

CALCULATING RETURN

The Probability Problem

BY REGINA KWON

It's Monday morning, and the chief operating officer calls you in for advice. The new sales-commission structure is too complicated for the current finance application, so several staffers have been calculating percentages and inputting payments by hand. The upgrade planned for the financial software will take care of this, but that rollout is at least eight months away.

Can your developers build a stand-alone application within six weeks, the latest date that would make the project worthwhile?

“Yes,” you answer. “I’m 90% sure.” Are you?

Numerous cognitive research studies have found that people are consistently overconfident in their judgment by about 20%—putting the like-

lihood you’ll deliver that finance application within six weeks at about 70%. And if you’re a manager, your estimate is probably more than twice as generous: In a study of 1,000 American and European managers, business school professors J. Edward Russo and Paul J. H. Schoemaker found that group to be correct only 30% to 60% of the time.

Most risk models rely on estimates made by subject-matter experts, says Douglas Hubbard, the inventor of Applied Information Economics, a methodology for calculating return on IT projects. Overconfidence can cost a company large sums, as well as incur bad blood between business and information technology. To correct for this, Hubbard starts each engagement with a workshop in which he “calibrates” participants to appropriate confidence levels.

A typical calibration workshop consists of a half-day of general-knowledge questions, in which participants provide answers or estimates along with their confidence that the answers they gave are correct.

“After a few sessions, people get a sense of what a 90% confidence level actually feels like,” says Hubbard, who recently conducted workshops for research firm Giga Information Group and consulting company Booz Allen Hamilton. “They stop using 90% so much, but when they do, they’re usually right.” ◀

EXERCISE: CALIBRATE YOURSELF

Hubbard Decision Research, which supplied this quiz, uses general-knowledge questions like the following to help people get calibrated—that is, to **learn how to match expectations with results**. Anyone on your team who contributes information about the feasibility, duration or cost of a task should take this quiz; in short, everyone.

DIRECTIONS: Read each question. Enter the lower and upper bounds of the range in which you are 90% sure the answer will fall. Then turn the page upside-down to find out how you did. If you got two to three wrong, you’re a standard overestimator. If you got more than that wrong, you’re probably a manager—we’re 70% sure.

		90% CONFIDENCE INTERVAL	
		LOWER BOUND	UPPER BOUND
1	How many days does it take the Moon to orbit the Earth?		
2	On average, testing is what percentage of the total cost of a software development project?		
3	If you could jump 50 feet straight up into the air, how many seconds would you be airborne before you landed?		
4	What percentage of IT jobs in the U.S. were unfilled in 1997?		
5	How many calories are in 8 ounces of orange juice?		
6	How many gold medals did Jesse Owens win at the 1936 Berlin Olympics?		
7	How many spectators did the Roman Colosseum hold?		
8	In what year was the structure of DNA discovered?		
9	In what year was William Shakespeare born?		
10	How many gallons are in a bushel?		

ANSWERS: 1 27.32 2 25 3 3.525 4 10 5 120 6 Four 7 50,000 8 1953 9 1564 10 Eight

BACKGROUND READING

For basics on calibration, read Russo and Schoemaker’s *Decision Traps*. For more about AIE and calibration workshops, visit www.hubbardresearch.com