

Demystifying Operational Risk

Toronto 2007



A Comprehensive Two-Day Interactive Seminar

*Led by Ali Samad-Khan, President, OpRisk Advisory ;
Special Guest Speakers, Jan Voigts, Federal Reserve Bank of New York;
Samir Shah, Principal, Towers Perrin*

October 2-3, 2007
Toronto, Canada

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Dear Executive,

How well do you understand the core issues and concepts in operational risk management (ORM)? Would you like to know more about the following:

- What is the true meaning of “risk?” Is there more than one definition? If so, which definition(s) is/are appropriate in the context of modern ORM?
- What exactly is risk and control self-assessment (or RCSA) and how should it be implemented? Should risks be assessed before controls, after controls or in the absence of controls; should risks and controls be assessed jointly or independently? How can one objectively assess risks and controls on a consistent basis? What are the pros and cons of the different approaches?
- What is risk tolerance? Who determines the level of risk tolerance for a firm and how should it be determined? How does one ensure that a firm’s ORM strategy is truly in line with its stated risk/loss tolerance? How does a firm consciously manage the trade-off between actual risk levels and control quality in the context of cost-benefit analysis, and to what extent is this necessary to manage operational risk?
- What is scenario analysis? How can scenario based risk self-assessment, disciplined scenario analysis, scenario loss data generation and/or stress scenario contingency planning be used to measure operational risk exposure, identify potential control weaknesses and/or address the broader risk management objectives of the firm?
- An holistic ORM program requires both qualitative and quantitative information, but how can one integrate risk self-assessment, control self-assessment, internal loss data, external loss data, VaR modeling, scenario analysis, audit issues, indicators, etc. into a common framework that supports managerial decision making?
- How can one use actuarial science techniques to model operational risk? Can one objectively use external loss data in modeling when these data are affected by biases in reporting and by idiosyncratic factors such as size, controls, culture, geography etc? What assumptions underlie the mathematical techniques currently used to address these issues? What are the pros and cons of using “expert judgment” instead of empirical methods?
- Is your institution keeping pace with the evolving standard for industry best practices? What is likely to be on a bank examiner’s “use test” checklist to verify compliance with Basel II and what programs do you need to put in place today to pass this test in the coming years?

Whether you are a seasoned risk professional or just getting started in this field, this training event will be an invaluable experience. Recognizing that modern ORM is an evolving discipline, our approach is to begin not by searching for answers to existing questions, but instead to probe the issues in order to identify the relevant questions. Rather than prescribe a specific approach, we describe the pros and cons of the various alternatives to help you identify the optimal course of action for your institution. The comprehensive knowledge you will gain during this seminar is not available in any books or other reference materials or at any other conferences on operational risk.

Register now by calling Towers Perrin at + 1 416 960 7552 or by returning the form on page 6.

Best Regards,



Understand the Fundamentals of Operational Risk

- Defining & Classifying Risk
- Risk Tolerance
- Risk Assessment
- Control Assessment
- Integrated Framework
- Expected Loss
- Unexpected Loss
- Key Risk Indicators & Predictive Analysis
- Scenario Analysis
- Value at Risk (VaR) Modeling

Who Should Attend?

- Chief Risk Officers
- Operational Risk Department Heads
- Operational Risk Department Managers
- Central Bank Policy & Examination Staff
- Operational Risk Software Providers
- Lawyers, Compliance Officers & Auditors
- Insurance Brokers

And anyone else directly or indirectly involved in managing operation risk

REGISTER TODAY

CALL +1 416 960 7552

8:00 Registration & Morning Coffee

8:30 Welcome & Introductions

9:00 Modern ORM & Basel II – General Principles & Regulatory Requirements

What exactly is modern ORM, how did it evolve and what is its relevance beyond regulatory compliance? In this introductory session you will learn the principles underlying modern ORM as well as the key aspects of the Basel II accord (including the primary Pillar I, II and III requirements). In this session you will also learn what the regulators expect from banks and what specifically your organization needs to do to demonstrate compliance under Basel II.

9:45 Revisiting the Definition of Operational Risk

Is risk a type of loss, a measure of damage, or something entirely different? Is risk exclusively a bad thing? Before you can manage operational risk you need to understand what risk really means and how use of this term in casual conversation differs significantly from its formal usage. In this session you will learn the true nature and meaning of the word risk, the fundamental characteristics of operational risk as well as the differences in definitional standards used by the accounting and risk management professions.

10:15 Morning Break

10:30 Defining & Classifying Operational Risks

A structured approach to ORM requires a sound classification framework. But this is a significant challenge because operational risks span causes (lack of supervision), events (fraud) and consequences (lawsuits). How can one incorporate all these elements into a single comprehensive definition and how will doing so facilitate better managerial decision making? In this session you will learn the fundamental issues surrounding loss data classification, the evolution of thinking in this field over the past decade, the different approaches used as well as which methods best support an advanced measurement and management framework.

12:30 Networking Luncheon**1:30 Understanding Risk Assessment Issues**

Organizations have been conducting risk assessments for decades, but are the traditional methods valid in the context of modern ORM? There are many issues to consider. For example, do traditional and modern ORM follow the same risk definition? Should risks be assessed before controls, in the absence of controls or after controls; should risks and controls be assessed jointly or independently? How can one use loss data and other information to improve the robustness of the risk and control assessments? In this session you will gain a solid understanding of the underlying issues in risk assessment and the pros and cons of the different approaches.

2:30 Understanding Control Assessment Issues

After identifying and assessing its major risks an organization needs to assess the quality of its corresponding internal controls to determine whether it is over-controlled, under-controlled or adequately controlled in the context of its risk appetite and risk tolerance standards. But assessing controls is a very subjective process. How can one make this process more objective so that the results are meaningful and can be turned into metrics to be monitored on a continuous basis? In this session you will gain an understanding of the issues one has to address in developing a viable control assessment program.

3:15 Afternoon Break

3:30 Integrated ORM Framework

An holistic ORM program requires both qualitative and quantitative information, but how can one integrate risk assessment, control assessment, internal loss data, external loss data, VaR modeling, scenario analysis, audit issues, indicators, etc. into a common framework that supports managerial decision making? In this session you will learn how to create a common structure for analyzing this information in a uniform (normalized) view, which is easy to understand, and which can be used to monitor risk and control levels as they change over time.

**4:15 Daily Summary
Conclusions
Question & Answer****4:45 Closing Comments & Adjourn Training**

8:00 Morning Coffee

8:30 Review of Topics Covered on Day One

9:00 **What are Expected & Unexpected Loss?**

There has been a lot of discussion in the industry about how to define and calculate expected loss and unexpected loss and there are many opinions on the subject. Some believe that expected losses are the smaller losses and unexpected losses are the larger losses. Clearly, these definitions are not very practical, because it would be very difficult to determine the point at which a loss becomes large enough to move from the expected to the unexpected realm. In this session you will learn what these terms mean and why they are important in the context of pricing and budgeting.

9:45 **Understanding Risk Indicators & Predictive Analysis**

Many believe that identifying and monitoring predictive risk indicators is a prerequisite to proactively managing operational risk. But those who are familiar with such information know that legitimate risk indicators are few and far between. In this session you will learn how to identify and validate such indicators and how to transform raw and derivative indicators into metrics that support the effective management of operational risk.

10:30 Morning Break

10:45 **Understanding Loss Data Issues**

Historical loss data is the only objective source of information on operational risks, but internal loss data is often insufficient and external loss data is often irrelevant. In this session you will learn about the four types of loss data (internal data and external public, consortium and insurance data), what are the advantages and disadvantages of using the different types of loss data, how to establish a program for collecting internal loss data, whether to acquire external loss data and which vendors have the best products, what are the many uses and misuses of historical loss data, how to scale external loss data to the size of your organization and many other valuable lessons.

12:00 Networking Luncheon

1:00 **Measurement Options: Models & Scenario Analysis – A Conceptual Overview**

Measuring operational risk is a huge challenge. Traditional models require significant amounts of data, but in ORM very little data are available. Consequently, a variety of approaches have emerged, ranging from pure actuarial models and hybrid models, to measurement methods that rely on risk self-assessment and expert opinion, to methods that use scenario generated loss data. Which of these methods are theoretically valid and which are practical or feasible in the context of ORM? In this session you will learn what approaches are commonly used today, their underlying assumptions, how they compare conceptually and practically as well as the pros and cons of each alternative.

2:00 **VaR Modeling: Issues & Alternatives, Theory & Practice**

What key issues need to be addressed when modeling operational risk under an actuarial approach? What are the fundamental assumptions underlying actuarial theory and how can they be applied to ORM? Can one reasonably “fit” operational loss data to the traditional frequency and severity distributions? What systematic biases exist in external data (e.g., size, controls, high threshold, data capture) and how can they be overcome? How can one combine internal and external data and how much data are required to estimate VaR at a 99.9% confidence level? In this session you will learn the practical aspects of modeling using objective, theoretically valid methods.

3:00 Afternoon Break

3:15 **The Evolution of Industry Best Practices in ORM**

Banks are currently following a wide variety of approaches to managing operational risk. What’s driving this diversity in views? And, where there is commonality in thinking, has the industry really converged to the “right” standards? What are the evolving trends both in terms of industry best practices and bank regulation? In this session you will learn what leading institutions and regulators have learned about ORM during the past ten years and what impact this will have on the future direction of the industry.

4:00 **Daily Summary
Conclusions
Question & Answer**

4:30 Closing Comments & Adjourn Training

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Demystifying Operational Risk Toronto 2007 will be hosted at the office of Towers Perrin, 175 Bloor St. East, South Tower, Suite 1701, Toronto, Ontario M4W 3T6 Canada.

A limited number of rooms have been blocked at the Toronto Marriott Bloor Yorkville Hotel, 90 Bloor St. East, Toronto, ON M4W 1A7. To make a reservation please contact Amra Hosein, tel: 416 960 7552, Email: amra.hosein@towersperrin.com.

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Founded in 1991, with offices in North America, Europe, and Asia, MEGA International has more than 45,000 software licenses worldwide and delivers more than 20,000 consulting engagement days per year. Clients include Cardinal Health, DIRECTV, GeoEye, Los Alamos National Laboratory, Michelin, Morgan Stanley, National Defence Canada, Nissan, US Department of Agriculture, US Department of Transportation, US Transportation Securities Administration, and Wyeth.



Ali Samad-Khan is President of OpRisk Advisory. He has ten years experience in operational risk measurement and management and more than twenty years of experience in financial services. Ali has advised more than fifty of the world's leading banks, insurance companies, energy companies and regulators on the full range of operational risk measurement and management issues. Key elements of his framework/methodology have been adopted by dozens of leading financial institutions worldwide and have also been incorporated into the Basel II regulatory guidelines.

Prior to founding OpRisk Advisory, Ali was President of OpRisk Analytics LLC, which was acquired by SAS. Previously he worked at PricewaterhouseCoopers (PwC) in New York, where he headed the Operational Risk Group within the Financial Risk Management Practice. He has also worked in the Operational Risk Management Department at Bankers Trust as well as at the Federal Reserve Bank of New York and the World Bank. He holds a B.A. in Quantitative Economics from Stanford University and an M.B.A. in Finance from Yale University.



Jan H. Voigts is a Supervising Examiner at the Federal Reserve Bank of New York (FRBNY) and has 29 years of experience in central banking and bank supervision. He currently serves on the Operational Risk Governance team at the FRBNY which has oversight responsibility for the implementation of the Basel II Advanced Measurement Approach for financial institutions operating in the USA.

Jan has extensive examination experience with both domestic and foreign large complex banking organizations, which includes: capital markets, payments & settlements, custody, information systems and technology and anti-money laundering. He has led numerous investigations and has contributed directly to the formation of various laws and regulations. Jan is also involved in technical assistance missions dealing with operational risk internationally.



Samir Shah is a principal of Towers Perrin and leads operational risk services for the firm's enterprise risk management (ERM) practice. He leads development of tools and methodologies for managing operational risks, including specific approaches for quantifying business and event risks. Mr. Shah is the author of numerous publications and monographs on ERM and operational risk management. He is a Fellow of the Society of Actuaries (FSA), a Financial Risk Manager (FRM) certified by the Global Association of Risk Professionals and a Professional Risk Manager (PRM) certified by the Professional Risk Managers International Association. He holds a B.S. and M.S. in industrial engineering, specializing in operations research and management science, from Northwestern University.

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Registration Fee

	Price
Price for two-day seminar (including 6% GST)	C\$2120
Discounted price if booked before September 7th	C\$1908

Your registration fee includes morning coffee/juice, morning refreshments, lunch, afternoon refreshments and a set of seminar materials.

Special Group Rates

We offer special discounts for groups of three or more persons. For more information, please contact Amra Hosein at amra.hosein@towersperrin.com or +1 416 960 7552.

Registration Form for Demystifying Operational Risk: Toronto 2007

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Cancellation: A refund (less a C\$200 administration fee) will be made if formal notice of cancellation is received two weeks prior to the date of the event. We regret that no refunds will be made after that date. Substitutions can be made at no extra charge. Disclaimer: The program may change due to unforeseen circumstances.

