

Forced Ranking (A.K.A., Kepner-Tregoe, Decision Matrix)

A decision making technique that uses a decision matrix to force a ranking among possible alternative solutions.

Applications

- To facilitate group consensus-based decisions regarding problems, recommended solutions, and/or the evaluation of alternatives, during reengineering.
- To distinguish the alternatives and possible consequences of a decision (or sequence of associated decisions) in advance of final recommendations.

Procedures

1. State the issue, problem, and decision to be made.
2. Explain the use of the decision matrix technique to participants.
3. Draft a matrix on a flip chart or white board with candidate choices positioned as rows and criteria as columns.
4. Weigh the criteria, if required (e.g., 1-5 weight).
5. Rate each choice within each decision/selection criteria (e.g, 1-5 score - do not rank here).
6. Multiply the rating by its relative weight to determine weighted score.
7. Total the scores.
8. Review results and evaluate, using common sense and good judgment.
9. Reach consensus.

Instructions

1. List the candidate solutions in horizontal format at the top of the white board, flip chart, etc. Each of the candidate solutions will be given a score.
2. Determine the criteria and list them down the left side of the board.
3. Add a new column labeled "Weight Value." Assign a weight value or factor from 1 to 5 (5 is highest weight).
4. Determine the criteria score for each candidate solution. (Note that it is important to use a rating rather than an ordinal ranking if you are using weights. A rating multiplied by a weight gives an accurate assessment. An ordinal rating multiplied by a weight can create an artificial closeness or difference between solutions that is magnified by a weighting system) The diagram at this point begins to resemble a matrix format.
5. Multiply the weight value by the score. This determines the weighted score for each criteria. Total the scores and review the results.

This approach is most successful in group analysis of options where the group collaborates to determine the criteria weight and option rating. A variety of methods are available to make such a group decision including voting, debating, consensus building, delphi technique, etc.

In the following example, we are looking at options of which house to buy. The criteria are listed down the left side and we have agreed with our spouse on the importance (weight) of each criteria. The options we are considering are listed across the top and for each one we rate how well it meets our needs. We need to be careful here - for example when it comes to bathrooms, we do NOT put in the number of bathrooms, we put in how close it comes to our goal. So, for example, if we need two bathrooms and want 3, any house with more than 3 bathrooms would be rated as a 5, any house with 2 bathrooms would be rated as a 4 and any house with less than 2 bathrooms would be rated as a 1.

The spreadsheet calculates the weighted value of each criterion for each option and the total reveals the best option.

Example:

| | House 1 | | | House 2 | | House 3 | |
|----------------------|---------|--------|-----------------|---------|-----------------|---------|-----------------|
| Criteria | Weight | Rating | Weighted Rating | Rating | Weighted Rating | Rating | Weighted Rating |
| School Quality | 5 | 4 | 20 | 3 | 15 | 4 | 20 |
| Quiet Street | 2 | 5 | 10 | 5 | 10 | 5 | 10 |
| Yard Size | 3 | 5 | 15 | 2 | 6 | 5 | 15 |
| Kitchen Size/Quality | 5 | 2 | 10 | 5 | 25 | 4 | 20 |
| Enough Bathrooms | 4 | 2 | 8 | 5 | 20 | 4 | 16 |
| Parking | 2 | 5 | 10 | 5 | 10 | 5 | 10 |
| | | | 73 | | 86 | | 91 |