

OVERVIEW

Forecasting, simulation, real options and optimization techniques are increasingly popular tools that provide Financial Analysts with analytic power well beyond the traditional toolset.

Through workshops, case examples and practical @RISK learning models, participants will actively learn and practice essential skills and techniques to obtain accurate estimates from subject matter experts, test & validate planning assumptions, leverage historical data in planning/estimating scenarios, assign a probability of realizing an objective, maximize benefits using optimization, etc.

This workshop is designed for both the beginner and advanced financial analyst and we will fully cover the A to Z of applying risk analysis techniques. – A must for executives, managers, consultants and analysts who can't afford to be wrong!

CONTENT (DAY 1)

Module 1 – Welcome to @RISK

- **@RISK Monte-Carlo simulation in corporate finance?**
 - Challenges in corporate finance
 - Understanding risk analysis key concepts and definitions
 - Overview and history of Monte-Carlo Simulation
 - Advantages and Disadvantages of simulation
 - Workshop: What does 90% confidence mean?
 - Workshop: Cost Estimation Model
- **The Modeling Process**
 - Setting Objectives
 - Properly scoping the need, building assumptions and establishing model constraints with Subject Matter Experts (Bottom-Up Estimating, The Delphi Method)
 - Obtaining and using historical or published data
 - Workshop: New Compensation Plan Model

- Review of basic statistical concepts and definitions within @RISK, including: variance, common distributions, sensitivity analysis, etc.
- Overview of @RISK Interface, tools and functionalities including Optimization and Decion Trees

- **Model Building Basics (1hr)**

- Picking the right distributions and defining them in @RISK
- Outputs - Identifying and defining what we want to analyze
- Fitting Probability Distribution using Historical Data
- Making sure your model behaves correctly using correlation
- Workshop: Portfolio Allocation Model

- **Running the model (1hr)**

- Optimizing the number of trials
- Establishing Confidence Intervals
- Visualizing Results and Charts (Sensitivity, Forecasts, Assumptions and Overlays)
- Generating @RISK Reports

- **Risk identification and Assessment using @RISK (1hr)**

- Interpreting Forecasts and Sensitivity Analysis

Module 2 – Risk Management using Simulation

Using the DuPont Model, we are going to

CONTENT (DAY 2)

- o Identifying Risks and Potential Mitigation Strategies
- o Model Calibration using Risk Management Mitigation Solutions
- o ROI Analysis using historical data to build ROI Scenarios and compare them using Overlay Charts (DuPont Model)

Module 3 – Financial Modeling

- **Communicating Results to the business (1hr)**
 - o What your boss Wants to Know: Incorporating key information from @RISK into presentations and reports
 - o Techniques to effectively and simply presenting your analysis
 - o Question handling
 - o Workshop: Presenting effectively to your boss
- **Time-Series Overview (1hr)**
 - o Modeling common time-series methods using historical data & expert opinion
 - o Aggregate Correlation

- **Portfolio Management Optimization Techniques (9hrs):** With the help of several integrated financial models, this workshop will provide financial analysts with a complete understanding of why, where and how to apply spreadsheet forecasting, simulation, real options and optimization within their analyses.
 - o **Discounted Cash-Flow Analysis** using Simulation
 - o **Portfolio & Resource Allocation** Optimization: Allocate resources or budgets among various investments to maximize NPV or ROI or minimize risk or expense.
 - o **Modeling Efficient Frontier** Analysis to optimize risk against benefit for projects and investments. (Portfolio Allocation)
 - o **Portfolio Allocation with CVAR**
 - o **Introduction to an integrated DCF and valuation using Real Options**
 - o **Project Selection:** Use OptQuest to pick the best projects based on Organizational Budget Constraints

BENEFITS

At the end of this 2 day workshop, participants will be able to:

- Understand and apply Monte-Carlo simulation and optimization in their day-to-day activities
- Make better and more informed decisions
- Quickly build effective models or customize existing ones with @RISK
- Apply simple and effective Risk Management Techniques using @RISK
- Pick and manage project more effectively
- Use historical data to forecast future revenues and how to use those forecasts to create better predictive Discounted Cash Flow (DCF) models
- Perform a DCF analysis and determine ROI on a specific project using Monte Carlo simulation to identify and evaluate risk and uncertainty in your model
- Apply real options techniques to accurately account for the impact of positive uncertainty in estimating your project's value
- Use a portfolio optimization model where the efficient allocation of resources is analyzed to improve the quality of your business decisions.