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ARTICLE REPRINT

No. U9712C

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by Loren Gary

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Problem Solving for Decision Makers

by Loren Gary

SUPPOSE YOU'RE A BRAND manager in your company's gourmet snack foods division. After a number of successful years on the market, your sesame snack product has matured, and sales have begun to soften. A brand extension has been proposed. How do you decide if this is the right course of action?

Or perhaps you work for a computer superstore chain that wants to expand. You've been assigned the task of choosing where to locate new stores. Your team is generating lots of ideas for sites. How do you know when to call a halt to the research and select from among the various alternatives?

These situations underscore the extent to which solving problems is central to the work of the manager. And in the age of teams, managers don't solve problems alone. They must operate from a business discipline that will enable a group of workers to frame a problem and agree on the most efficient way to solve it. Yet as basic as this task is, many organizations don't solve problems using processes that result in optimal solutions. The signs of this are too much with us, from the frequent fizzling of comprehensive change-management efforts, to the stalling of "solutions" to more routine, circumscribed business problems such as the creation and marketing of new products and the expansion of a brand franchise or business.

Deficits in basic thinking skills are, in fact, felt at all levels of organizations. Chrysler, for example, has begun screening applicants for assembly-line jobs to see if they can demonstrate problem-solving skills. In the schools, the question "Why can't Johnny think?" has been added to the ques-

tion "Why can't Johnny read?" Universities have been designing curricula to teach both basic and so-called higher-order thinking. At the Cognitive Research Trust Thinking Program in New York City, the basic

Taking care to define the problem helps lead to optimal solutions.

approach is to identify simple procedures that can be applied to any problem. At Sonoma State University's Center for Critical Thinking, teachers are trained to model such competencies as clarity, precision, accuracy, relevance, consistency, and depth because the university believes students must work with others who can model such skills in order to learn them.

But companies can't wait for such reforms in education to percolate down into their work force. So what follows is a six-step guide for making basic business decisions, and some insights from a top tackler of management problems, General Electric.

The six-step model is taken from *Judgment in Managerial Decision Making* by Max Bazerman, J. Jay Gerber Distinguished Professor of Dispute Resolution and Organization at Northwestern's Kellogg Graduate School of Management. It is a "prescriptive" model in the sense that it lays out an optimal approach to mak-

ing decisions in a fully rational manner. Of course, real-world decision making regularly falls short of this purely rational ideal. But given the fog that can cloud critical thinking and problem solving in the workplace, a refresher on (or introduction to) some ideal problem-solving methods can only help. If nothing else, says Bazerman, "A good prescriptive approach helps you make sure you're asking the right questions."

Define the problem.

Defining, or framing, the problem is perhaps the most important step—if for no other reason than it's where most managers and teams first go astray. "We know less about problem definition than we do about decision-making errors and biases," acknowledges Bazerman. Nevertheless, there are some obvious mistakes that can be identified. For instance, defining the problem in terms of a proposed solution. In the gourmet brand example, focusing too quickly on the proposed brand extension can interfere with a more fundamental and broad-based analysis of the factors contributing to the brand's current health. Another example: diagnosing the problem in terms of its symptoms. Prematurely addressing the symptom of sluggish brand sales can lead to a misguided attempt to launch a new ad campaign. If the symptom is actually being caused by distribution snarls, those advertising dollars will be wasted. "So often we simply respond to the problems that come to us, when they aren't the right problems to be focusing on," cautions Bazerman. So don't let the symptoms or the proposed solution impede your effort to uncover the underlying problem.

Identify the criteria.

Most managers need to accomplish more than one objective when making a decision. In the computer superstore situation, the choice of new store locations will depend upon such factors as cheap commercial rental space, the existence of an adequately trained labor pool, proximity to existing distribution centers, ease of access

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for customers, and market research about sales potential in a given city or neighborhood.

Weight the criteria.

The relevant criteria will vary in importance, so once they have all been identified, they should be weighted—assigned a numerical value according to their relative importance. In the above example, if sales forecasts and rental costs are deemed five times more important than proximity to an existing distribution center, these differentials should be quantified by the numerical weight assigned to each criterion.

Generate alternatives.

“An inappropriate amount of search time is often spent seeking alternatives,” writes Bazerman. “An optimal search continues only until the cost of search outweighs the value of the added information.” Sometimes, of course, you can’t know the value of the added information until after the fact; that is, until after it’s been collected and analyzed. Still, your search for alternatives should be guided by the relative weights you’ve assigned to the relevant criteria. Returning to the superstore location, for example, allocate your time so that you’re concentrating on alternatives that maximize sales potential and minimize rental costs.

Rate each alternative on each criterion.

Determining how well each alternative solution satisfies each of the identified criteria usually involves forecasting future conditions, never an easy prospect. But in this purely rational model, the potential consequences of choosing each possible alternative are carefully assessed and assigned a numerical value.

Compute the optimal decision.

If the first five steps have been done right, this last one is a straightforward matter. For each alternative, multiply the expected effectiveness of the alternative for each criterion by the weight assigned to each criterion.

Adding up the totals for each criterion yields an overall score for the alternative. The alternative with the highest score is the rational choice.

Problem solving for teams

We’ve described a six-step model for individual decision making, but it’s perfectly appropriate for teams as well, notes Bazerman, with some modifications. For example, he explains, “In a group setting you often have multiple definitions of the problem. Even though it may require spending more time on this step, it’s important to agree on the problem definition before trying to generate alternatives.” Moreover, a political dimension enters into the team context in a much more forceful way: Skillful political operators often try to manipulate the agenda by the way they frame a problem. Weighing the evidence for a particular problem definition—assessing it in light of the perspective of and potential benefit to the person offering the definition—thus takes on added importance.

Implementation and evaluation procedures become more crucial in a team context as well. “All the problem-solving approaches we use end up with these two components,” says Steve Mercer, manager of executive education at General Electric’s offices in Crotonville, New York. He outlines one approach that includes defining the problem, initiating immediate action to contain the problem (or minimize its harm) while its causes are being studied, verifying the cause of the problem, verifying the corrective action necessary, implementing the corrective action, and then doubling back to ensure that the problem doesn’t occur again.

GE is adamantly opposed to the notion that one approach to problem solving will fit all situations, Mercer says. “At the corporate level, we try to avoid edicting processes to our constituent businesses, because then you create clones. A process that works for one of our manufacturing busi-

nesses may not be the best one for GE Capital. So we may expose people to five or six different approaches to problem solving in our executive education classes, but we don’t promote any one particular model. Rather, we delegate the problem-solving courses to the training and development departments of the respective businesses. We tell each department to come up with the processes that make the most sense for its business.”

In the real world of managerial decision making, where (research indicates) the average manager engages in a different activity every nine minutes, managers seldom have the luxury of the time it takes for such careful processes. Nobel laureate Herbert Simon has shown that in such settings purely rational judgment is “bounded” by time and cost constraints that limit the quality and quantity of available information, and also by the misperceptions and motivational biases to which decision makers fall prey. In other words, instead of making the optimal decisions prescribed by the rational model, managers “satisfice.” As Bazerman writes, “They search until they find a solution that meets a certain acceptable level of performance.”

In the real world, managers must make decisions amid uncertainty and the ever-pressing demands of time and tasks. The purely rational, prescriptive approach to decision making outlined here can, however, provide a framework for understanding how judgment can be optimized, when we have the will, and the time. ■

If you want to learn more . . .

Judgment in Managerial Decision Making
by Max Bazerman (4th ed., 1998,
John Wiley & Sons, 179 pp., \$36.95,
Tel. 800-CALL-WILEY or 212-850-6000)

■ Reprint # U9712C