



The case for behavioral strategy

Dan Lovallo and Olivier Sibony



Left unchecked, subconscious biases will undermine strategic decision making. Here's how to counter them and improve corporate performance.

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Once heretical, behavioral economics is now mainstream. Money managers employ its insights about the limits of rationality in understanding investor behavior and exploiting stock-pricing anomalies. Policy makers use behavioral principles to boost participation in retirement-savings plans. Marketers now understand why some promotions entice consumers and others don't.

Yet very few corporate strategists making important decisions consciously take into account the cognitive biases—systematic tendencies to deviate from rational calculations—revealed by behavioral economics. It's easy to see why: unlike in fields such as finance and marketing, where executives can use psychology to make the most

of the biases residing in *others*, in strategic decision making leaders need to recognize *their own* biases. So despite growing awareness of behavioral economics and numerous efforts by management writers, including ourselves, to make the case for its application, most executives have a justifiably difficult time knowing how to harness its power.¹



This is not to say that executives think their strategic decisions are perfect. In a recent *McKinsey Quarterly* survey of 2,207 executives, only 28 percent said that the quality of strategic decisions in their companies was generally good, 60 percent thought that bad decisions were about as frequent as good ones, and the remaining 12 percent thought good decisions were altogether infrequent.² Our candid conversations with senior executives behind closed doors reveal a similar unease with the quality of decision making and confirm the significant body of research indicating that cognitive biases affect the most important strategic decisions made by the smartest managers in the best companies. Mergers routinely fail to deliver the expected synergies.³ Strategic plans often ignore competitive responses.⁴ And large investment projects are over budget and over time—over and over again.⁵

In this article, we share the results of new research quantifying the financial benefits of processes that “debias” strategic decisions. The size of this prize makes a strong case for practicing behavioral strategy—a style of strategic decision making that incorporates the lessons of psychology. It starts with the recognition that even if we try, like Baron Münchhausen, to escape the swamp of biases by pulling ourselves up by our own hair, we are unlikely to succeed. Instead, we need new norms for activities such as managing meetings (for more on running unbiased meetings, see “Taking the bias out of meetings” on mckinseyquarterly.com), gathering data, discussing analogies, and stimulating debate that together can diminish the impact of cognitive biases on critical decisions. To support those new norms, we also need a simple language for recognizing and discussing biases, one that is grounded in the reality of corporate life, as opposed to the sometimes-arcane language of academia. All this represents a significant commitment and, in some organizations, a profound cultural change.

¹ See Charles Roxburgh, “Hidden flaws in strategy,” mckinseyquarterly.com, May 2003; and Dan P. Lovallo and Olivier Sibony, “Distortions and deceptions in strategic decisions,” mckinseyquarterly.com, February 2006.

² See “Flaws in strategic decision making: McKinsey Global Survey Results,” mckinseyquarterly.com, January 2009.

³ See Dan Lovallo, Patrick Viguerie, Robert Uhlener, and John Horn, “Deals without delusions,” *Harvard Business Review*, December 2007, Volume 85, Number 12, pp. 92–99.

⁴ See John T. Horn, Dan P. Lovallo, and S. Patrick Viguerie, “Beating the odds in market entry,” mckinseyquarterly.com, November 2005.

⁵ See Bent Flyvbjerg, Dan Lovallo, and Massimo Garbuio, “Delusion and deception in large infrastructure projects,” *California Management Review*, 2009, Volume 52, Number 1, pp. 170–93.

What we did

1,048 Number of decisions analyzed

76% Share of decisions related to M&A, organizational change, or expansion into new geographies, products, and services

51% Proportion of decisions that could be attributed to a single, specific business function (sales, R&D, marketing, manufacturing, or supply chain/distribution)

The value of good decision processes

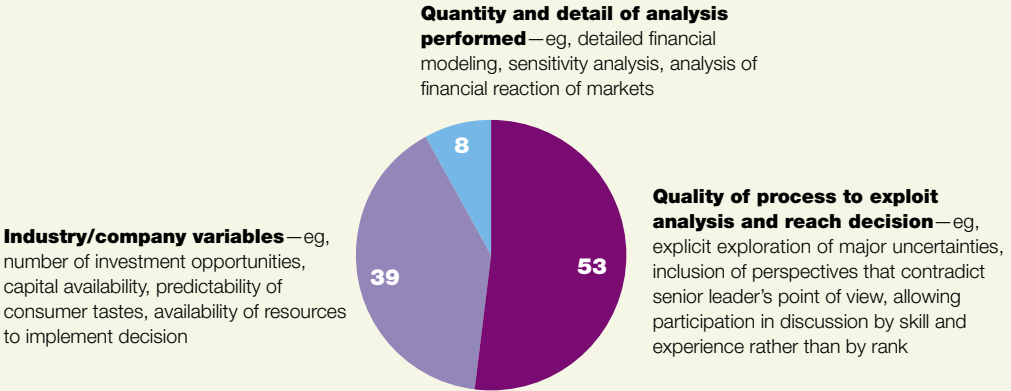
Think of a large business decision your company made recently: a major acquisition, a large capital expenditure, a key technological choice, or a new-product launch. Three things went into it. The decision almost certainly involved some fact gathering and analysis. It relied on the insights and judgment of a number of executives (a number sometimes as small as one). And it was reached after a process—sometimes very formal, sometimes completely informal—turned the data and judgment into a decision.

Our research indicates that, contrary to what one might assume, good analysis in the hands of managers who have good judgment won't naturally yield good decisions. The third ingredient—the process—is also crucial. We discovered this by asking managers to report on both the nature of an important decision and the process through which it was reached. In all, we studied 1,048 major decisions made over the past five years, including investments in new products, M&A decisions, and large capital expenditures.

Process, analysis, and industry variables explain decision-making effectiveness

Share of performance explained by given element

(based on multivariate regression analysis), %



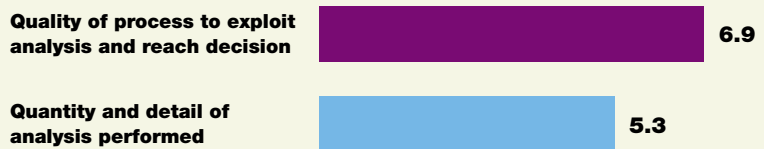
Note: To evaluate decision-making effectiveness, we asked respondents to assess outcomes along four dimensions: revenue, profitability, market share, and productivity.

We asked managers to report on the extent to which they had applied 17 practices in making that decision. Eight of these practices had to do with the quantity and detail of the analysis: did you, for example, build a detailed financial model or run sensitivity analyses? The others described the decision-making process: for instance, did you explicitly explore and discuss major uncertainties or discuss viewpoints that contradicted the senior leader's? We chose these process characteristics because in academic research and in our experience, they have proved effective at overcoming biases.⁶

After controlling for factors like industry, geography, and company size, we used regression analysis to calculate how much of the variance in decision outcomes⁷ was explained by the quality of the process and

⁶Research like this is challenging because of what International Institute for Management Development (IMD) professor Phil Rosenzweig calls the "halo effect": the tendency of people to believe that when their companies are successful or a decision turns out well, their actions were important contributors (see Phil Rosenzweig, "The halo effect, and other managerial delusions," *mckinseyquarterly.com*, February 2007). We sought to mitigate the halo effect by asking respondents to focus on a typical decision process in their companies and to list several decisions before landing on one for detailed questioning. Next, we asked analytical and process questions about the specific decision for the bulk of the survey. Finally, at the very end of it, we asked about performance metrics.

⁷We asked respondents to assess outcomes along four dimensions: revenue, profitability, market share, and productivity.

Difference in ROI between top- and bottom-quartile decision inputs, percentage points

how much by the quantity and detail of the analysis. The answer: process mattered more than analysis—by a factor of six. This finding does not mean that analysis is unimportant, as a closer look at the data reveals: almost no decisions in our sample made through a very strong process were backed by very poor analysis. Why? Because one of the things an unbiased decision-making process will do is ferret out poor analysis. The reverse is not true; superb analysis is useless unless the decision process gives it a fair hearing.

To get a sense of the value at stake, we also assessed the return on investment (ROI) of decisions characterized by a superior process.⁸ The analysis revealed that raising a company's game from the bottom to the top quartile on the decision-making process improved its ROI by 6.9 percentage points. The ROI advantage for top-quartile versus bottom-quartile analytics was 5.3 percentage points, further underscoring the tight relationship between process and analysis. Good process, in short, isn't just good hygiene; it's good business.

⁸This analysis covers the subset of 673 (out of all 1,048) decisions for which ROI data were available.

The building blocks of behavioral strategy

Any seasoned executive will of course recognize some biases and take them into account. That is what we do when we apply a discount factor to a plan from a direct report (correcting for that person's overoptimism). That is also what we do when we fear that one person's recommendation may be colored by self-interest and ask a neutral third party for an independent opinion.

However, academic research and empirical observation suggest that these corrections are too inexact and limited to be helpful. The prevalence of biases in corporate decisions is partly a function of habit, training, executive selection, and corporate culture. But most fundamentally, biases are pervasive because they are a product of human nature—hard-wired and highly resistant to feedback, however brutal. For example, drivers laid up in hospitals for traffic accidents they themselves caused overestimate their driving abilities just as much as the rest of us do.⁹

Improving strategic decision making therefore requires not only trying to limit our own (and others') biases but also orchestrating a decision-making process that will confront different biases and limit their impact. To use a judicial analogy, we cannot trust the judges or the jurors to be infallible; they are, after all, human. But as citizens, we can expect verdicts to be rendered by juries and trials to follow the rules of due process. It is through teamwork, and the process that organizes it, that we seek a high-quality outcome.

Building such a process for strategic decision making requires an understanding of the biases the process needs to address. In the discussion that follows, we focus on the subset of biases we have found to be most relevant for executives and classify those biases into five simple, business-oriented groupings (for more on these groupings, see "A language to discuss biases"). A familiarity with this classification is useful in itself because, as the psychologist and Nobel laureate in economics Daniel Kahneman has pointed out, the odds of defeating biases in a group setting rise when discussion of them is widespread. But familiarity alone isn't enough to ensure unbiased decision making, so as we discuss each family of bias, we also provide some general principles and specific examples of practices that can help counteract it.

Counter pattern-recognition biases by changing the angle of vision

The ability to identify patterns helps set humans apart but also carries with it a risk of misinterpreting conceptual relationships. Common

⁹Caroline E. Preston and Stanley Harris, "Psychology of drivers in traffic accidents," *Journal of Applied Psychology*, 1965, Volume 49, Number 4, pp. 284–88.

In most organizations, an executive who projects great confidence in a plan is more likely to get it approved than one who lays out all the risks and uncertainties surrounding it



pattern-recognition biases include saliency biases (which lead us to overweight recent or highly memorable events) and the confirmation bias (the tendency, once a hypothesis has been formed, to ignore evidence that would disprove it). Particularly imperiled are senior executives, whose deep experience boosts the odds that they will rely on analogies, from their own experience, that may turn out to be misleading.¹⁰ Whenever analogies, comparisons, or salient examples are used to justify a decision, and whenever convincing champions use their powers of persuasion to tell a compelling story, pattern-recognition biases may be at work.

Pattern recognition is second nature to all of us—and often quite valuable—so fighting biases associated with it is challenging. The best we can do is to change the angle of vision by encouraging participants to see facts in a different light and to test alternative hypotheses to explain those facts. This practice starts with things as simple as field and customer visits. It continues with meeting-management techniques such as reframing or role reversal, which encourage participants to formulate alternative explanations for the evidence with which they are presented. It can also leverage tools, such as competitive war games, that promote out-of-the-box thinking.

Sometimes, simply coaxing managers to articulate the experiences influencing them is valuable. According to Kleiner Perkins partner Randy Komisar, for example, a contentious discussion over manufacturing strategy at the start-up WebTV¹¹ suddenly became much more manageable once it was clear that the preferences of executives about which strategy to pursue stemmed from their previous career

¹⁰ For more on misleading experiences, see Sydney Finkelstein, Jo Whitehead, and Andrew Campbell, *Think Again: Why Good Leaders Make Bad Decisions and How to Keep It from Happening to You*, Boston: Harvard Business Press, 2008.

¹¹ WebTV is now MSN TV.

experience. When that realization came, he told us, there was immediately a “sense of exhaling in the room.” Managers with software experience were frightened about building hardware; managers with hardware experience were afraid of ceding control to contract manufacturers.

Getting these experiences into the open helped WebTV’s management team become aware of the pattern recognition they triggered and see more clearly the pros and cons of both options. Ultimately, WebTV’s executives decided both to outsource hardware production to large electronics makers and, heeding the worries of executives with hardware experience, to establish a manufacturing line in Mexico as a backup, in case the contractors did not deliver in time for the Christmas season. That in fact happened, and the backup plan, which would not have existed without a decision process that changed the angle of vision, “saved the company.”

Another useful means of changing the angle of vision is to make it wider by creating a reasonably large—in our experience at least six—set of similar endeavors for comparative analysis. For example, in an effort to improve US military effectiveness in Iraq in 2004, Colonel Kalev Sepp—by himself, in 36 hours—developed a reference class of 53 similar counterinsurgency conflicts, complete with strategies and outcomes. This effort informed subsequent policy changes.¹²

Counter action-oriented biases by recognizing uncertainty

Most executives rightly feel a need to take action. However, the actions we take are often prompted by excessive optimism about the future and especially about our own ability to influence it. Ask yourself how many plans you have reviewed that turned out to be based on overly optimistic forecasts of market potential or underestimated competitive responses. When you or your people feel—especially under pressure—an urge to take action and an attractive plan presents itself, chances are good that some elements of overconfidence have tainted it.

To make matters worse, the culture of many organizations suppresses uncertainty and rewards behavior that ignores it. For instance, in most organizations, an executive who projects great confidence in a plan is more likely to get it approved than one who lays out all the risks and uncertainties surrounding it. Seldom do we see confidence as a warning sign—a hint that overconfidence, overoptimism, and other action-oriented biases may be at work.

Superior decision-making processes counteract action-oriented biases by promoting the recognition of uncertainty. For example, it often

¹² Thomas E. Ricks, *Fiasco: The American Military Adventure in Iraq*, New York: Penguin Press, 2006, pp. 393–94.

helps to make a clear and explicit distinction between decision meetings, where leaders should embrace uncertainty while encouraging dissent, and implementation meetings, where it's time for executives to move forward together. Also valuable are tools—such as scenario planning, decision trees, and the “premortem” championed by research psychologist Gary Klein (for more on the premortem, see “Strategic decisions: When can you trust your gut?” on mckinseyquarterly.com)—that force consideration of many potential outcomes. And at the time of a major decision, it's critical to discuss which metrics need to be monitored to highlight necessary course corrections quickly.

Counter stability biases by shaking things up

In contrast to action biases, stability biases make us less prone to depart from the status quo than we should be. This category includes anchoring—the powerful impact an initial idea or number has on the subsequent strategic conversation. (For instance, last year's numbers are an implicit but extremely powerful anchor in any budget review.) Stability biases also include loss aversion—the well-documented tendency to feel losses more acutely than equivalent gains—and the sunk-cost fallacy, which can lead companies to hold on to businesses they should divest.¹³

One way of diagnosing your company's susceptibility to stability biases is to compare decisions over time. For example, try mapping the percentage of total new investment each division of the company receives year after year. If that percentage is stable but the divisions' growth opportunities are not, this finding is cause for concern—and quite a common one. Our research indicates, for example, that in multi-business corporations over a 15-year time horizon, there is a near-perfect correlation between a business unit's current share of the capital expenditure budget and its budget share in the previous year. A similar inertia often bedevils advertising budgets and R&D project pipelines.

One way to help managers shake things up is to establish stretch targets that are impossible to achieve through “business as usual.” Zero-based (or clean-sheet) budgeting sounds promising, but in our experience companies use this approach only when they are in dire straits. An alternative is to start by reducing each reporting unit's budget by a fixed percentage (for instance, 10 percent). The resulting tough choices facilitate the redeployment of resources to more valuable opportunities. Finally, challenging budget allocations at a more granular level can help companies reprioritize their investments.¹⁴

¹³ See John T. Horn, Dan P. Lovallo, and S. Patrick Viguerie, “Learning to let go: Making better exit decisions,” mckinseyquarterly.com, May 2006.

¹⁴ For more on reviewing the growth opportunities available across different micromarkets ranging in size from \$50 million to \$200 million, rather than across business units as a whole, see Mehrdad Baghai, Sven Smit, and Patrick Viguerie, “Is your growth strategy flying blind?” *Harvard Business Review*, May 2009, Volume 87, Number 5, pp. 86–96.

Counter interest biases by making them explicit

Misaligned incentives are a major source of bias. “Silo thinking,” in which organizational units defend their own interests, is its most easily detectable manifestation. Furthermore, senior executives sometimes honestly view the goals of a company differently because of their different roles or functional expertise. Heated discussions in which participants seem to see issues from completely different perspectives often reflect the presence of different (and generally unspoken) interest biases.

The truth is that adopting a sufficiently broad (and realistic) definition of “interests,” including reputation, career options, and individual preferences, leads to the inescapable conclusion that there will always be conflicts between one manager and another and between individual managers and the company as a whole. Strong decision-making processes explicitly account for diverging interests. For example, if before the time of a decision, strategists formulate precisely the criteria that will and won’t be used to evaluate it, they make it more difficult for individual managers to change the terms of the debate to make their preferred actions seem more attractive. Similarly, populating meetings or teams with participants whose interests clash can reduce the likelihood that one set of interests will undermine thoughtful decision making.

Counter social biases by depersonalizing debate

Social biases are sometimes interpreted as corporate politics but in fact are deep-rooted human tendencies. Even when nothing is at stake, we tend to conform to the dominant views of the group we belong to (and of its leader).¹⁵ Many organizations compound these tendencies because of both strong corporate cultures and incentives to conform. An absence of dissent is a strong warning sign. Social biases also are likely to prevail in discussions where everyone in the room knows the views of the ultimate decision maker (and assumes that the leader is unlikely to change her mind).

Countless techniques exist to stimulate debate among executive teams, and many are simple to learn and practice. (For more on promoting debate, see suggestions from Kleiner Perkins’ Randy Komisar and Xerox’s Anne Mulcahy in “How we do it: Three executives reflect on strategic decision making” on mckinseyquarterly.com.) But tools per se won’t create debate: that is a matter of behavior. Genuine debate requires diversity in the backgrounds and personalities of the decision makers, a climate of trust, and a culture in which discussions are depersonalized.

¹⁵ The Asch conformity experiments, conducted during the 1950s, are a classic example of this dynamic. In the experiments, individuals gave clearly incorrect answers to simple questions after confederates of the experimenter gave the same incorrect answers aloud. See Solomon E. Asch, “Opinions and social pressure,” *Scientific American*, 1955, Volume 193, Number 5, pp. 31–35.

Populating meetings or teams with participants whose interests clash can reduce the likelihood that one set of interests will undermine thoughtful decision making

Most crucially, debate calls for senior leaders who genuinely believe in the collective intelligence of a high-caliber management team. Such executives see themselves serving not only as the ultimate decision makers but also as the orchestrators of disciplined decision processes. They shape management teams with the humility to encourage dissent and the self-confidence and mutual trust to practice vigorous debate without damaging personal relationships. We do not suggest that CEOs should become humble listeners who rely solely on the consensus of their teams—that would substitute one simplistic stereotype for another. But we do believe that behavioral strategy will founder without their leadership and role modeling.

Four steps to adopting behavioral strategy

Our readers will probably recognize some of these ideas and tools as techniques they have used in the past. But techniques by themselves will not improve the quality of decisions. Nothing is easier, after all, than orchestrating a perfunctory debate to justify a decision already made (or thought to be made) by the CEO. Leaders who want to shape the decision-making style of their companies must commit themselves to a new path.

1

Decide which decisions warrant the effort

Some executives fear that applying the principles we describe here could be divisive, counterproductive, or simply too time consuming (for more on the dangers of decision paralysis, see the commentary by WPP's Sir Martin Sorrell in "How we do it: Three executives reflect on strategic decision making" on mckinseyquarterly.com). We share this concern and do not suggest applying these principles to all decisions. Here again, the judicial analogy is instructive. Just as higher standards of process apply in a capital case than in a proceeding before a small-claims court, companies can and should pay special attention to two types of decisions.

The first set consists of rare, one-of-a-kind strategic decisions. Major mergers and acquisitions, “bet the company” investments, and crucial technological choices fall in this category. In most companies, these decisions are made by a small subgroup of the executive team, using an ad hoc, informal, and often iterative process. The second set includes repetitive but high-stakes decisions that shape a company’s strategy over time. In most companies, there are generally no more than one or two such crucial processes, such as R&D allocations in a pharmaceutical company, investment decisions in a private-equity firm, or capital expenditure decisions in a utility. Formal processes—often affected by biases—are typically in place to make these decisions.

2

Identify the biases most likely to affect critical decisions

Open discussion of the biases that may be undermining decision making is invaluable. It can be stimulated both by conducting postmortems of past decisions and by observing current decision processes. Are we at risk, in this meeting, of being too action oriented? Do I see someone who thinks he recognizes a pattern but whose choice of analogies seems misleading to me? Are we seeing biases combine to create dysfunctional patterns that, when repeated in an organization, can become cultural traits? For example, is the combination of social and status quo biases creating a culture of consensus-based inertia? This discussion will help surface the biases to which the decision process under review is particularly prone.

3

Select practices and tools to counter the most relevant biases

Companies should select mechanisms that are appropriate to the type of decision at hand, to their culture, and to the decision-making styles of their leaders. For instance, one company we know counters social biases by organizing, as part of its annual planning cycle, a systematic challenge by outsiders to its business units’ plans. Another fights pattern-recognition biases by asking managers who present a recommendation to share the raw data supporting it, so other executives in this analytically minded company can try to discern alternative patterns.

If, as you read these lines, you have already thought of three reasons these techniques won’t work in your own company’s culture, you are probably right. The question is which ones *will*. Adopting behavioral strategy means not only embracing the broad principles set forth above but also selecting and tailoring specific debiasing practices to turn the principles into action.

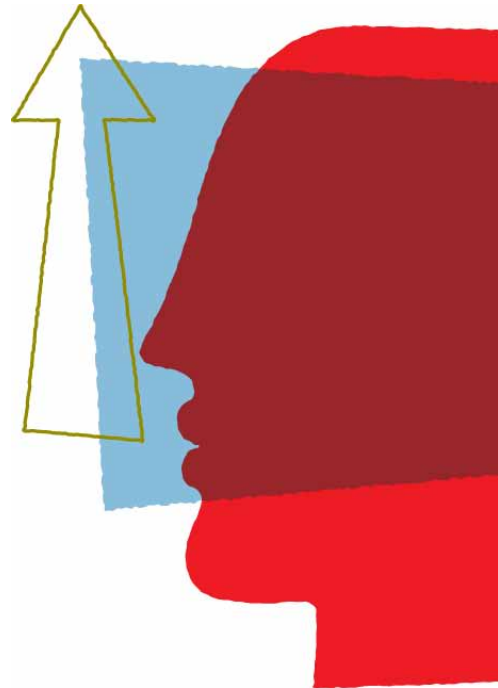
4

Embed practices in formal processes

By embedding these practices in formal corporate operating procedures (such as capital-investment approval processes or R&D reviews), executives can ensure that such techniques are used with some regularity and not just when the ultimate decision maker feels unusually uncertain about which call to make. One reason it's important to embed these practices in recurring procedures is that everything we know about the tendency toward overconfidence suggests that it is unwise to rely on one's instincts to decide when to rely on one's instincts! Another is that good decision making requires practice as a management team: without regular opportunities, the team will agree in principle on the techniques it should use but lack the experience (and the mutual trust) to use them effectively.



The behavioral-strategy journey requires effort and the commitment of senior leadership, but the payoff—better decisions, not to mention more engaged managers—makes it one of the most valuable strategic investments organizations can make. ◦



A language to discuss biases

Psychologists and behavioral economists have identified dozens of cognitive biases. The typology we present here is not meant to be exhaustive but rather to focus on those biases that occur most frequently and that have the largest impact on business decisions. As these groupings make clear, one of the insidious things about cognitive biases is their close relationship with the rules of thumb and mind-sets that often serve managers well. For example, many a seasoned executive rightly prides herself on pattern-recognition skills cultivated over the years. Similarly, seeking consensus when making a decision is often not a failing but a condition of success. And valuing stability rather than “rocking the boat” or “fixing what ain’t broke” is a sound management precept.

This bias typology was prepared by Dan Lovallo and Olivier Sibony.



Action-oriented biases

drive us to take action less thoughtfully than we should.

Excessive optimism. The tendency for people to be overoptimistic about the outcome of planned actions, to overestimate the likelihood of positive events, and to underestimate the likelihood of negative ones.

Overconfidence. Overestimating our skill level relative to others', leading us to overestimate our ability to affect future outcomes, take credit for past outcomes, and neglect the role of chance.

Competitor neglect. The tendency to plan without factoring in competitive responses, as if one is playing tennis against a wall, not a live opponent.



Interest biases

arise in the presence of conflicting incentives, including nonmonetary and even purely emotional ones.

Misaligned individual incentives. Incentives for individuals in organizations to adopt views or to seek outcomes favorable to their unit or themselves, at the expense of the overall interest of the company. These self-serving views are often held genuinely, not cynically.

Inappropriate attachments. Emotional attachment of individuals to people or elements of the business (such as legacy products or brands), creating a misalignment of interests.¹

Misaligned perception of corporate goals. Disagreements (often unspoken) about the hierarchy or relative weight of objectives pursued by the organization and about the trade-offs between them.

¹ Sydney Finkelstein, Jo Whitehead, and Andrew Campbell, *Think Again: Why Good Leaders Make Bad Decisions and How to Keep It from Happening to You*, Boston: Harvard Business Press, 2008.



Pattern-recognition biases

lead us to recognize patterns even where there are none.

Confirmation bias. The over-weighting of evidence consistent with a favored belief, underweighting of evidence against a favored belief, or failure to search impartially for evidence.

Management by example. Generalizing based on examples that are particularly recent or memorable.

False analogies—especially, misleading experiences. Relying on comparisons with situations that are not directly comparable.

Power of storytelling. The tendency to remember and to believe more easily a set of facts when they are presented as part of a coherent story.

Champion bias. The tendency to evaluate a plan or proposal based on the track record of the person presenting it, more than on the facts supporting it.



Stability biases

create a tendency toward inertia in the presence of uncertainty.

Anchoring and insufficient adjustment. Rooting oneself to an initial value, leading to insufficient adjustments of subsequent estimates.

Loss aversion. The tendency to feel losses more acutely than gains of the same amount, making us more risk-averse than a rational calculation would suggest.

Sunk-cost fallacy. Paying attention to historical costs that are not recoverable when considering future courses of action.

Status quo bias. Preference for the status quo in the absence of pressure to change it.



Social biases

arise from the preference for harmony over conflict.

Groupthink. Striving for consensus at the cost of a realistic appraisal of alternative courses of action.

Sunflower management. Tendency for groups to align with the views of their leaders, whether expressed or assumed.



To listen to the authors narrate a more comprehensive presentation of these biases and the ways they can combine to create dysfunctional patterns in corporate cultures, visit [mckinseyquarterly.com](https://www.mckinseyquarterly.com).