



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


Part II






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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Scenario Analysis Process

- Select the level of Operational Risk Scenarios at the enterprise level (macro) and at the business unit level (micro).
- Determine the number of Scenarios to be performed (e.g., unauthorized trading, internal/external fraud, systems hacking, mis-selling, process failures)






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Scenario Analysis Process (cont.)



- Identify the Workshop participants including business management, risk, audit, compliance, technology, operations, and finance.
- Prepare the research information as the key input for the Workshops.
- Action Steps






Scenario Analysis Process (cont.)



- The events to be included in the Scenario Analysis are as follows:
- Expected Losses – events which are expected to occur within an annual financial cycle and a budget is established.






Scenario Analysis Process (cont.)



- Unexpected Losses – events which are not likely to occur and not included in the budget. Capital is held. The Scenario Analysis process should focus on quantification and time horizon.
- Extreme Losses – catastrophic events which are very remote.






Scenario Analysis Execution

- Communicating with Executive Management and with the Senior Business Unit and Service Group Managers:
 - Outlining the objectives and purpose
 - Establishing roles and responsibilities
 - Identifying the participating managers (business line/corporate)





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Scenario Analysis Execution (cont.)

- Researching and Preparing for the Workshop:
 - Engaging senior management in determining the top risks
 - Establishing the specific top risks for the Scenario Analysis
 - Collecting the data by risk category for input for the Workshops
 - Identifying the Facilitator
- Schedule the Workshop allowing sufficient time for the participants to review the data.





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Scenario Analysis Execution (cont.)

- Conducting the Workshop in an Open and Honest Discussion:
 - Articulating the objectives including a review of the top risks in order to determine how to effectively manage the risks and to ensure appropriate levels of Capital exist
 - Reviewing the data input (assessments, internal/external loss data, KRIs, Audit and Regulatory Findings)






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Scenario Analysis Execution (cont.)



- Engaging the participants in a discussion of the risk profile, expected and unexpected losses, business changes, external factors, emerging risks (known/unknown), and magnitude and likelihood of events (frequency/severity)
- Clarifying the risk categories to be used (e.g., Fraud, Business Practices, etc.)
- Considering operational risk issues (e.g., control deficiencies, changes in business, processes, people, technology)







Scenario Analysis Execution (cont.)



- Evaluating specific significant events (e.g., internal events, business interruption) and peer/industry events.
- Identifying and evaluating the "root causes" of the historical loss events, audit and regulatory findings
- Assigning follow up actions for the participants with specific dates
- Assessing the impact and probability of each scenario
- Aggregating the results for each risk type and business function
- Establishing reporting of the output from the sessions to executive management







Scenario Analysis Execution (cont.)



- Scenario Analysis Workshop output for Quantitative Modeling:
 - Creating the loss distribution data points for the modeling inputs (i.e., frequency and severity) for each scenario ensuring all major operational tail risks are included.
 - Developing the data points (e.g., \$1MM once in every 5 years, \$10MM once in every 10 years, \$50MM once in every 25 years, \$100MM cap) for the current control environment.
 - Modeling technique including Monte Carlo simulation to calculate the final loss distribution.







Scenario Analysis – An Example



- Risk Category:
 - Internal Fraud
- Scenario Name:
 - Insider Trading
- Risk Driver/Causal Impact:
 - Employee activity







Scenario Analysis – An Example (cont.)



- Scenario Description:
 - The potential of significant losses from employee use of material non public information for personal gain.
- Estimating the impact (i.e., Severity, Frequency)







Scenario Template


<ul style="list-style-type: none"> • Scenario Group: <ul style="list-style-type: none"> Business entity, Product, Service Area Location (Geography) Participants 	<ul style="list-style-type: none"> • Impact: <ul style="list-style-type: none"> Total Financial Impact Quantified Type of Currency Frequency Explanation of the causes and results Other Impacts (e.g., loss of staff, loss of leadership, reputation damage)
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Scenario Template (cont.)

- Scenario Description:
 - Level One (e.g., Transaction processing)
- Risk description
 - Level II (e.g., Model/Spreadsheets)
 - Risk description
- Actions:
 - Assigned to a Scenario Owner
 - Link to business Function and Risk
 - Description of Actions (e.g., enhance controls, accept risk, reduce exposure, establish a risk appetite, etc.)




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Scenario Template (cont.)

- Control Categorization:
 - Listing of Controls (preventative/detective)
- Actions (cont.):
 - Follow up Dates
 - Establish regular Reporting
 - Reassess Scenarios periodically to consider control improvements, and environment changes (e.g., processes, technology, business, economics)




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Scenario Analysis Results

- Enhances the Management of Risk and Calculation of Capital:
- Management of Risk:
 - Identifies the most critical risks to the company – Risk Profile.
 - Establishes a prioritization of risks for senior management and the Board for more effective business decisions including deployment of resources and mitigation efforts.






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Scenario Analysis Results (cont.)



- Engages senior business and support management in facilitated workshops.
- Establishes accountability at each level of the organization for understanding risk exposures, developing performance metrics, and monitoring results.






Scenario Analysis Results (cont.)



- Calculating OR Capital:
 - Increases the data points for validating the Capital calculation
 - Creates the mechanism to combine quantitative/qualitative data
 - Incorporates emerging business/external risks





Uses of Scenario Data

- Assess effectiveness of internal controls.
- Training, education and risk awareness.
- Refine existing key risk indicators and developing new ones.
- Produce management reports with valuable statistics that outline frequency and severity by category.





Uses of Scenario Data (cont.)

- Inclusion into internal data models for capital calculation.
- Establish priorities.