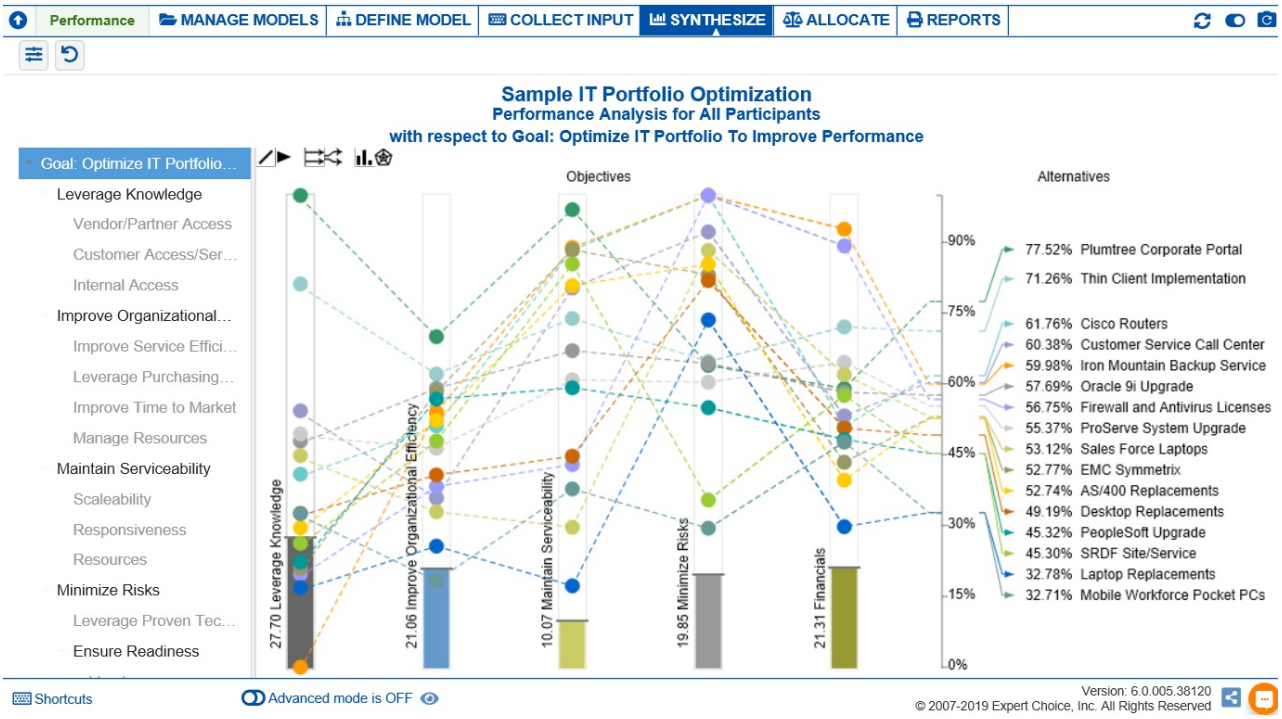
Performance Analysis

Overview

Performance analysis is used to dynamically change the priorities of the objectives to determine how these changes affect the priorities of the alternative choices.



Each performance sensitivity is composed of:

- The relative importance of the objectives as depicted by the vertical bars and shown numerically on the left side of each bar.
- The relative performance with respect to any of the objectives as shown by the intersection of alternatives line segment with the objective. Thus, for example, Cisco Routers is the best performing alternative with respect to Leverage Knowledge (green line).
- The intersection of the alternatives line segment with the overall axis on the right shows the relative overall priority of the alternative.

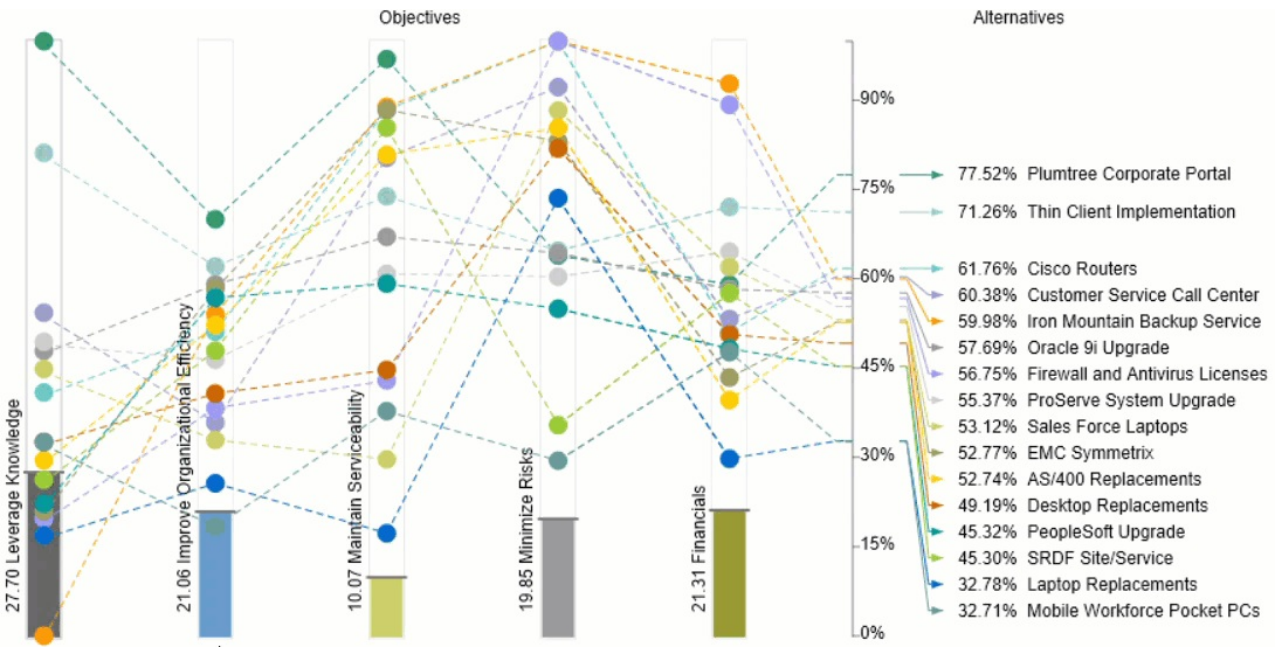
The options above the chart are explained below:

- to display the lines connecting the alternatives from one objective to another. Note: The connecting lines have no meaning; they are included to help you find where a particular alternative lies as you move from one objective to another.
- to hide the connecting lines and use horizontal ticks instead of circles to indicate the priority of the alternative wrt the objective.
- to align the alternative labels at the right to their corresponding overall priorities.
- to expand the alternative labels.
- to show the objectives as bars.
- to display the performance sensitivity as a radar chart.

Click  to display the toolbar options:

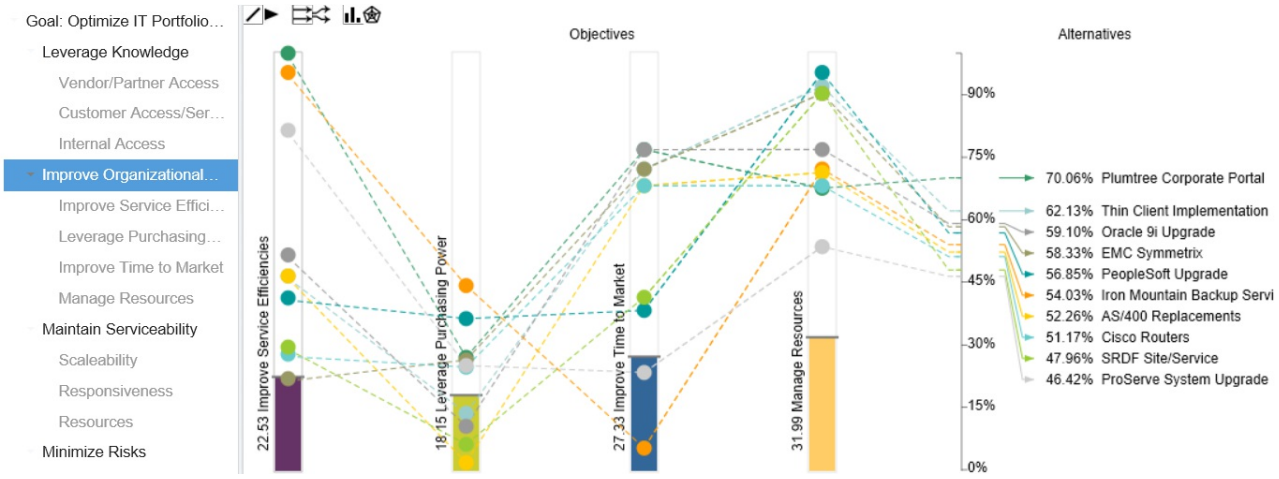
The Performance graph is also dynamic, so you can temporarily alter the relationship between the alternatives and their objectives by dragging the objective bars up or down.

Note: If there is one alternative that is best on every objective, there is probably something missing from the model, or specific objectives were not considered adequately when the judgments were made. Iteration should almost always be performed in such a case since it is extremely rare that any alternative is best on every objective. If, for example, there was an alternative that was best on performance, appearance, reliability, ... then it would most likely cost more and therefore be less preferable with respect to cost.



After temporarily changing the priority of one or more of the objectives, you can press the  reset icon.

By selecting an element in the hierarchy other than the goal, you can see the results with respect to (WRT) this element rather than the overall results with respect to the goal.



The performance above shows all the alternatives priorities with respect to the selected node Improve Organizational Efficiency.

You can toggle on  to display the alternatives priorities with respect to the goal or to the selected objective node.

Toggle  to show/hide the objectives hierarchy/tree at the left.

Toggle  to show/hide the Local and Global objectives priorities on the objectives hierarchy/tree.

Select Participant and Group

You can select to display results for an individual participant or another group using  .

Clicking the  button will open a window where you can select a participant or a group.

You can use the prev  and next  buttons to go through each participant or group.

Sort Objectives and Alternatives

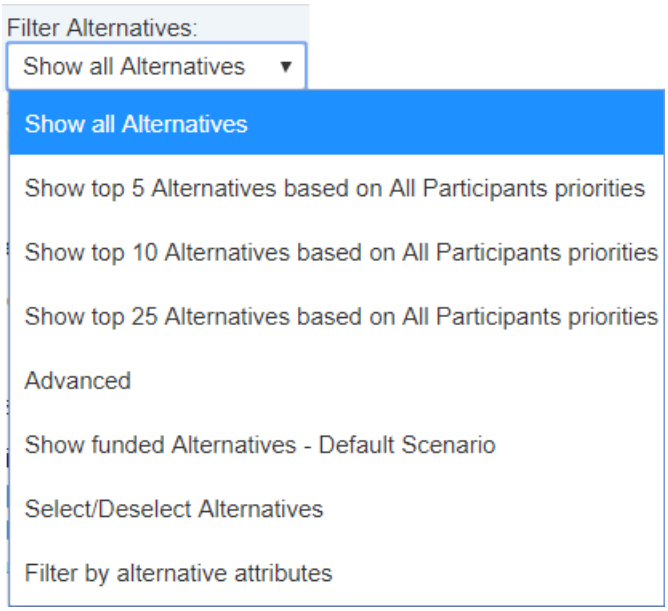
You can sort the objectives and alternatives using the dropdowns:

Three options are available:

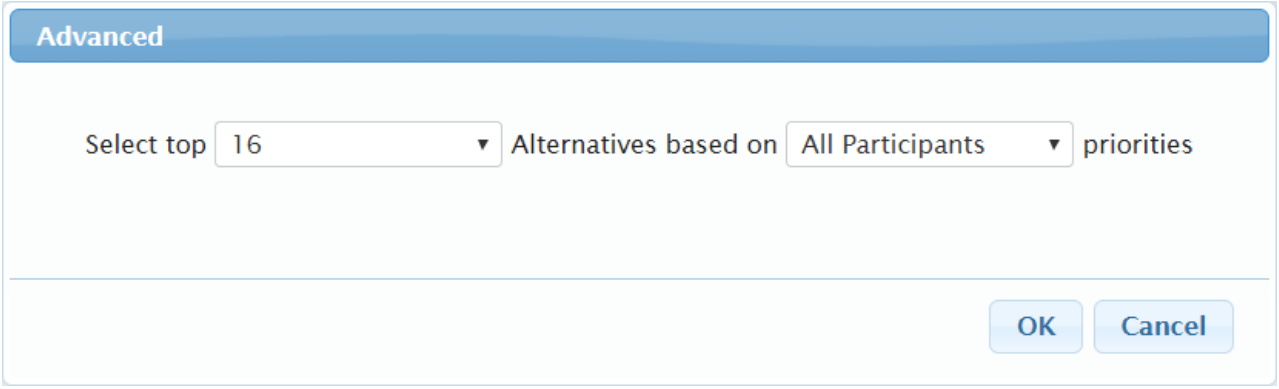
- None - based on sorting on the model
- Priority - descending by priority
- Name - ascending by name

Filter Alternatives

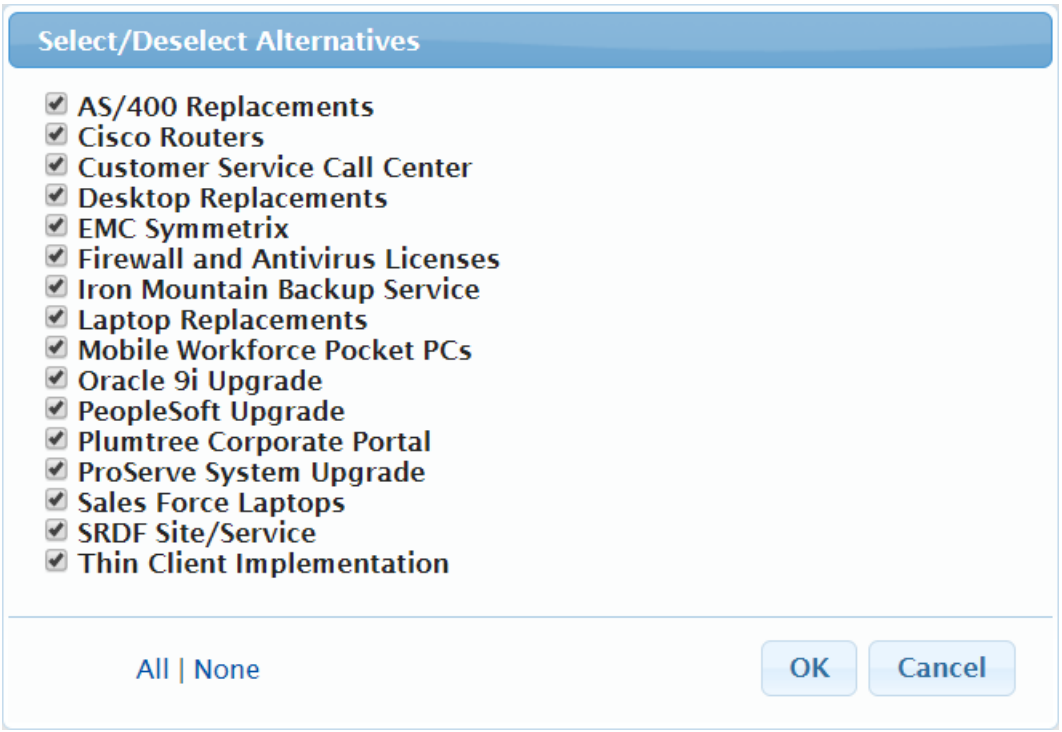
By default, all alternatives are displayed.



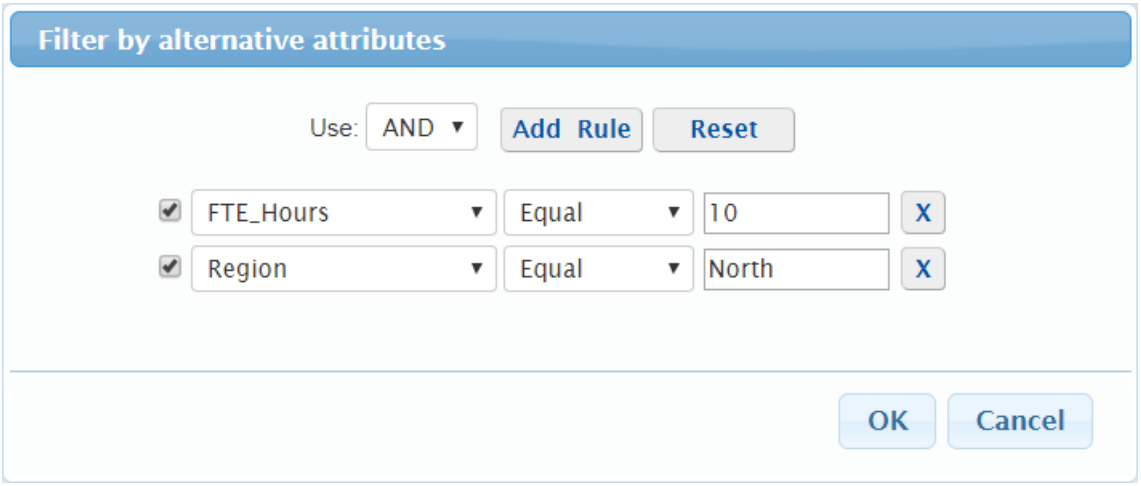
- Show top N Alternatives. Select to display the top 5, 10, or 25 alternatives based on the "All Participants" group priorities.
- Advanced. Allows you to specify the top N based on the selected participant or group.



- Show funded alternatives from the active Resource Aligner scenario.
- Select/Deselect Alternatives

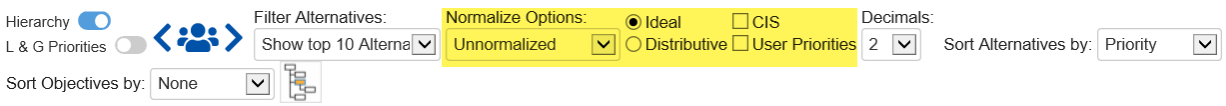


- Filter by alternatives attributes specified on the Alternatives page.



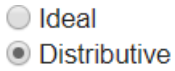
DIDN'T SEE AN OPTION YOU ARE LOOKING FOR? Try enabling the **Advanced Mode** switch at the bottom of the page; this will show the **advanced options on this page**.

When the Advanced mode is ON, you will see the advanced options on this page:



Ideal and Distributive Synthesis

Results can be computed as an **Ideal** mode (default) or D**istributive** mode synthesis.



Originally, AHP had only one synthesis mode – later called the "distributive" synthesis mode. A distributive synthesis distributes priorities from the goal down through the alternatives and is analogous to dividing priorities in a pie chart, which is intuitive for decision-makers to comprehend. The sum of the global priorities for each alternative with respect to each covering objective represents the overall priority of that alternative. The priorities have ratio scale properties (as well as, of course, interval and ordinal properties), which means that they can be used in making a choice, or in allocating resources. This synthesis operation can be thought of as distributing the goal's priority of 1.0 to the alternatives under consideration and is today called the distributive synthesis mode. Originally, this was the only synthesis mode of AHP. Critics of AHP pointed out situations where a different synthesis mode is more appropriate.

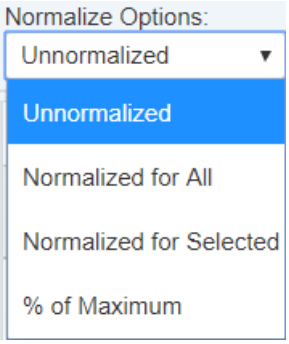
Aggregating Individual Priorities (AIP)

Clicking the **AIP** check-box will show results based on aggregating individual priorities, known as AIP, instead of aggregating individual judgments (AIJ). When AIP is checked, overall alternatives priorities are computed for each participant and then an average of these priorities is computed.

NOTE: Due to the nature of AIP, objectives charts, objectives grid, and all sensitivity analysis pages are disabled when AIP is selected.

Normalization Options

In Advanced mode, you can select to display results based on various normalization options:



- **Unnormalized:** The priority is the sum of the products of each covering objective's global priority times the priority of the alternative with respect to each covering objective. If an alternative has a priority of 1 for every covering objective, it will have an unnormalized priority of 1 and is referred to as an ideal alternative. Note: "Unnormalized" is not available and not applicable when using Distributive mode.
- **Normalized for All:** Sum to 1 for all the alternatives.
- **Percentage of Maximum:** The alternative with the highest priority is 1 and all others are a percentage of this.

- **Normalized for Selected:** Sum to 1 for the selected alternatives.

Combined Input Option (CIS)

If the Combined Input Option (CIS) is ON, then results for individuals are computed by combining the priorities derived from judgments/ratings for which they had roles, with the combined results for any parts of the model where they did not have a role.

Apply User Priorities

If priorities (weights) have been specified for participants, you can use the "User Priorities" check box which enables you to apply or ignore these priorities in calculating the results.