

A set of ranking problems that have a truth model is used to measure how well the weighted sum model (WSM) performs. WSM is found to generate rankings that correlate poorly, and sometimes randomly, with the truth model, no matter the choice of weights.

A new model, Intrinsic Value (IVAL) model, one that does not use weighting factors, was developed. Rather than using weights, IVAL mimics the human decision-making thought process. Correlation of IVAL with the truth model is exceptional in all cases examined.

Because there are no weights, there is no need for pairwise comparison or other complex processes that are used to generate relative weights. For example, there is no need for a structure like House of Quality, used in Quality Function Deployment (QFD).

Because IVAL ratings have such high fidelity, techniques to improve initial outcomes, such as backscatter, used in deep neural networks, may not be necessary.

The IVAL model is simple and easily incorporates criteria dependencies and hierarchical processes. It uses only very simple code to process numerous alternatives having many criteria. IVAL could easily replace just the weighting-factor portion of code used in many current multi criteria decision analysis (MCDA) models.