"The significant problems we face cannot be solved at the same level of thinking we were at when we created them." — Albert Einstein

Problem Solving: A mental process that involves anticipating, diagnosing, analyzing and resolving problems.

Problem solving is one of the most important contributions people make in their organizations, communities and homes. In its broadest sense, problem solving is all about progress. It includes anticipating changes that need to be made in the future and addressing challenges that exist today. All continuous improvements, innovations and products/services emerge from problem solving. Since problem solving is a critical skill across all areas of life, we need to understand its four important components:

1. Problem Solving Methodology
2. Problem Solving Skills
3. Problem Solving Tools
4. Problem Solving Obstacles
**Problem Solving Methodology**

The initial stages of problem solving can be frustrating. Uncovering, defining and getting agreement about the core problem often create the most frustrations in problem solving. So, to avoid addressing the wrong problem or diverse problems, it is essential to establish a problem solving methodology. Good problem solving methodologies include the following steps:

- **Problem Finding:** Seeking, anticipating and investigating constraints, improvements, changes and trends within or outside your organization/home.
- **Problem Definition:** Defining the core problem your team hopes to solve.
- **Problem Evaluation:** Analyzing causes and interdependencies.
- **Develop Strategies:** Generate a variety of ways to address the problem and convert those into practical and actionable solutions.
- **Implement Actions:** Take action steps, continually revising and adapting as learning takes place until the solution is successfully implemented.
- **Evaluation and Measure:** Put objective measures in place to test and evaluate on-going success.

**Problem Solving Skills:**

Some people are naturally gifted in skills like logic, reasoning, and systematic analysis, but these skills can be learned. This is also one of the greatest benefits of working within teams, because even in a small group most likely someone will be strong in these skills so that the whole group can benefit. As your team works together, you will quickly see the strengths of each individual contribute toward the solution. Helpful problem solving skills will:

- Utilize logic and systematic processes to analyze and solve problems.
- Define the causes, effects, impact and scope of problems.
- Identify the multiple components of problems and their relationships.
- Prioritize steps to achieving a solution.
- Develop criteria for optimum solutions.
- Evaluate the potential impact of possible solutions and selects the best one.
Problem Solving Tools:
Multitudes of problem solving tools exist and can be obtained through an Internet search, but there are even more fabulous tools readily available to you. Mindtools at www.mindtools.com provides a broad range of helpful tools. We provide five of the better ones here:

1. **Five Whys.** This tool requires you to ask “WHY” five times (or to the extent it makes sense) as a means to identify the root cause of a problem. Continue to ask “WHY” until you arrive at your root cause. This method is simple and easy to learn and apply.

2. **Affinity Diagram.** An affinity diagram helps to synthesize large amounts of data by finding relationships between ideas. Its purpose is to synthesize divergent thoughts into categories that make sense. With this tool, you generate ideas through brainstorming (writing ideas on sticky notes works well) and then you categorize the ideas into natural themes. Once a consensus is reached, you create a category card that summarizes the major themes.

3. **Fishbone Diagram (Ishikawa Diagram).** This is a graphical tool for identifying the relationship between a problem and its potential causes. It is called a fishbone because of the shape it takes. The issue (problem or process condition) is recorded on the right side of the diagram (at the head of the fish). A straight line (backbone) is drawn which leads to the head. The team identifies as many major causes for the problem as possible, which become the major bones of the fish. As sub-causes or contributors to those major categories are identified, the fish bone diagram is expanded. This provides a visual graphic of major and sub-category causes of the problem.

4. **Mind Mapping.** A mind map is a non-linear diagram that collects information around a central subject. It incorporates words, images, colors and whatever else people dream up. It is helpful in retaining information because people remember better when images and color are incorporated. To begin you create an image of your central problem. Use your problem solving methodology steps as the main branches of your mind map. In the end, you’ll have a colorful mind map of your entire problem solving process.

5. **Appreciative Inquiry.** This tool starts with an appreciation for what is good and beneficial. It takes a very positive approach to problem solving and usually includes 5 D’s: Define, discovery, dream, design and deliver. In the Define stage, you record your opportunity (positive outcome). In the discovery phase, you identify past successes. In dream, you imagine what “could be” if all those best outcomes were achieved. In Design, you generate strategies. In deliver, you design action plans to implement strategies and measures to evaluate your plan. This is an optimistic and fun tool for problem solving.
**Problem Solving Obstacles:**
As we said, it is crucial to institute problem solving methodology and utilize a variety of state of the art problem solving tools. However, no system or set of implementation skills work effectively unless team members have the right attitude and perspective. Here are some common inhibitors to effective problem solving.

- **Denial:** People don’t want to acknowledge the problem is significant enough to be addressed.
- **Lack of accountability:** People believe that the problem should be solved by someone else.
- **Superficial problem solving:** People work on symptoms or create quick fixes that don’t address the root cause problem.
- **Motivational deficiency:** People are not invested in the customer, organizational mission or outcomes of their organization.
- **Assumptions:** People often make assumptions about the constraints and obstacles that prevent creative solutions.
- **Functional constraint:** People tend to view problems in traditional ways, which prevents open-mindedness to other options and solutions.
- **Finger-Pointing:** While accountability must be genuine, people will be much more willing to address problems when they know they will be considered part of the solution, instead of pigeon-holed as part of the problem.

Problems are to be expected; they are a normal and healthy part of growth. If we learn to handle problems correctly, they will cease being problems and become transformed into gateways of opportunity.

"Problems are only opportunities in work clothes."—Henri Kaiser

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