

BEST PRACTICE

Make Better Decisions

by Thomas H. Davenport

Included with this full-text *Harvard Business Review* article:

1 [Article Summary](#)

The Idea in Brief—*the core idea*

2 [Make Better Decisions](#)

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The Idea in Brief

- In many organizations, decisions are left up to individuals and the process for making them receives little if any scrutiny. The recent plague of poor financial decisions is one result.
- Smart organizations can help their managers improve decision making in four steps: by identifying and prioritizing the decisions that must be made; examining the factors involved in each; designing roles, processes, systems, and behavior to improve decisions; and institutionalizing the new approach through training, refined data analysis, and outcome assessment.
- Chevron, the Educational Testing Service, and The Stanley Works are three organizations that have overhauled decision-making processes with great success. This article will help like-minded companies give decisions the attention they deserve.

Make Better Decisions

by Thomas H. Davenport

In recent years decision makers in both the public and private sectors have made an astounding number of poor calls. For example, the decisions to invade Iraq, not to comply with global warming treaties, to ignore Darfur, are all likely to be recorded as injudicious in history books. And how about the decisions to invest in and securitize subprime mortgage loans, or to hedge risk with credit default swaps? Those were spread across a number of companies, but single organizations, too, made bad decisions. Tenneco, once a large conglomerate, chose poorly when buying businesses and now consists of only one auto parts business. General Motors made terrible decisions about which cars to bring to market. Time Warner erred in buying AOL, and Yahoo in deciding not to sell itself to Microsoft.

Why this decision-making disorder? First, because decisions have generally been viewed as the prerogative of individuals—usually senior executives. The process employed, the information used, the logic relied on, have been left up to them, in something of a black box. Infor-

mation goes in, decisions come out—and who knows what happens in between? Second, unlike other business processes, decision making has rarely been the focus of systematic analysis inside the firm. Very few organizations have “reengineered” their decisions. Yet there are just as many opportunities to improve decision making as to improve any other process.

Useful insights have been available for a long time. For example, academics defined “groupthink,” the forced manufacture of consent, more than half a century ago—yet it still bedevils decision makers from the White House to company boardrooms. In the sixteenth century the Catholic Church established the devil’s advocate to criticize canonization decisions—yet few organizations today formalize the advocacy of decision alternatives. Recent popular business books address a host of decision-making alternatives (see “Selected Reading”).

However, although businesspeople are clearly buying and reading these books, few companies have actually adopted their recommendations.

The consequences of this inattention are becoming ever more severe. It is time to take decision making out of the realm of the purely individual and idiosyncratic; organizations must help their managers employ better decision-making processes. Better processes won't guarantee better decisions, of course, but they can make them more likely.

A Framework for Improving Decisions

Focusing on decisions doesn't necessarily require a strict focus on the mental processes of managers. (Though, admittedly, the black box deserves some unpacking.) It can mean examining the accessible components of decision making—which decisions need to be made, what information is supplied, key roles in the process, and so forth. Smart organizations make multifaceted interventions—addressing technology, information, organizational structure, methods, and personnel. They can improve decision making in four steps:

1. Identification. Managers should begin by listing the decisions that must be made and deciding which are most important—for example, “the top 10 decisions required to execute our strategy” or “the top 10 decisions that have to go well if we are to meet our financial goals.” Some decisions will be rare and highly strategic (“What acquisitions will allow us to gain the necessary market share?”) while others will be frequent and on the front lines (“How should we decide how much to pay on claims?”). Without some prioritization, all decisions will be treated as equal—which probably means that the important ones won't be analyzed with sufficient care.

2. Inventory. In addition to identifying key decisions, you should assess the factors that go into each of them. Who plays what role in the decision? How often does it occur? What information is available to support it? How well is the decision typically made? Such an examination helps an organization understand which decisions need improvement and what processes might make them more effective, while establishing a common language for discussing decision making.

3. Intervention. Having narrowed down your list of decisions and examined what's involved in making each, you can design the roles, processes, systems, and behaviors your organization should be using to make them. The key to

effective decision interventions is a broad, inclusive approach that considers all methods of improvement and addresses all aspects of the decision process—including execution of the decision, which is often overlooked.

4. Institutionalization. Organizations need to give managers the tools and assistance to “decide how to decide” on an ongoing basis. At Air Products and Chemicals, for example, managers are trained to determine whether a particular decision should be made unilaterally by one manager, unilaterally after consultation with a group, by a group through a majority vote, or by group consensus. In addition, they determine who will be responsible for making the decision, who will be held accountable for results, and who needs to be consulted or informed.

Companies that are serious about institutionalizing better decision making often enlist decision experts to work with executives on improving the process. Chevron, for example, has a decision-analysis group whose members facilitate decision-framing workshops; coordinate data gathering for analysis; build and refine economic and analytical models; help project managers and decision makers interpret analyses; point out when additional information and analysis would improve a decision; conduct an assessment of decision quality; and coach decision makers. The group has trained more than 2,500 decision makers in two-day workshops and has certified 10,000 through an online training module. At Chevron all major capital projects (which are common at large oil companies) have the benefit of systematic decision analysis.

An organization that has adopted these four steps should also assess the quality of decisions after the fact. The assessment should address not only actual business results—which can involve both politics and luck—but also the decision-making process and whatever information the manager relied on. Chevron regularly performs “lookbacks” on major decisions, and assesses not only outcomes but also how the decision might have employed a better process or addressed uncertainty better.

Let's look at how two companies have improved their decision making.

Better New-Product Decisions at ETS

The Educational Testing Service develops and administers such widely recognized tests as

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the SAT, the GRE, the TOEFL, and the AP. In 2007 Kurt Landgraf, ETS's CEO, concluded that the organization needed to accelerate and improve decisions about new products and services if it was to continue competing effectively. ETS had previously employed a stage-gate approval process for new offerings, but the organization's matrixed structure and diffuse decision-making responsibility made the process ineffective.

Landgraf asked T.J. Elliott, ETS's vice president of strategic workforce solutions, and Marisa Farnum, the associate vice president for technology transfer, to lead a team that would examine the decision process. The team found several fundamental problems. First, decision makers often lacked information about the intellectual property, partners, cycle times, and likely market for new offerings. Second, it was unclear who played what roles when a decision was being made. Third, the structure of the process was vague.

Elliott and Farnum's team created a new process intended to lead to more evidence-based decisions. It introduced a centralized deliberative body to make decisions about

new offerings, developed forms that required new metrics for and information about each proposal, and established standards for what constituted strong evidence that the offering fit with ETS strategy and likely market demand. The process has been in operation for 20 months and is widely regarded as a major improvement. It has clearly resulted in fewer bad product-launch decisions. However, the deliberative body has realized that proposals must be nurtured from an earlier stage to create more *good* offerings. The scope of its governance was expanded recently to evaluate and prioritize all product-adaptation and new-product opportunities.

Better Pricing Decisions at The Stanley Works

The Stanley Works, a maker of tools and other products for construction, industry, and security, has been operating its Pricing Center of Excellence since 2003. Under the banner of the Stanley Fulfillment System, a broad initiative for continual improvement in operations, Stanley had identified several decision domains that were critical to its success, including pricing, sales and operational planning, fulfillment processes, and lean manufacturing. Because all of them had a strong information component, a center of excellence was formed for each. The pricing center brings deep knowledge of pricing, data and analysis tools, and relationships with pricing experts at consulting and software firms to Stanley's business units. It is staffed by a director, internal consultants dedicated to the business units, and IT and data-mining specialists.

The center has made a variety of interventions in how the business units reach and execute pricing decisions. Over time it has developed several pricing methodologies and is now focusing on pricing optimization approaches. It has recommended assigning pricing responsibilities to the business unit managers. It holds regular "gross margin calls" with the units to share successes and review failures. (Stanley's CEO, John Lundgren, and its COO, Jim Loree, frequently participate.) Pricing outcomes have been added to personnel evaluations and compensation reviews. An offshore supplier has been engaged to gather and analyze competitors' prices. The center has helped to develop automated decision making, such as a process for authorizing promotional events. It uses

Selected Reading

Blink

by Malcolm Gladwell, is a paean to intuitive decision making.

The Wisdom of Crowds

by James Surowiecki, argues for large-group participation in decisions.

How We Decide

by Jonah Lehrer, addresses the psychobiology of decision making and the limits of rationality.

Predictably Irrational

by Dan Ariely, considers behavioral economics and its implications for decision making.

Nudge

by Richard Thaler and Cass Sunstein, is influencing discussions about behavior-oriented policy in Washington, DC.

Two books on analytical and automated decision making:

Competing on Analytics

by Thomas H. Davenport and Jeanne G. Harris.

Super Crunchers

by Ian Ayres.

“white space analysis” to analyze customer sales data and identify opportunities for additional sales or margin. It also trains the business units on pricing methods, participates in project start-ups, does coaching and mentoring, and disseminates innovations and best practices in pricing.

The results of the center’s work speak for themselves: Gross margin at Stanley grew from 33.9% to more than 40% in six years. The changes have delivered more than \$200 million in incremental value to the firm. Bert Davis, Stanley’s head of business transformation and information systems, says, “We tried to improve pricing decisions with data and analysis tools alone, but it didn’t work. It was only when we established the center that we began to see real improvement in pricing decisions.”

Multiple Perspectives Yield Better Results

Analytics and decision automation are among the most powerful tools for improving decision making. A growing number of firms are embracing the former both strategically and tactically, building competitive strategies around their analytical capabilities and mak-

ing decisions on the basis of data and analytics. (See my article “Competing on Analytics,” HBR January 2006.) Analytics are even more effective when they have been embedded in automated systems, which can make many decisions virtually in real time. (Few mortgages or insurance policies in the United States are drawn up without decision automation.)

But if one of these approaches goes awry, it can do serious damage to your business. If you’re making poor decisions on loans or insurance policies with an automated system, for example, you can lose money in a torrent—just ask those bankers who issued so many low-quality subprime loans. Therefore, it’s critical to balance and augment these decision tools with human intuition and judgment. Organizations should:

- Warn managers not to build into their businesses analytical models they don’t understand. This means, of course, that to be effective, managers must increasingly be numerate with analytics. As the Yale economist Robert Shiller told the *McKinsey Quarterly* in April 2009, “You have to be a quantitative person if you’re managing a company. The quantitative details really matter.”

The New Landscape of Decision Making

Ancient approaches to decision making have recently been augmented by improvements in technology and new research. But every approach has both benefits and drawbacks.

Small-group process

making effective decisions with just a few people

Analytics

using data and quantitative analysis to support decision making

Automation

using decision rules and algorithms to automate decision processes

Benefits

premature convergence on a decision is unlikely

clear responsibilities can be assigned

multiple alternatives can be examined

decisions are more likely to be correct

the scientific method adds rigor

speed and accuracy

criteria for decisions are clear

Cautionary messages

norms for debate must be rational, not emotional

everyone must get on board with the decision after debate

gathering enough data may be difficult and time-consuming

correct assumptions are crucial

difficult to develop decision criteria
may change

- Make assumptions clear. Every model has assumptions behind it, such as “Housing prices will continue to rise for the foreseeable future” or “Loan charge-off levels will remain similar to those of the past 10 years.” (Both these assumptions, of course, have recently been discredited.) Knowing what the assumptions are makes it possible to anticipate when models are no longer a guide to effective decisions.

- Practice “model management,” which keeps track of the models being used within an organization and monitors how well they are working to analyze and predict selected variables. Capital One, an early adopter, has many analytical models in place to support marketing and operations.

- Cultivate human backups. Automated decision systems are often used to replace human decision makers—but you lose those people at your peril. It takes an expert human being to revise decision criteria over time or know when an automated algorithm no longer works well.

It’s also important to know when a particular decision approach doesn’t apply. For example, analytics isn’t a good fit in situations when you have to make a really fast decision. And almost all quantitative models—even predictive

ones—are based on past data, so if your experience or intuition tells you that the past is no longer a good guide to the present and future, you’ll want to employ other decision tools, or at least to create some new data and analyses. (For a quick look at the strengths and weaknesses of various approaches, see the exhibit “The New Landscape of Decision Making.”)

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Decisions, like any other business activity, won’t get better without systematic review. If you don’t know which of your decisions are most important, you won’t be able to prioritize improvements. If you don’t know how decisions are made in your company, you can’t change the process for making them. If you don’t assess the results of your changes, you’re unlikely to achieve better decisions. The way to begin is simply to give decisions the attention they deserve. Without it, any success your organization achieves in decision making will be largely a matter of luck.

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learning from brain research that illuminates decision making	incorporating research on economic behavior and thinking into decisions	relying on one’s gut and experience to make decisions	using surveys or markets to allow decisions or inputs by large groups
decision makers know when to use the emotional brain	illuminates biases and areas of irrationality	easy and requires no data	those close to the issue are well positioned to know the truth
trains the rational brain to perform more effectively	can nudge decisions in a particular direction	the subconscious can be effective at weighing options	crowd-based decisions can be very accurate
individual decision making may be overvalued	findings in the field are still sketchy	typically the least accurate of decision approaches	members of the crowd must not influence one another
the brain is still poorly understood	context and wording can be used to manipulate decisions	decision makers are easily swayed by context	ongoing participation is difficult to maintain

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