

## **AHP SUMMARY**

Corporate and government decision makers are usually faced with complex decisions involving multiple criteria, many of which are intangible, and are subject to uncertainty and risk. Decisions require making tradeoffs to choose the best among the available options. Judgments may be contributed by a number of people who usually do not completely agree. How sensitive is the outcome to a diversity of opinions? How should the decision be made if experts are involved? How should it be made through interaction, debate and consensus if there are no recognized experts? The pressure to frequently change strategies in competitive markets necessitates revising decisions so they remain compatible with earlier ones. The Analytic Hierarchy Process (AHP) engages decision makers in breaking down a decision into smaller parts, proceeding from the goal to criteria to subcriteria down to the alternatives of action. To capture the complexity of the decision problem, wide participation is encouraged in constructing the hierarchy. The decision maker then makes only simple pairwise comparison judgments throughout the hierarchy to arrive at overall priorities for the alternatives of action. The decision problem may involve social, political, technical, and economic factors. Where there are several parties involved negotiation may be required. The AHP helps people cope with the intuitive, the rational and the irrational, and with risk and uncertainty in this complex setting.

## **EXPERT CHOICE BRIEF**

Expert Choice for Windows is a multi-criteria decision-support software tool based on the world's most popular decision-making methodology: the Analytic Hierarchy Process (AHP). With Expert Choice defining your goals, identifying the criteria and alternatives, and evaluating key trade-offs is a straight forward and thorough process. It assists you in building a model for your decision, then leads you in judging, via pair-wise comparisons, the relative importance of the variables. Expert Choice then synthesizes your judgments to arrive at a conclusion and allows you to examine how changing the weighting of your criteria affects your outcome.

You select your objectives, alternatives and criteria, and configure them in a tree-like hierarchy. Your structure can be as simple or complex as you wish, with multiple decision elements and up to nine variables under each element.

Once your decision model is complete, Expert Choice poses a series of pair-wise comparisons of each of the alternatives you identified in relation to each of your criteria and objectives. In this way, even the most complex, seemingly unmanageable decision model is reduced to simple, easy-to-understand judgments.

As you create your decision model you make certain assumptions about the relative importance or value of various criteria and alternatives. But what if you're not sure those assumptions are correct...or you recognize that they are subject to factors that may change over time? Expert Choice's five Sensitivity Graphs enable you to take some of the uncertainty out of your decision making by quickly and easily testing your results using "what if" scenarios. When you change the variables, Expert Choice promptly shows you the effect on your outcome.

A full range of reports - either printed in hard copy or pasted into other Windows applications - can be customized to individual needs for presenting results or documenting the decision making process. Reports may include the entire decision hierarchy in sideways or tree view, specific segments of the hierarchy, details of the synthesis process, or sensitivity analysis.