

Crystal Ball Software and Risk Analysis Tips

How a Tornado Chart Can Help You Plan for a More Effective Optimization

One of the easiest ways to increase the effectiveness of an optimization is to remove decision variables that have minimal effect on the objective but require considerable effort to evaluate. The Tornado Chart tool in Crystal Ball can help you to assess just how much a decision variable affects an optimization objective (see the *Crystal Ball User Manual* for more information on the Tornado Chart).

Just as the Tornado Chart tool depicts the sensitivity of a forecast to each assumption, it can also measure the effects of each decision variable on the optimization objective, which is also a forecast. In step 2, where you specify your input variables, click on the Add Decision Variables button. When it runs, the Tornado Chart tool changes each decision variable over its allowed range and shows the impact on the forecast in the output charts.

Remember that, when viewing a tornado chart, you see the relative importance of all the decision variables in descending order. The variables listed at the bottom affect the objective the least and so are the least important. If their effect is significantly smaller than those at the top, you can probably eliminate them as variables and just let them assume a constant value.

You can use the Tornado Chart tool in addition to the Solution Analysis chart in OptQuest to measure the impact of your decision variables (see the *OptQuest User Manual* for more information on running a solution analysis).

For more information or to contact us, browse to <http://helpdesk.crystalball.com>

This tip published August 2005 (Crystal Ball version 7.1)

The Oracle logo is displayed in white capital letters on a red rectangular background.