Solution Matrix

Key Learning Points

1. Describe the importance of a Solution Matrix.

2. Explain how to develop a Solution Matrix.

3. Utilize Solution Matrices in improvement projects.

What is a Solution Matrix?

A Solution Matrix helps improvement teams evaluate solutions against evaluation criteria.

Systematic Evaluation

Way of systematically evaluating proposed solutions to find the best fit for the problem and the organization.

Evaluation Criteria

Generally include these categories:

- Affordable Cost

- Impact on Problem

- Benefit and Cost Relationship

- Cultural Impact and Resistance to Change

- Implementation Time

IMPRO
powered by **JURAN**

- Uncertainty About Effectiveness
- Health and Safety
- Environmental Impact

Ratings

Simple ratings to indicate the relative degree of expected impact.

- H (High Desirability)
- M (Medium Desirability)
- L (Low Desirability)

Steps to Construct a Solution Matrix

1. As a team, determine the evaluation criteria to use to judge the solutions.

2. Using a spreadsheet, in the top row, list the proposed solutions the team has come up with, one in each cell.

3. In the column furthest to the left list the agreed upon evaluation criteria.

4. Create a numeric weighting for each ranking. For example:

   a. High = 5

   b. Medium = 3

   c. Low = 1

5. ank each solution against the criteria. (This can be done as a team, or each team member can individually rank solutions against criteria, and the team can calculate average scores).

6. Calculate an average rating for each solution by adding up all of the criterion ranking scores and dividing by the total number of criteria.

Criterion	Solution 1	Solution 2	Solution 3
Remedy Name	Create Forecasting Tool to be Used	Reduce Non-value Activity in Order and Call Flow Process	Create Schedule Adherence Policy
Affordable Cost			
Impact on the Problem			
Benefit and Cost Relationship			
Cultural Impact and Resistance to Change			
Implementation Time			
Uncertainty About Effectiveness			
Health and Safety			
Environment			
Average Rating			

Analyzing Solution Matrices

Since a solution matrix allows a team to score the different solutions they have developed, they can use the average rating to rank how likely each solution will impact the problem they are trying to solve. The higher the average number of the solution, the higher the impact the solution will have.

Criterion	Solution 1	Solution 2	Solution 3
Remedy Name	Create Forecasting Tool to be Used	Reduce Non-value Activity in Order and Call Flow Process	Create Schedule Adherence Policy
Affordable Cost	1	5	5
Impact on the Problem	5	1	5
Benefit and Cost Relationship	3	5	1
Cultural Impact and Resistance to Change	1	3	1
Implementation Time	3	5	1
Uncertainty About Effectiveness	3	5	3
Health and Safety	5	1	3
Environment	3	5	1
Average Rating	24/8 = 3.0	30/8 = 3.8	20/8 = 2.5

Important Points

When designing a solution:

- ▪ Ensure the solution achieves project goals.

- ▪ Determine the required resources:

  - People

  - Time

  - Money

  - Materials

- ▪ Specify the procedures and other changes required.

- ▪ Assess the human resource requirements.

Solutions can come from:

- ▪ Root Causes

- ▪ Project Goals

- ▪ Discoveries During Analysis

- ▪ Benchmarking Ideas

- ▪ Performance Targets

Notes:

- Benchmarks
- Other Projects
- Best Practices

Pitfalls to Avoid

- Solutions are not linked to your vital few Xs
- Disagreement over importance of judging criteria
- Uncertainty about effectiveness of chosen solution

Notes: