Math background of benefit analysis

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Benifit Analysis without sub items

The total benefit tb of solution x (tb_x) is

$$tb_x = \sum_{i=1}^{n} wb_i = \sum_{i=1}^{n} b_i \cdot w_i$$

tb_x - total benefit of solution x
wb_i - weighted benefit of criteria i
b_i - benefit of criteria i
w_i - weight of criteria i
n - total number of criteria

Benifit Analysis with sub items I

The total benefit tb of solution x (tb_x) is

$$tb_x = \sum_{i=1}^{n} wb_i = \sum_{i=1}^{n} b_i \cdot w_i$$

tb_x - total benefit of solution x
wb_i - weighted benefit of criteria i
b_i - benefit of criteria i
w_i - weight of criteria i
n - total number of criteria

Benifit Analysis with sub items II

The benefit b of a criteria i (b_i) is

$$b_i = \sum_{j=1}^{m} sb_j \cdot sw_j$$

sb_i - benefit of sub criteria j
sw_i - weight of sub criteria j
m - total number of sub criteria