Chained and ANP solutions – a comparison

Author(s): William C. Wedley

Matrices of paired comparisons can be used to derive priority vectors that are later synthesized through hierarchical (AHP) or network (ANP) composition. In effect, these processes weight the priority vectors to produce a single vector that links the influences of all factors relevant to the decision. Rather than determining numerous priority vectors, weighting and synthesizing, an alternative approach is to chain the original comparison matrices into a much-enlarged matrix that creates a spanning tree across all influences. This broadened matrix can then be solved with Harker's method for incomplete matrices. In this study, we compare the results of chained comparison matrices versus linked network vectors. A priori, we would expect the two methods to yield the same results.