

# Problem Solving

## Competency Development Activities

### Competency Definition

Identifies and analyzes problems; weighs relevance and accuracy of information; generates and evaluates alternative solutions; makes recommendations.

### Developmental Activity Levels

#### All (A)

*Applies to all competency levels*

#### Beginner-Basic Knowledge (B)

*A person at the Beginner-Basic Knowledge level has limited experience applying the competency. He/she applies general knowledge in common situations but has limited practical experience in applying the competency in a work environment presenting more complex situations.*

#### Mid-level (M)

*A person with mid-level proficiency has applied the competency repeatedly and successfully in the performance of his/her job but still has much to learn about the advanced aspects or behaviors associated with the competency. A person at this level can usually apply the competency on his/her own.*

#### High (H)

A person at the High level has extensive knowledge of and experience with this competency and can apply the competency exceptionally well on the job without assistance. At this level one is an expert and has enough experience to teach the competency to others.

### Articles, Books, and Websites

A Barton J. Goldsmith, "Essential Learning: Innovative Problem Solving", Los Angeles Business Journal, August, 2001.

The two most important skills to cultivate are creativity and problem solving. How one experiences problems is a more significant factor in success than are the specific problems themselves. Learn to see problems as creative opportunities to grow and improve.

A Hoeing, Christopher Hoeing, "Means to an End", CIO Magazine, November, 2000.

Solving problems includes six essential skills. The more you can master the better the ultimate result.

A Loren Gary, "Problem Solving for Decision Makers", Harvard Management Update,

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December, 1997.

This six-step guide for making basic business decisions recommends the following process: 1) define the problem, 2) identify the criteria, 3) weigh the criteria, 4) generate alternatives, 5) rate each alternative on each criterion, and 6) compute the optimal decision.

A Andersen, Bjorn (Editor), Tom Fagerhaug, Root Cause Analysis: Simplified Tools and Techniques, American Society for Quality, December, 1999.

This book makes root cause analysis accessible to any employee in all types of organizations and business sectors. The book starts from scratch and builds gradually toward presenting the most-needed basic root analysis skills. These tools are described, and their purpose and typical applications are outlined. Procedures for applying the tools are included, as is a checklist, to ensure that the tools are applied correctly.

A Hammond, John S., Keeney, Ralph L., and Raiffa, Howard, The Hidden Traps in Decision Making, Harvard Business Review OnPoint, November, 2000. HBR 5408

The human mind is prone to distortions and biases that can undermine even the most well-thought-out decision-making process. The authors examine eight psychological traps that are particularly likely to affect the way we make business decisions, including: the anchoring trap, which leads us to give disproportionate weight to the first information we receive; the confirming-evidence trap, which leads us to seek out information supporting an existing predilection and to discount opposing information; and the framing trap occurs when we misstate a problem, undermining the entire decision-making process.

A Hoenig, Christopher, The Problem Solving Journey: Your Guide for Making Decisions and Getting Results, Perseus Publishing, November, 2000.

This book offers a guide to the adventure of problem solving, with practical insights from the worlds of business, government, science, medicine, law, and the arts featuring examples of successful problem solvers such as Colin Powell and Lou Gerstner, and from leading organizations as diverse as VISA, the Orpheus Chamber Orchestra, and NASA.

A Ritter, Diane Ritter, Brassard, Michael, The Problem Solving Memory Jogger: Seven Steps to Improved Processes, Goal/Qpc., June, 2000.

This book provides employees at all levels a proven and practical seven-step, problem-solving method that can easily be learned and used to remove barriers to higher levels of performance and, when necessary, to implement corrective measures.

A Nadler, Gerald and Hibino, Shozo, Breakthrough Thinking: The Seven Principles of Creative Problem Solving, Prima Publishing, September, 1998.

In this book, you will learn the seven steps consistently used by those who solve problems most creatively. By taking an analytical approach, the authors discovered that there is a specific

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method used to successfully make decisions that is both teachable and duplicable.

**M** Susskind, Lawrence, Breaking Robert's Rules: Consensus-Building Techniques for Group Decision Making, Harvard Management Update, April, 2004. HMU: N0505C

When majority-rule decisions are made within a team, it is almost guaranteed that there will be an unhappy minority and instability. After all, an unhappy minority will bide its time, awaiting an opportunity to sabotage the group's outcome. The author helps you learn about an alternative approach that can achieve a decision that is closer to unanimous.

**M** Dombroski, Thomas W., Creative Problem Solving: The Door to Individual Success and Change, iUniverse.com, April, 2000.

This book shows how to remove the roadblocks by attacking problems creatively and clearing away outmoded strictures that straitjacket our thinking process and inhibit new approaches.

**M** Jones, Morgan D., The Thinker's Toolkit: Fourteen Powerful Techniques for Problem Solving, Times Books, July, 1998.

A resource for any manager or professional, this book offers a collection of proven, practical methods for simplifying problem solving and making faster, better decisions every time.

**M** Altier, William J., The Thinking Manager's Toolbox: Effective Processes for Problem Solving and Decision Making, Oxford University Press, November, 1999.

This book is a manual for developing a set of "thinking tools" for making choices, defining steps, timing decisions, preventing errors, and finding the root causes of unexpected change. It offers a complete set of analytical tools essential to successful trouble-shooting, effective planning, and making better decisions faster, more confidently, and more often.

**M** Cialdini, Robert B., "Perplexing Problem? Borrow Some Brains", Harvard Business School Newsletter, August, 2004. <http://hbswk.hbs.edu/item.jhtml?id=4318&t=leadership>

Teams often defer to their best decision maker, but more is better than less when it comes to brain power. This article shows the importance of communication in problem solving and the implications for managers and anyone else who works as part of a team. Far too often, a leader—who, by virtue of greater experience or wisdom or skill, is deemed the ablest problem solver in a group—fails to ask for input from team members.

**H** Gary, Loren, "Want Better Results? Boost Your Problem-Solving Power", Harvard Management Update, October, 2004. HMU: U0410A

Today, firms across a broad range of industries are seeking to supply their managers with the tools and training to excel in problem solving. In doing so, they aim to embed problem-solving proficiency in the organizational fabric so that it becomes a competitive differentiator. In this article, read about the three things organizations must do well if they wish to succeed in this

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endeavor.

**H** Michelman, Paul, Decisions: Which Projects Get Top Billing?, Harvard Business School Press, May, 2005. HBSP: U0404D

You can't do it all, so what will you do? What's best for your career, what's best for your team, or what's best for the firm? Choosing which projects to pursue and which to let fall by the wayside is among the most difficult and important decisions any executive faces. The author writes: to have the greatest impact, you need to set your own priorities.

**H** McCoy, Charles W., Why Didn't I Think of That?: Think the Unthinkable and Achieve Creative Greatness, Prentice Hall Press, January, 2002.

This book breaks down the complex process of creative problem-solving and decision-making into simple steps anyone can follow, and it illustrates those steps with the stories of history's best minds at work.

### Activities

**B** Ask co-workers how they came to their successful decision in a complex situation or issue; discuss their thought processes and apply lessons learned to your own situation.

**B** Broaden your learning style and interactive problem solving skills by seeking opportunities to work with employees whose work styles differ from your own (e.g., quick results-oriented style vs. deliberate analytical style).

**B** Broaden your thinking processes by outlining two to three different approaches to one problem before actually going in and tackling the problem.

**B** Elicit alternative approaches from multiple sources when faced with a complex problem or project.

**B** Gather input from your co-workers and create a reference document of common problems and solutions.

**B** If you tend to rely on your superiors for decision-making, force yourself to formulate alternatives and then present recommendations instead of the problem to your supervisor.

**B** Volunteer to work on a project or assignment that is larger or more complex than any you've handled before.

**M** Develop and use a set of ground rules that your team members agree to and will adhere to when listening to different perspectives for problem resolution.

**H** Head up a team of people to tackle and resolve a longstanding problem or issue in the

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organization.

**H** Offer to conduct the research and data gathering needed to understand and develop possible solutions to a problem affecting your work group.

**H** Volunteer to work on a taskforce to identify and resolve a longstanding problem or issue at work.

### Coaching Suggestions for Managers

**M** Recommend that the person debrief problems to identify learnings for individuals and the team. Ask for an action plan for recovery and for next time. Discourage attribution of blame.

**M** Ask person to create a list of probing questions to help others evaluate causes of problems and subsequent decisions. Questions should be non-threatening but inquiring.

**H** Ask staff members to develop a systematic approach to analyzing and solving problems that they have to deal with in their jobs. Review their systematic approach and make suggestions on what they could add to improve the approach

> (e.g., anticipate impact or consequences, identify contingency plans).

**H** Ask the person to identify key issues in a complex assignment or situation prior to proceeding. Suggest he/she talk with those close to the situation or decision makers to get a better understanding and then critique plans he/she is developing.

**H** Assign staff the responsibility for solving challenging operational problems. Have them mobilize key staff and/or stakeholders who are impacted by or have perspectives/skills needed to solve the problem.

**H** Assign staff temporarily to situations that require skillful problem-solving under time pressure.

**H** When a team member comes to you with a recommended solution to a critical problem, ask them what options were considered. Why were the other options discarded? What makes this recommendation the best solution? Is this the ideal solution, or just the best of the rest? Discuss the issue in detail and work with the individual to ensure that the best possible solution is selected. Be sure that the person understands that you are trying to help think through a choice, rather than second guessing them.

**H** When presented with a person's recommendation or discussion ask him/her to walk you through the thinking behind it. Look for patterns in data, and comparisons of options. If the analysis is too simplistic, suggest additional analysis prior to providing your approval.

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