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Overcoming obstacles to effective scenario planning

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Scenario planning can broaden the mind but can fall prey to the mind's inner workings. Here's how to get more out of planning efforts.

When scenario planning has worked well, it has proved enormously useful to a wide range of organizations as a tool for making decisions under uncertainty. First popularized by Shell in the early 1970s, the approach should be a natural complement to other ways of developing strategy—especially when executives are as concerned about geopolitical dynamics as many are today. It would probably be more widely used if it hadn't been such a disappointment to many executives. In fact, 40 percent of those we surveyed in 2013 described it as having little effectiveness.

That scenario planning often underdelivers, in our observation, can be a simple matter of insufficient experience. Companies that infrequently use the approach lack the organizational muscle memory to do it right. Managers who are familiar with it assume they can just delegate it to subordinates. Those who are new to it can get caught up in the details, focusing on the assumptions behind sensitivity analyses, for example, without stopping to think about whether the uncertainties they're testing are the most important ones. Furthermore, in our experience, scenario planning can be hampered by the same deep-seated cognitive biases that it should be used to address, such as anchoring, neglecting low-probability events, or overconfidence.

Fortunately, an understanding of how such biases undermine scenario planning can mitigate their impact on decision making generally, and improve the effectiveness of scenario planning itself. Management writers, including our McKinsey colleagues, have spilled oceans of ink writing about scenario planning.[1] In this article, we hope to provide a practical cheat sheet that helps managers become more aware of, and learn how to address, the most common biases that afflict the approach (exhibit).

[1] Charles Roxburgh, "The use and abuse of scenarios," November 2009, mckinsey.com.

Exhibit

THE DOs AND DON'Ts OF SCENARIO PLANNING

Fight the urge to make decisions based on what you already know	Beware giving too much weight to unlikely events	Don't assume the future will look like the past	Combat overconfidence and excessive optimism	Encourage free and open debate
What to do Review all trends likely to affect your company's business, especially interconnections between issues and markets	**What to do** Evaluate and prioritize trends using first qualitative, then quantitative approaches	**What to do** Build scenarios around critical uncertainties, engaging top executives through experiential techniques	**What to do** Assess the impact of each scenario and develop strategic alternatives for each	**What to do** Instill the discipline of scenario-based thinking with systems, processes, and capabilities that sustain it
What to avoid Relying on readily accessible information or evaluating trends only within the same geography or industry context	**What to avoid** Focusing on numerical precision early in the process	**What to avoid** Outsourcing or delegating the creation of scenarios to junior team members	**What to avoid** Planning for a scenario deemed most likely, to the exclusion of all others	**What to avoid** Using scenario planning as a one-off exercise or ignoring social dynamics such as groupthink
Availability bias	*Probability neglect*	*Stability bias*	*Optimism, over-confidence biases*	*Social biases*

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Counter the tendency to make decisions based on what you already know: Availability bias

Scenario planning begins with intelligence gathering to understand and define a strategic problem. A planning team identifies emerging trends and potential disruptions that may affect the business. The output is typically a long list of trends, along with a high-level assessment of each trend's potential impact.

At this point, the process is most susceptible to the tendency people have to base decisions on information readily accessible in the decision maker's mind—an availability bias. For example, it's easy to fall into the trap of focusing on trends within your own industry or geography or on only part of a problem, perhaps because that's where information is most easily gathered. All this leads to blind spots.

When scenario planners make an effort to understand the confluence of technological, economic, demographic, and cultural trends within and beyond their own countries, they're more likely to generate valuable counterintuitive ideas. For example, when a North American equipment

manufacturer conducted a scenario-planning exercise about the growing importance of China, it began by focusing on the opportunity to sell equipment there. The assumption was that Chinese producers would buy the equipment to build products for their own local end customers—and that the company would need to make major investments to meet the Chinese producers' needs.

But when scenario planners looked closer, they realized there was another way for the company to participate in the growth of this market: it could sell equipment to buyers elsewhere, who were also targeting end customers in China. Given the buying power of Chinese producers, local regulatory issues, and the strong position of other global players, scenario analysis suggested that the company would be better off doubling down on equipment sales to non-Chinese companies that were rapidly penetrating this market.

Beware giving too much weight to unlikely events: Probability neglect

As scenario planning progresses, attention turns to the unknowns. The company evaluates and prioritizes emerging trends by their potential impact and their degree of uncertainty and then builds scenarios around the handful of residual uncertainties that typically emerge from the process.

The challenge here is that attempts to quantify what is intrinsically uncertain often lead to overscrutiny and analysis paralysis. Low-probability events can also easily be dismissed as outliers or overemphasized, creating a false sense of precision. Assigning low-probability events excessive weight, or completely ignoring them, is a phenomenon called probability neglect.

In scenario planning, it's critical to avoid the temptation to rush to model trends and uncertainties before assessing them qualitatively to set them in perspective and generate intuitions about how trends may collide and interact. This assessment should embrace several realities: some elements of the future are so uncertain they can't be quantified with any precision; simply evaluating the uncertainties' *relative* materiality to the business is valuable; and there are different levels of uncertainty, as our colleagues explained in a previous *McKinsey Quarterly* article.[2]

Following the financial crisis of 2008, it was common to say that everything was so unpredictable that planning was meaningless. Nonetheless, a telecommunications company used scenario planning to reduce the uncertainty to a manageable set of plausible scenarios. The starting point for reducing uncertainty was looking for ways to get beyond the fact that the company had no idea what GDP growth would be over the next few years. That was true, but when planners started looking carefully at different products and services in the portfolio, they realized that offerings at different stages of the life cycle had different levels of dependency on

[2] Hugh G. Courtney, Jane Kirkland, and S. Patrick Viguerie, "Strategy under uncertainty," *McKinsey Quarterly*, June 2000, mckinsey.com.

the macroeconomic environment. The company's diverse range of products and services included some that probably wouldn't have a bleak sales outlook even in severe downturns. These qualitative assessments helped the company to model the likely evolution of its markets more intelligently. That helped managers to bound the uncertainty, to create a set of leading indicators (beyond GDP) for each business to monitor, and to make the subsequent strategic dialogue far more tangible, with far less fear.

Counter assumptions that the future will look just like the past: Stability bias

As managers build scenarios, the implications for each uncertainty are extrapolated into the future to project different outcomes, and the combination of those outcomes becomes the basis for scenarios. The challenge, when managers anticipate the future, is to overcome a natural tendency to assume that it will look a lot like the past.

Properly executed, scenario planning prompts participants to convert abstract hypotheses about uncertainties into narratives about tangible realities. It can thus help decision makers to experience new realities in ways that are both intellectual and sensory, as well as both rational and emotional. Good narratives, as Chip and Dan Heath have argued, not only help us perceive alternative futures but also inspire us to act in response to them.[3]

This experiential aspect is essential, and it's here that a critical mistake often occurs: decision makers outsource the creation of scenarios to junior team members or external vendors and reengage only in the final stages. This is problematic, in our experience, because when senior leaders aren't part of the process of developing scenarios, they are less likely to make sense of or act on them. Their natural bias toward stability is therefore more likely to hold sway. Case in point: a team in one North American manufacturer presented demand scenarios for the next decade to senior executives many times, but to no effect. Not until those executives debated, stress tested, and experienced the scenarios for themselves, in exercises such as writing a story framed as a retrospective written in the future, a so-called premortem[4]—did they commit themselves to strategic action and apply the insights of the scenarios to set new directions.

Combat overconfidence and excessive optimism

[3] Lenny T. Mendonca and Matt Miller, "Crafting a message that sticks: An interview with Chip Heath," *McKinsey Quarterly,* 2007 Number 4.

[4] In a premortem, you pretend to be writing at some point in the future to explain the failure of a course of action that's contemplated in the here and now. The idea is to get some idea of the problems before those actions are implemented.

Once scenarios are defined, decision makers turn their attention to identifying the risks and opportunities that each scenario represents and compare them with those of the current business plan. At this point in the process, they will develop a new portfolio of potential strategic actions and contingency plans—as well as a clear understanding of the organizational, operational, and financial requirements of each.

Countless business initiatives fail because executives underestimate uncertainty and the chances of failure—and instead move directly to action. Many organizations reinforce this kind of

behavior by rewarding managers who speak confidently about their plans more generously than managers who point out how things might go wrong.[5] Overoptimism and overconfidence lead to projects that run over budget or time, to mergers and acquisitions that fall short of estimated cost and revenue synergies, and to business plans with unreasonable growth expectations.

Overoptimism and overconfidence can be countered by scenario planning but can also infect it. To stay on the right track, managers should avoid the temptation to choose the scenarios they deem most likely and to focus planning efforts solely on them. A good reality check is whether your scenario planning forces executives to consider unpalatable though plausible scenarios.

In the early 2010s, for instance, one energy company sought to assess the implications of oil and gas prices in North America for the company's portfolio of projects and investments. Of the pricing scenarios that managers created, one significantly challenged the attractiveness of several major business initiatives. The intense debate that ensued highlighted a number of important issues and turned out to be a dress rehearsal for challenges the company and the industry would face in the coming years. Evaluating the portfolio against all scenarios, good and bad, also made it clear that some initiatives would yield returns only in the most optimistic case. The company decided to put them on hold.

Initiatives were further evaluated by two other criteria. The first was their "optionality": how easy they would be to scale up or down. The second was the flexibility of the timelines—influenced, for example, by how much equity the company held in each initiative. The resulting portfolio contained no-regrets moves (projects or investments financially sound under all scenarios), real options (which required lower up-front investments but could be scaled up when the time was right), and big bets (demanding a large up-front investment to reserve the company's right to play in the space in the future). Such a portfolio avoids favoring what seems to be the most likely scenario, while allowing the organization to place (or opt out of) calculated choices, depending on how the market evolves.

Encourage free and open debate: Social biases

In an interview with *McKinsey Quarterly* in 2010, Daniel Kahneman, winner of the Nobel Prize for his work in behavioral economics, said, "I'm really not optimistic [that individuals can debias themselves]. . . . If we could elevate the gossip about decision making by introducing terms such as 'anchoring,' from the study of errors, into the language of organizations, people could talk about other people's mistakes in a more refined way."[6] Kahneman's intuition matches our strategy-development experience, which is why we emphasize making scenario planning part of a company's modus operandi rather than a one-off exercise. In fact, without institutional support, the biases described previously can be reinforced and amplified by the social biases of

[5] Dan Lovallo and Olivier Sibony, "The case for behavioral strategy," *McKinsey Quarterly*, March 2010, mckinsey.com.
[6] "Strategic decisions: When can you trust your gut?," *McKinsey Quarterly*, March 2010, mckinsey.com.

groupthink and "sunflower management" (the tendency for groups to align with the views of their leaders). Embedding an awareness of uncertainty, scenarios, and biases gives people the language and the license to keep one another in check.

A sustained ability to manage through trends and scenarios can also confer competitive advantage. IBM, for example, has been developing its annual Global Technology Outlook report for more than 30 years. Consistently refreshing this perspective has enhanced IBM's technological foresight and is, the company argues, an important enabler of "sound decisions and investments in future technology directions."[7]

To embed scenario thinking, organizations must institutionalize new mental habits and ways of working. This, our colleagues have argued, means that leaders must simultaneously instill a conviction that change is needed throughout the organization, role model the desired new behavior, reinforce processes and systems to counter bias, and ensure that the company acquires or builds the skills needed to support the new approach.[8] To help the organization make better decisions under uncertainty, top managers should freely acknowledge their susceptibility to bias and create an open environment that welcomes dissent. At the same time, they must challenge themselves and their people to embrace new habits of thought—such as thinking the unthinkable—when the company undertakes scenario planning. ◻

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[7] *Global Technology Outlook*, IBM Research, 2008, ibm.com.
[8] Emily Lawson and Colin Price, "The psychology of change management," *McKinsey Quarterly*, June 2003, mckinsey.com.