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Decision Evaluation Using AHP with the ADEPT Process

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Abstract: For very large model applications, AHP is known to suffer from a number of shortcomings related to time, effort and consistency at performing multiple pairwise comparisons. A number of methods have been proposed to shorten the time and relate the effort to the decision precision required, or indeed to implement other weighting methods (e.g. Solymosi and Dombi(1986), Barron (1996), Edwards & Barron (1994), Olson & Dorai (1992).)

We believe the process for large models requires a different approach that is suggested by the work on DECAID at Monash University (Olson et. al (1995)) but expanded to utilize GUI interface principles. Pattern analysis techniques arise out of this medium in a natural way, and we shall describe how this process is achieved with some case studies using Which & Why. We have called the process ADEPT (Analytic Decision Evaluation by Pattern Techniques)

[1]Olson, D. L., Dorai, V. K., Implementation of the centroid method of Solymosi and Dombi, *European Journal of Operational Research* , 1992, 60, 117-129.

[2]Olson, David L., Moshkovich, Helen M., Mechitov, Alexander I., Consistency and Accuracy in Decision Aids: Experiments with Four Multiattribute Systems, *Decision Sciences*, 1995, 26, 723-748.

[3]Solymosi, T., Dombi, J. A method for determining the weights of Criteria: The Centralized Weights, *European Journal of Operational Research*,1986, 26, 35-41.

[4]Edwards, W. and Barron, F. H., SMARTS and SMARTER: improved simple methods for multiattribute utility measurement, *Organizational Behaviour and Human Decision Processes*, 1994, 60, 306-325.

[5]Barron, Hutton F. and Barrett, Bruce E., Decision Quality Using Ranked Attribute Weights, Accepted for publication in Management Science.