Three Tools to Manage Uncertainty

By Kim Girard

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Airline pilots, risk managers, and entrepreneurs operate in environments that are practically defined by uncertainty. As a result, they've developed techniques that make uncertainty more manageable — and less perilous. There are three proven strategies for navigating short- and long-term uncertainty. With a little creativity, you can apply any of them to the decisions you face in these uncertain times.

Crew Resource Management (CRM)

What it is: A framework developed by NASA in 1979 to promote aircraft flight safety, CRM focuses on situational awareness, open and non-hierarchical communication within the cockpit, problem solving, teamwork, and effective decision making.

Who it works for: Anyone who has to make critical decisions quickly in professions that have zero tolerance for mistakes. Chesley B. "Sully" Sullenberger III, the pilot who guided US Airways Flight 1549 into the Hudson River, saving everyone on board, is a longtime CRM advocate who developed US Airways' first CRM course, focusing on crash prevention and making pilots better leaders.

The skinny: CRM is mandated for all pilots and is best used in professions where risk is part of the job. That said, there are elements of CRM that can work for anyone in business, says Jay Hopkins, president of the Error Prevention Institute, who has taught CRM since 1980. "Safety is not just physical; it's financial," he says. "It's about reducing risk as much as we can and never taking a risk you don't need to take." That includes risks from failing to communicate with a boss or customer to coming to work sleep-deprived, Hopkins says. Emphasizing situational awareness is a valuable way for managers to better understand context (what is happening), circumstance (what has happened), and consequence (what could happen) at all times.

Enterprise Risk Management (ERM)

What it is: ERM is used to identify risk, quantify its impact, investigate causes, and manage and monitor its effects. A high-level framework, ERM can be used for everything from analyzing credit ratings and the stock market to determining the impact reputational damage can have on a company.

The basics steps are:

- 1. Identify risks.

- 2. Quantify impacts.
- 3. Investigate causes.
- 4. Decide how to deal with the risks.
- 5. Manage and monitor.

Who it works for: Auditors, bankers, and financial types who want to understand trends before making long-term decisions.

The skinny: ERM is intended to be used strategically, so it needs to be applied beyond the operational parts of the business. In other words, it's more of a planning tool than a day-to-day management framework. Also, be sure the person running an ERM program has the quantitative skills required to apply it. There are many ERM programs to choose from, but experts say many are narrow on substance. The good ones are built on a mix of stochastic tools, decision sciences, game theory, and behavioral psychology.

Discovery-Driven Planning

What it is: Discovery-driven planning is a scenario-based planning tool developed by Wharton professor Ian MacMillan and Columbia Business School professor Rita Gunther McGrath. It's a systematic, six-step process used to convert ignorance into knowledge in uncertain environments. Managers can use it to make strategic adjustments and speedier decisions about whether to, for example, pull out of a failing venture.

The framework includes the following steps:

- 1. Framing: identifying a venture's purpose
- 2. Competitive market reality specification: getting a realistic view of competition
- 3. Specifying deliverables: determining what's needed to achieve results
- 4. Assumption testing: converting assumptions into knowledge
- 5. Managing milestones: scheduling the testing of assumptions
- 6. Parsimony: keeping costs down until assumptions are tested

Who it works for: Any business manager making decisions in an uncertain environment.

The skinny: This is a short-term framework designed to codify how entrepreneurs think. It aims to challenge assumptions (like "our customers are all going to pay their bills on time") to provide real-time options and more certainty, and it helps managers respond to surprises and failed business assumptions. It is best used as a framework to test new projects or ideas in early stages, prior to major capital investment.
