

ProSkills II - Problem-solving and Design Techniques

Assessing Alternatives

At most, in any job, you'll regularly find yourself confronting questions or problems and needing to identify and choose among alternative solutions. Once you have a clear idea of the problem, a *systematic approach* can help you identify the path forward that best fits your needs. This is useful also in Web Application Design problem-solving.

Step #1: Determine Feasible Alternatives

In this step, document criteria by which you'll evaluate each course of action. Then, brainstorm on possible solutions by collecting as many ideas as possible about how to correct the problem. Write them all down. Don't discount any ideas as too radical, expensive, or impossible to achieve. In fact, don't even attempt to evaluate the ideas at all! Instead, encourage creative thinking. Ask "what if?"-What if we had unlimited resources? What if we had new skills? Be sure to include as many people or groups as necessary, since whatever solution is selected will need the buy-in of these same individuals and groups later on. Without their ownership, even the best alternative could end up failing.

Step #2: Collect Information Needed to Evaluate Alternatives

This step is where the pros and cons of each idea are evaluated. For each alternative developed in step #1, additional information will be needed to fill out the solution. Don't assume you know it all! Obtaining additional information will involve going back to people you spoke with at the outset to seek their input on the choices. It also may require securing financial information from other divisions in the organization, learning about operation schedules, documenting human resources constraints or training needs, or sourcing some market research intelligence to be able to verify observations or anecdotal evidence provided during initial data collection about the problem. You'll likely start to see relationships between the collected information that can provide insights into the feasibility of the possible solutions.

Step #3: Evaluate Each Alternative

Document both the benefits and costs of all alternatives, whether quantitative (cost savings) or qualitative (employee morale). Spreadsheet software often helps problem solvers track and quantify merits and drawbacks. Consider the resources required-financial, human, or other capital such as equipment.

- ☐ *Are they affordable?*
- ☐ *Is there enough time to implement the different solutions?*
- ☐ *There may be risks involved with some alternatives: what are they?*
- ☐ *What would be the consequences if the chosen solution didn't work?*

The best choice is to go with the solution that offers the greatest reward for the least amount of risk. In some cases, the solution may require developing a "Plan B" to fall back on in case the chosen solution fails to solve the problem.

Step #4: Select an Alternative

Don't get stuck trying to select a solution that addresses every aspect of a problem, especially if it is complex. Rarely are solutions perfect. Instead, consider the effect each alternative course of action may have as the change ripples through the organization. Will the resulting change generate positive results and meet the criteria established at the