



Risk Management Association  
“Understanding the Value of Scenario  
Analysis in Operational Risk”

Part I



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Agenda

- Agenda for Part I
  - Overview and Context
  - Scenario Analysis Overview
  - Scenario Analysis Objectives
  - Elements of Scenario Analysis
  - Structure for Scenario Analysis
  - Regulatory Requirements
  - Capital Calculation Requirements
  - Scenario Analysis Taxonomy



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Agenda (cont.)

- Agenda for Part II
  - Scenario Analysis Process
  - Scenario Analysis Execution
  - “An Example”
  - Scenario Analysis Template
  - Scenario Results
  - Uses of Scenario Data



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## Overview and Context

- Times of high volatility, such as what we are experiencing today, exposes weaknesses in a financial institution's control environment and frequently bring to light large losses due to operational risks.
- Often, the gaps have always been there, but were hidden by profitable times.



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## Overview and Context (cont.)

- It is during the high volatility times that financial institutions must be vigilant in identifying and correcting potential problem areas.
- This Web Seminar explains what scenario analysis is, how it works, its advantages and pitfalls, and the role of tools that facilitates its implementation.



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## Overview and Context (cont.)

- At the end of the seminar, the discussion will bring all these aspects together and focus on how to generate a measure of how much is at stake and how much institutions should hold to safeguard their businesses from extreme operational loss events.



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## Scenario Analysis Overview

- Scenario Analysis is a key component of an effective operational risk framework and allows senior management to consider the risk of extreme but plausible events.
- Predicting future operational loss events with precision is a challenging endeavour.



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## Scenario Analysis Overview (cont.)

- Scenario Analysis is the process a company undertakes to ascertain emerging risks for the purpose of influencing business decisions and establishing appropriate levels of Capital to cushion against extreme unexpected events (tail risks). Tail risks are generally described as catastrophic (e.g., terrorist attack) but can also include reputational damage and significant impact to the business cycle (e.g., financial crisis).



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## Scenario Analysis Objectives

- Evaluating the the impact of unexpected and extreme but plausible significant loss events (financial/non-financial).
- Developing business and operational plans to avoid or reduce the risk.
- Establishing a risk appetite for the company and business lines.
- Providing additional information for more precise Capital Modeling.



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## Elements of Scenario Analysis

- Evaluating historical internal and external loss events are the basis for establishing the predictive/forward looking risk discussions and are augmented by:
  - Self assessment processes,
  - Key Risk Indicators (KRIs),
  - Audit Findings,
  - Experienced manager input – Expert opinion, and
  - Current and future business predictions


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## Elements of Scenario Analysis (cont.)

- Identifying the emerging risks and determining the most appropriate course of action for avoiding, preventing, or responding to these events is critical.
- Enhancing managements' thinking about "what ifs" for events which have not yet occurred.


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## Structure for Scenario Analysis

- Garnering management support is an essential element is successfully developing the Scenario Analysis approach and includes the following:
  - management input and oversight,
  - communication,
  - research and preparation;
  - accountability,
  - validation,
  - measurement,
  - workshops, and
  - action oriented


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## Structure for Scenario Analysis (cont.)

- Identifying trends and potential emerging issues from a “Top/Down” (specific scenarios) and “Bottoms/Up” (historical data points).



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## Regulatory Requirements

- Regulatory requirements is that Scenarios are Transparent, Systemic, Credible and Verifiable.
- Basel II requires financial institutions to hold Capital against unexpected operational risk losses.
- Scenarios are required inputs of an AMA Framework. US regulators are concerned with the general subjectivity and qualitative nature of the Scenario Analysis process.



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## Regulatory Requirements (cont.)

- Solvency II references the use of Scenario Analysis as a component of the Operational Risk Management framework.
- Financial Services Authority (FSA) allows Scenario Analysis for calculating Operational Risk Capital.



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## Capital Calculation Requirements

- Basel II establishes three methodologies for an operational risk Capital charge:
- Basic Indicator Approach (BIA) and the Standardized Approach (SA) which are Factor Based approaches which are based on a Factor (%) of a Base Exposure (Gross Revenues).



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## Capital Calculation Requirements (cont.)

- Advanced Measurement Approach (AMA) is the Financial Services internal operational risk measurement system utilizing quantitative and qualitative data in a Loss Distribution Approach (LDA) (e.g., Loss Data, Scenario Analysis, and Business and Internal Control information).



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## Scenario Analysis Taxonomy

- Internal and External Fraud:
  - Internal Fraud (credit fraud, forgery, check kiting, intentional mis-marking of positions, unauthorized transactions, transactions not reported, embezzlement, forgery, insider trading. Bribes, kickbacks), and
  - External Fraud (theft/robberies, forgery, systems hacking, theft of client and/or corporate information)



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## Scenario Analysis Taxonomy

- **Employment Practices & Workplace Safety:**
  - Employment losses associated with Employee Relations (terminations, benefits, compensation)
  - Safe Environment (accident liabilities, workers compensation),
  - Diversity/Discrimination litigation


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## Scenario Analysis Taxonomy (cont.)

- **Clients, Products, & Business Practices:**
  - Fiduciary (appropriateness and suitability violations, account churning, breach of privacy, disclosure violations, KYC),
  - Improper Business or Market Practices (insider trading, money laundering, unlicensed activities, antitrust), and
  - Advisory (disputes over performance, exceeding client limit)


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## Scenario Analysis Taxonomy (cont.)

- **Damage to Physical Assets:**
  - Natural Disaster Losses, Terrorism, Vandalism
- **Business Disruption and System Failures:**
  - losses arising from disruption of business or system failures including hardware, software, telecommunications, utility outages


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## Scenario Analysis Taxonomy (cont.)

- Execution, Delivery, and Process Management:
  - Data Entry,
  - Accounting Errors,
  - Model and Spreadsheet Errors,
  - Inaccurate Disclosures,
  - Documentation shortfalls (e.g., collateral, loan), and
  - Client Account Management ( unauthorized access to accounts, inaccurate client records),
  - Vendors and Suppliers ( outsourcing, vendor disputes)



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## Part II – Implementing Scenario Analysis

- Agenda for Part II
  - Scenario Analysis Process
  - Scenario Analysis Execution
  - “An Example”
  - Scenario Analysis Template
  - Scenario Results
  - Uses of Scenario Data



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