User Guide for Decision Support Template

Description of the Decision Support Template

This model scores and ranks alternative courses of action based on multiple decision criteria .

Inputs to the model include: (All input cells are shaded blue in the workbook.)
- A list of alternative courses of action.
- A list of criteria for evaluating the alternative courses of action.
- A list of weights of each decision criterion. The weights are the same for all alternative course of action.
- A quantitative rating of each alternative for each decision criterion. We recommend a range of 0 - 5 for each rating.

The model supports decisions with uncertain outcomes. See the technical notes below for more information.

The key results are displayed on worksheet "Results."

Instructions for Using Decision Support Template

1 Let the template tell you how it works

The template has four main facilities to help you learn how it works.

- Throughout the template, section titles, variable names and Excel comments provide information about the template and the computations behind it. The Excel comment for each variable is repeated for each display instance of a variable.

- Worksheet “Labels” contains a glossary of variables and dimensions in the template.

  – It lists all the variables in the model, accompanied on the right by the explanatory comment for each variable.
  – It lists all the dimensions and their dimension items, accompanied on the right by the explanatory comment for each dimension.

- The Excel workbook contains Excel collapsible groups that you can open to see detailed information or close to get an overview of the information on each worksheet.

- Worksheet “Formulas” contains a list of the symbolic formulas that define values of variables in terms of numerical constants and other variables.

  The template is derived from these symbolic formulas by ModelSheet. Although these formulas are not executable in Excel, they often provide the quickest route to understanding what the computations are doing, avoiding the need to decode dozens of Excel formulas written in terms of cell addresses.

Of course, you can read the Excel cell formulas.

2 Editing Data in the Excel Template

You can enter input data in shaded input cells (usually dark blue). Most of the input data is on worksheet 'Inputs'. You can edit display names of variables and dimension items on worksheet 'Labels' (and in some templates the input cell for Model Start Date is located at the top of worksheet 'Labels'). Putting most inputs in one or two places eliminates the need to search the workbook for input cells.

3 Customizing the Excel Template

You can customize the workbook further on the worksheet “Labels”.

- Change the display name of any variable, dimension or dimension item.
- Edit the comment associated with any variable or dimension. The new comments will not propagate through the workbook.

If you want to include these changes in a future version of the template, you can re-import them into ModelSheet, which will include them in any future version of the template exported from ModelSheet.

4 Further Customizations

This template has additional features that can be turned on or added, such as learning curve effects, lot size scale effects, recruiting costs and more.

In addition, ModelSheet Software can extend the template in new directions to meet your requirements, on a project basis.

Technical Notes

Below is a summary of how uncertainty is handled in the model.

• The uncertainty in each rating is the standard deviation of that rating. Roughly speaking, it means the likely outcomes of the true rating are in the range from YourRating - Uncertainty to YourRating + Uncertainty.

• Risk aversion means that you would prefer a sure payoff of $100 to a 50% probabilities of payoffs of $100 and $50. The expected (or mean) outcome is not enough information to distinguish your preferences among alternatives. We recommend a risk aversion parameter in the range 0 - 1.
(Risk aversion does not mean that you would prefer a sure payoff of $100 to a 50% probability of a payoff of $50 and a 50% probability of a payoff of $100 -- anyone would prefer the sure payoff in this case.)

Generally, people who are putting a larger fraction of their assets at risk are more risk averse. People putting a smaller portion of their assets at risk can afford to choose the higher expected return despite some riskness of the outcome.

(Technical note: The risk aversion parameter in this model indicates how much to reduce the expected score for an increase in variance of the distribution of scores of the outcomes.)

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