusively as individual tiles of limited individual interest and value.11

OPERATIONAL RISK MIS AND TECHNOLOGY

In addition to modeling operational risk, there is much to be said for simply improving on the availability of information about operational risk information for management decision making. For instance, much value can be gained by simply reporting on some or all of the following:
Losses and loss cause analyses
Linking analyses to outstanding control issues
Specific risk variables/indicators (e.g., compilation of extensive technology or other risk class data)
Risk class/concentration-of-risk representations
Identification of candidates for incentives and accountability
Risk factor comparative and trend analyses
Risk finance coverage alignments
Impact on the balance sheet and the P&L (profit and loss)

Technology will be the essential mortar needed to aggregate, cement, and simplify all the pieces in place, thereby linking all of the functional areas, initiatives, and data sets, both hard and soft, firmwide. Aggregated operational risk reporting will become commonplace, much as portfolio market and credit risk reports have. Because of the softer issues involved, like the vagaries of human behavior (i.e., people risk), however, a mix of tools will be needed to represent operational risk fully. The risk complexities will also require more effective risk management programs to link initiatives and variables together not just periodically, but continuously, and with the speed of “Internet time.”

REGULATORY DEVELOPMENTS

One noteworthy development is the relatively rapid series of releases on Operational Risk Management by the Basel Committee’s Risk Management Group (RMG) from September 1998 to the present. To quote the first such document, “managing operational risk is becoming an important feature of sound risk management practice in modern financial markets,” and the BIS “encourages banks to share with their supervisors the development of new techniques to identify, measure, manage and control operational risk.” Certainly, the Basel Committee was not finished. At the time of this writing, there are several proposals on the table to levy a regulatory risk capital charge for operational risk, as outlined in the committee’s January 2001 release.

CONCLUSION: WHERE ARE WE NOW?

We are at the precipice of a new risk management frontier with operational risks and clearly there is still much farther to go. Perhaps the situation can be summed up as follows. Recently, when asked if he had come up with a way to allocate economic capital for operational risk, the vice-chairman of one major U.S. bank responded, “We’re trying.”

Leading up to and in the wake of the January 2001 release from the Basel Committee, risk managers have clearly been trying, and in the process
groping for definitions, data, and tools. In its broadest definition, operational risk represents the danger posed by potential disruptions in service or resulting damage to an institution’s reputation, revenues, or productivity. Whether the operational risk event is a failure in internal controls, information processing, or is a result of malicious or fraudulent actions by individuals, or any other unpredictable events, risk managers already know that measuring and managing it will take a dedicated effort to persevere. To have any real power in this area, risk pioneers will have to develop a framework to explicitly identify, measure, and monitor operational risks. In most cases this implies updating existing data resources, risk structures, and risk-tracking procedures.

Operational losses have become more visible and painful, operational performance demands are greater than ever, the Basel Committee will require an explicit capital charge for operational risk, and management and shareholders are demanding answers.

It seems clear that understanding the history, the issues, the emerging analytics, and the relevant management structures and styles will all be key to progressing the topic. Thoughtful objectives and firmwide program implementation are all too often omitted, however, from the debate that has gone on in the last several years about the definition and measurement of operational risk. There has been far too little discussion about setting objectives, understanding the risks, and understanding how broad or narrow the scope of mitigation efforts and the program is overall. It is critically important to turn these conflicting objectives into opportunities: opportunities to reduce risk at both a business/product/profit center and at a corporate or firmwide level, while at the same time understanding risk and control and behavioral issues throughout the firm.12

Clearly the direction that an individual firm will take on the management of operational risk will depend on the style of its management and the firm’s overall culture. Whether it places all of its emphasis on more granular audit-based control systems, blends them with risk measurement and incentive systems at a higher firmwide level, or introduces softer, perhaps less measurable risk factors, all depends on their expected impact in influencing human behavior in a positive risk management way.

Dynamic and integrated risk mitigation will be key; measurement and modeling should be only one piece of the overall operational risk management puzzle. But now, more than ever, in the midst of regulatory capital-at-risk discussions, if we are not careful, their relative value can be blown out of proportion in operational risk programs. We want to strive for fully integrated operational risk management systems and programs firmwide and at all levels, and along with them, more effective and competitive organizations for our stakeholders.13

We can certainly expect a greater emphasis and investment on data collection and analytics, with a view toward more heroic attempts at building
operational risk models for measurement, analysis, and management of these risks. Senior managers are seeking better definition and better MIS. Thus, risk information will also be key and performance measurement tools will be essential in creating incentives/disincentives for effective risk management behavior.

On the regulatory front, because of the stakes involved, it is simply a matter of time before operational risk measurement and management is much more closely scrutinized on a regular basis, and discrete regulatory capital will become a requirement.

Organizationally, firms will have to invest in operational risk management groups and analytics. The challenge will be in coalescing teams of people schooled in the broad range of disciplines represented by the underlying operational risks.

Last, there are encouraging signs that the financial and insurance markets will continue to evolve toward providing more effective “hedges” for broader areas of operational risk than has been addressed by the insurance markets alone in the past.

The precise direction that risk practitioners responsible for operational risk modeling, measurement, management, and risk finance will take in future months and years is unclear. What is clear, however, is that operational risk itself can be expected to grow in size and complexity given the anticipated evolution of systems and the increased interdependency of organizations. And if recent industry losses are any indication, the need for risk management will continue to evolve along with it.

All of these trends make for interesting times ahead. In the following chapters we will explore all of these concepts more fully.