

Introduction to DecisionTools Suite 5.7

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What is the DecisionTools Suite?

A Collection of Excel Add-ins for

- Risk Analysis
- Sensitivity Analysis
- Optimization (Both Deterministic and Stochastic)
- Statistical Analysis
- Predictive Analysis

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Components of the Suite

- » @RISK
- » RiskOptimizer
- » Evolver
- » TopRank
- » PrecisionTree
- » StatTools
- » NeuralTools

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Sensitivity Analysis with TopRank

You have built a model which represents the real world in some way. There are a number of *inputs* that affect one or more *outputs*. The TopRank add-in helps you answer the most fundamental question:

Which inputs are the most important?

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Simulation with @RISK

In an @RISK model, you replace single input values in a model with *distribution functions*, which represent the spread of uncertainty in the value.

The output then becomes a distribution as well, determined by the process of *simulation*.

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Optimization with Evolver

Evolver uses genetic algorithms to answer the question, **to what values should I set my inputs to generate the optimal value of my output.**

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Optimization with RiskOptimizer

RISKOptimizer performs the same tasks as Evolver, except for stochastic models instead of deterministic ones. Effectively, RISKOptimizer is a combination of @RISK and Evolver.

What input values would minimize the variance of my output?

What input values would maximize the 95th percentile of my output?

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Decision Analysis with PrecisionTree

PrecisionTree allows you to construct and analyze decision models (either Decision Trees or Influence Diagrams) with the aim of choosing an optimal policy for a complicated chain of decisions.

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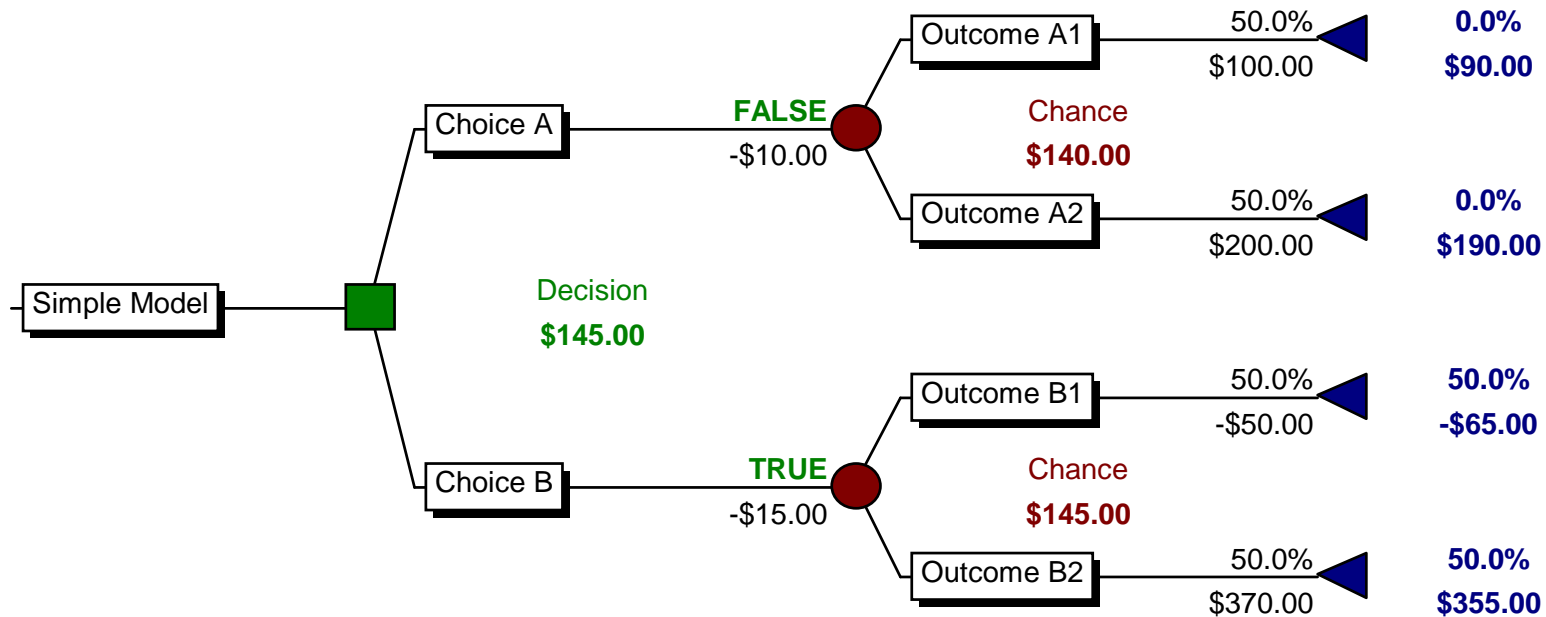


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A Simple Decision Tree



Statistical Analysis with StatTools

StatTools is a general purpose Statistical Analysis package. It includes a number of *analyses*, including:

- Summary Statistics and Graphs
- Statistical Inference
- Normality Tests
- Time Series and Forecasting
- Regression and Classification
- Quality Control
- Non-Parametric Tests

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Predictive Analysis with NeuralTools

NeuralTools is a tool for *prediction*.

That is, given a particular question, and a set of existing data where that question's answer is already known, make a prediction for other cases where the answer is not known.

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