16.7. Phase 3: Improve or Remedy the Cause

Now that the project team has discovered the root cause(s) of the problem, the task is to restore control to the process. Applying appropriate remedies that will directly affect the cause and eliminate it, or at least drastically reduce its undesirable effects does this.

16.7.1. Evaluate Alternative Solutions

Like the formulate theories step, this step moves from creative to empirical, divergent to convergent thinking. Beginning with brainstorming, the team, subject matter experts, and process owners will attempt to identify as many alternatives for solutions as possible. Creativity is essential at this point, as often, solutions must be quite novel to fully address the root cause. Next, the team will evaluate these brainstormed potential solutions to determine which solution or combination of solutions will best address and eliminate the cause(s).

The team may construct flow diagrams of possible solution implementations to visualize which will act most effectively. They may also use a criteria-based selection matrix to assist their decision-making process and help them arrive at the best solutions (**Fig. 16.4**). The solution selection matrix can help the team optimize the ultimate solution by combining the best potential solutions from the matrix.

Figure 16.4 *Solution selection matrix.*

Solution Selection Matrix
Rank possible solutions 1–10. 10 = fully meets criteria
Updated: 10/12/09

Criteria	Weight	Possible solutions					
		A	B	C	D	E	F
Low cost	3	9	8	10	7	9	7
High effectiveness	2	8	10	9	10	9	9
Low risk	2	8	8	7	9	9	7
Low resistance	1	9	8	5	8	9	10
Minimal process disruption	2	6	7	7	6	8	7
Total score		80	82	81	79	88	77

Tools most often used in this step are brainstorming, data collection, selection matrices, and flow diagrams.

16.7.2. Design and Implement the Remedy

Once the team selects a remedy, it designs the remedy by performing four tasks:

1. Ensure that the remedy achieves the project goals. Review project goals to verify that the remedy will achieve the desired results and that all involved are in agreement on this point. This is a final check before moving ahead.

2. Determine the required resources. Make every effort to determine, as accurately as possible; what resources are required to implement the proposed remedy. These resources include people, money, time, and materials.

3. Specify the procedures and other changes required. Before implementing the remedy, describe explicitly what procedures will be required to adopt the proposed remedy. Any changes that need to be made to existing organizational policies, procedures, systems, work patterns, reporting relationships, and other critical operations must also be described. Any surprises down the line may sabotage the remedy.

4. Assess human resource requirements. The success of any remedy depends on the people who will implement the required changes. Often, it will be necessary to train or retrain staff. Explore fully all training requirements, as well as the training resources needed.

Once these tasks have been performed, a flow diagram can be created to help specify the new procedures clearly.

As the team is designing the remedy, they should take into account the need to mistake-proof the remedy. They should consider and develop a variety of techniques to avoid, prevent, or reduce inadvertent errors that may occur even with the improved process.

The final action of this step is to implement the remedy. Depending on the complexity of the problem being addressed and the solutions to be implemented, a formal implementation plan may be needed. At a minimum, procedures, process standards, or work instructions will need to be modified to institutionalize the change.