

FEWER COMPARISONS – EFFICIENCY VIA SUFFICIENT REDUNDANCY¹

William C. Wedley

Simon Fraser University & W. C. Wedley and Associates Ltd.

8888 University Drive

Burnaby, B. C., CANADA, V5A 1S6

wedley@sfu.ca

ABSTRACT

“Too many comparisons” is a frequent complaint expressed by AHP/ANP users. This paper proposes a methodology to reduce the number comparisons while still allowing complete redundancy. It involves 4 steps: (1) Roughly rank the objects; (2) Using the lowest ranked object as the unit, estimate intensities for each of the other objects; (3) Using other objects as units, make sufficient additional comparisons until predicted consistency is acceptable, (4) Allow the user to continue with more comparisons if so desired. At the end of stage 2 or thereafter, the user can terminate comparisons. Besides allowing fewer comparisons, ranking before comparing holds out promise to reduce coding errors and improve accuracy.

Keywords: Pairwise comparisons, redundancy, predicted consistency, efficiency

¹ The Natural Sciences and Engineering Research Council of Canada provided the financial support necessary for this project.