DECISION ADVISOR MENUS AND OPTIONS

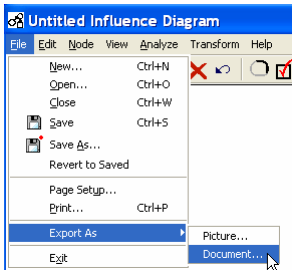
Welcome to Decision Advisor® Menus and Options

Decision Advisor is a program with an extraordinarily rich set of features. Decision *Advisor Menus and Options* is a brief introduction into the menus and options that implement these features.

There are two companion documents. The first, *Quick Start for Decision Advisor*, focuses on the mechanics of entering and processing information in Decision Advisor. The second, *Introduction to Decision Advisor*, shows how Decision Advisor supports designing, building and analyzing business models.

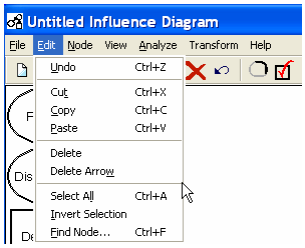
Menus: Influence Diagram Tab

Each window, tab, dialog box in Decision Advisor has its own set of menus and options. The most important menus are those on the Influence Diagram tab of the main window of Decision Advisor.



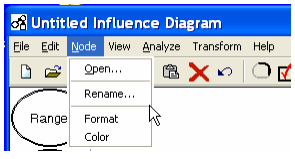
File Menu: The choices in the File menu are mostly standard Windows entries. Some entries to be noted are:

- **Revert to Saved** reopens the file, discarding changes made since the last "Save." This is very useful when you want to experiment.
- **Print** requires a PostScript printer. Many printers use a proprietary print driver (such as PCL), but PostScript (PS) drivers are often also available. For occasional printing without a PostScript enabled printer, use **Edit/Copy** to copy the screen to the clipboard, **Paste** it into another application and print from there.
- There are two options for **Exporting** the influence diagram: as a picture (a metafile with .wmf extension) or as a document (in .rtf format) describing the content of the diagram.



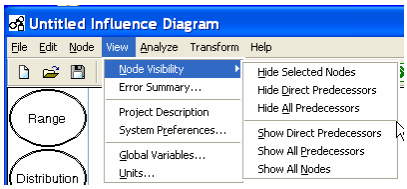
Edit Menu: The choices in the **Edit** menu are similar to standard Windows entries

- Undo negates the previous operation of **Undo**, **Cut**, **Paste**, or **Delete**.
- **Cut**, **Copy**, **Paste**, **Delete** operate on selected nodes. Nodes can be selected by clicking on them, and nodes can be added to the selection by **Shift-Click**. Nodes can also be selected by clicking on a blank area of the screen and dragging out a rectangle to include the desired nodes.
- Nodes can also be selected by **Select All** or by **Invert Selection** (which selects the complement of the original selection.)



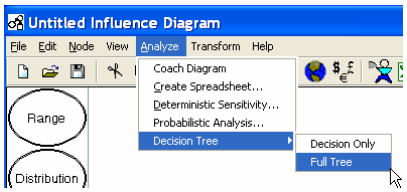
Node Menu: The choices in the **Node** menu apply to selected nodes.

- **Open**, **Rename**, and **Format** open the edit box for selected nodes. You can also get to this edit box by double-clicking on the node in the diagram.
    - It is very important to define the units in the **Name & Info** tab of the editor. The **Time Series** editor, for example, can not find existing nodes unless the appropriate units have been defined for the node.
- **Color** allows you set the color of a selected set of nodes. You can color individual nodes from the **Format** tab of the edit box.



View Menu: The **View** menu contains a number of options that either affect the display or that open dialog boxes important to the analysis.

- **Node Visibility** shows or hides nodes. When a node is hidden, it is "behind" one of the visible nodes, which acquires a "shadow." "**Direct predecessors**" are nodes that are at the foot of an arrow leading into the selected node, and "**all predecessors**" are all the nodes that lead into the node via a succession of arrows.
- **Error Summary** produces a report of the diagram and its readiness for evaluation.
- **Project Description** produces a dialog box in which you can enter a detailed description of the project.
- **System Preferences** opens a dialog box in which a number of variables can be set. The value of these variables will be used in any new file you open. Note the small double arrows at both sides of the bottom of the dialog box – clicking on these scrolls to unseen tabs that were "off to the side" of the box.
- **Global Variables** defines variables used in the analysis. (See below.)
- **Units** defines the units ($, €, widgets, teapots) that are available in the analysis. (See below.)

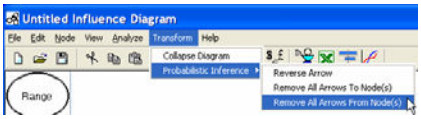


Analyze Menu: The **Analyze** menu contains the choices that perform the principal tasks involved in creating and evaluating a model.

- **Coach Diagram** opens the coach (see *Quick Start for Decision Advisor*). Many users use the coach to develop the framework of the analysis and then use the palette on the left of the screen to add specific detail to finish the model. (See below.)
- **Create Spreadsheet** creates an Excel spreadsheet and adds a tab at the bottom called Spreadsheet. If you are using the coach, this spreadsheet will automatically be incorporated into the analysis procedure.
- **Deterministic Sensitivity** uses the Excel spreadsheet to calculate the "tornado," which appears in a tab labeled **Deterministic Sensitivity**. You will be able to choose the value measure for the tornado, the base case value for each variable, and whether it should be included in the tornado calculation. (The most common approach is to accept Decision Advisor's suggestions and click **Run**.)
    - Menus in the **Deterministic Sensitivity** tab enable you to customize the displays and to export the displays to other programs.

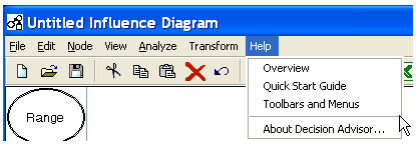
- Tabs appear on the right side of the screen, enabling you to see Deterministic Sensitivity results for the different value measures.

- **Probabilistic Analysis** uses the results of **Deterministic Sensitivity** to select the most important uncertainties and use them in calculating probabilistic results, which appear in two new tabs: **Cumulative Probability** and **R&D Project Summary**. You will be able to customize the probabilistic analysis, but the most common approach is to accept Decision Advisor's suggestions.
  - Tabs appear on the right side of the screen, enabling you to see results for different value measures.
  - If you use **Edit** / **Copy** in one **Cumulative Distribution** tab and then **Paste** into another, the two distributions will be shown on the same graph.
- **Decision Tree** creates a tab with the decision tree in it.
  - When the cursor is over a node, it will turn into an X. Clicking and dragging left or right can reorder the nodes in the tree.



Transform menu: The **Transform** menu is principally used by experienced decision analysts.

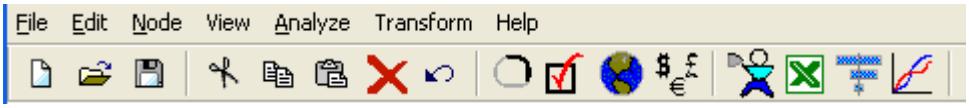
- **Collapse Diagram** removes nodes such as time series and formulas from the screen because they are now incorporated into the Excel spreadsheet and the compiled model. What remains are the nodes describing uncertainty and several residual nodes.
- **Probabilistic Inference** enables you to manipulate arrows among selected nodes and to calculate distributions associated with nodes. Double-click on a node to see the distribution which might be generated by one of these operations.



Help menu: The **Help** menu contains information to help the Decision Advisor User.

- **Overview** is a document that orients the user on the purpose and use of Decision Advisor.
- **Quick Start Guide** helps the new user in the mechanical process of using the program.
- **Toolbars and Menus** is this overview of Decision Advisors menu structure.
- **About Decision Advisor** provides information on the version and on SmartOrg.

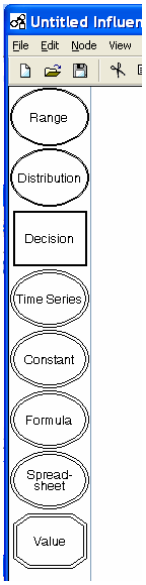
Icon Bar



The icon bar provides shortcuts to many of the functions provided in the menu of the Influence Diagram tab. Going from left to right (the associated icons should be obvious):

- File menu: **New File**, **Open File**, **Save File**
- Edit Menu: **Cut**, **Copy**, **Paste**, **Delete**, **Undo**
- View Menu: **Node Visibility** (Hide/Show), **Error Summary**, **Global Variables**, **Units**
- Analyze Menu: **Coach Diagram**, **Create Spreadsheet**, **Deterministic Sensitivity**, **Probabilistic Analysis**

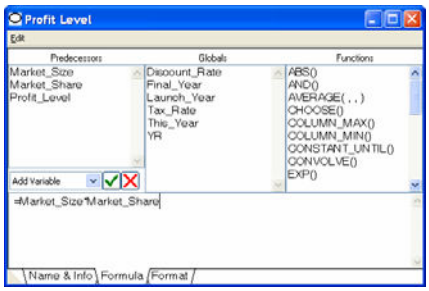
Palette

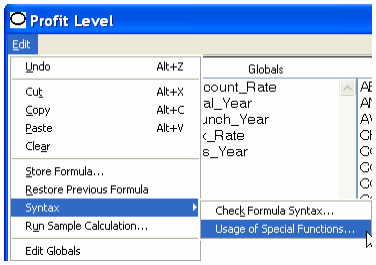


Palette: On the left hand side of the screen is a palette of the nodes that can appear in an influence diagram. You can click on one of these icons and drag it onto the screen, thus producing a blank node. You can either create the whole diagram manually by dragging nodes to the screen and editing them, or you can drag nodes onto a screen created by the coach process.

- Arrows are created by dragging one node in the diagram on top of the other. When one node is dragged over another, the image changes from a moved node to a line between the nodes. Releasing the mouse restores the first node to its original position and draws an arrow between the two nodes
- Arrows can be removed by right-clicking on the head of the arrow and choosing **Delete**. Arrows can also be removed by selecting two nodes and then selecting **Delete Arrow** from the **Edit** menu.
- Right-clicking on a node allows you to access the **Name & Info** and **Format** tabs of the node edit box. In addition, a **Diagnosis** option is enabled for nodes that have problems or that are incompletely specified.

- **Range** is the most common of the nodes, allowing you to input the estimated Low/Base/High values for the 10/50/90 percentiles of the distribution. Double-click on the blank node after you have dragged it onto the screen and enter the name, units, and other data. Click the Range tab at the bottom of the window to enter range values.
  - Note that you can change the type of a node by clicking the radio button on the **Name & Info** tab of the edit box for the node.
- **Distribution** is an uncertainty node that allows you to create branches in a tree and assign values and probabilities to these branches.
  - In the **Edit** menu of the **Distribution** tab for these nodes is an **Outcomes** choice that opens an editor for defining the branches.
  - When the cursor is over the node circle in the **Distribution** tab, it turns into an X. Right-clicking at this point brings up options to **Cut**, **Copy**, or **Paste** the node or to edit **Outcomes**.
- **Decision** creates a node that has branches similar to a **Distribution** node (no probabilities) that will function as a decision node in the analysis.

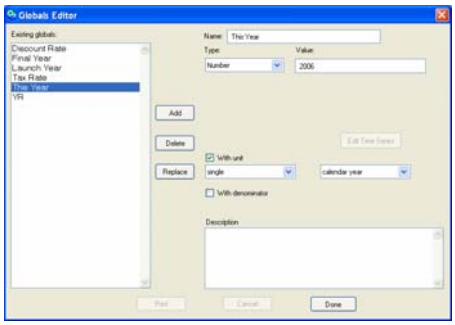




- **Time Series** creates a node that will become a series of columns (one column for each year) in the spreadsheet. The Time Series node is exceedingly flexible. The editor can create new nodes, find parameters in existing nodes or globals, etc.
- **Constant** creates a node with one branch.
- **Formula** creates a node that performs calculations. At the top left of the window is a list of variables that can be used in the calculation because they are "direct predecessors" (at foot of arrow leading into the node). At the top middle are global variables. At the top right are Excel-like formulas that can be used in the calculation.
    - Double-clicking on a name in any of the top sections enters the name into the formula area at the bottom. This operation avoids problems in typing names (which are node names modified so that they can be used as Excel range names).
    - Syntax is identical to Excel syntax.
    - Decimal numbers must be preceded by a zero – Decision Advisor will not recognize .8 as a number, but will accept 0.8. Making an error of this type can lead to baffling "syntax error" messages.
    - Syntax for special functions (COLUMN_MIN, COLUMN_MAX, CONSTANT_UNTIL, CONVOLVE, TS_INDEX) is found in the Edit menu of the Formula edit box.
    - At the bottom of the Predecessor list at the top left is the name of the node itself. This can be used only by the special TS_INDEX function.
- **Spreadsheet** is used only by experienced analysts. This node functions like a formula except that it uses a spreadsheet to do calculations. Most users rely on the Coach to set up the spreadsheets to be used in the analysis
- **Value** creates the value node on the spreadsheet. Most users rely on the Coach to set up the value function to be used in the analysis.

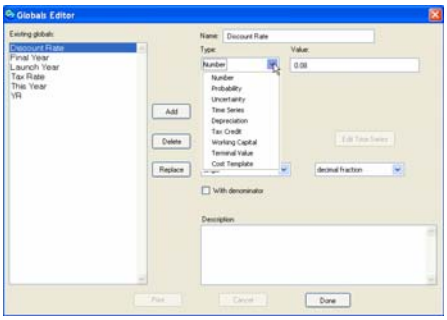
Important Dialog and Input Boxes

Decision advisor has a large number of dialog and input boxes. Most of them are self-explanatory. Two, however, deserve special attention: the windows produced by the **Global Variables** and **Units** selections in the View menu.

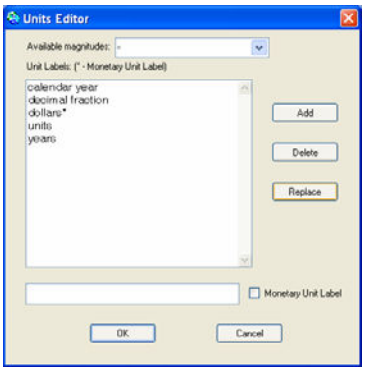


Global Variables: This window creates variables that are used in the analysis. Click on a variable on the left, and its definition will appear on the right – you can then edit it and **Replace** it. Or you can **Add** or **Delete** variables.

- **This Year** is used as the first year in the spreadsheet. **Final Year** is 1 year beyond the final year in the spreadsheet. **Launch Year** is the year the Commercial Contribution begins. All must have the units "single of calendar year."
    - There are other alternatives for **Launch Year**, such as creating a node on the spreadsheet.
- **Tax Rate** and **Discount Rate** are used in calculating the NPV of Cash Flow in the spreadsheet. Both have the units "single of decimal fraction."
- **YR** is a time series of calendar years from **This Year** to **Final Year** – 1. This time series can be used in formulas.



- The **Type** dropdown lets you define a number of functions such as Depreciation schedules, Terminal Value calculations, Working Capital calculations, and the like.



Units: This window creates the units that will appear in the node edit window and in the coach dialogs.

- Units can be added and deleted from the system.
- Checking the **Monetary Unit Label** box lets the Coach know that this is an appropriate candidate for certain financial parameters.
- When the Coach creates formulas, it will adjust the formulas to take into account the **Magnitudes**.
    - When you are creating your own formulas manually, you must make sure the units and magnitudes are correct on your own!

Legal Notes