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ARTICLE

How to spot danger before it's too late

Predictable Surprises: *The Disasters You Should Have Seen Coming*

by Michael D. Watkins and Max H. Bazerman

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THE IDEA IN BRIEF

EVEN the best-run companies can get blind-sided by disasters they should have anticipated. These **predictable surprises** range from financial scandals to operational disruptions, from organizational upheavals to product failures.

But you can *minimize* your risk by lowering the barriers—psychological, organizational, and political—preventing you from foreseeing calamity. It isn't just a matter of better environmental scanning or contingency planning. You need a rigorous approach called **RPM**:

- **R**ecognize the threat.
- **P**rioritize it.
- **M**obilize resources to stop it.

Failure at any stage exposes your company to predictable surprises. Given the stakes involved, RPM should count among every business leader's core responsibilities.

THE IDEA AT WORK

How We Fail

The most skilled executives may fail at any RPM stage:

- **Recognition.** Leaders remain oblivious to emerging threats.

EXAMPLE:
Jack Welch never anticipated that GE's acquisition of Honeywell might flounder during antitrust reviews. Then the European Commission nixed the deal. Had he attended to the warning signs, Honeywell might be part of GE today.

- **Prioritization.** Leaders recognize a threat but don't consider it serious enough.

EXAMPLE:
Though Monsanto CEO Robert Shapiro knew Europeans had food-related concerns, he entered the genetically modified food industry. His failure to win public acceptance of GMO food products cost him his company.

- **Mobilization.** Leaders recognize and prioritize a threat but don't respond effectively.

EXAMPLE:
After the Big Five accounting firms pressured the SEC to allow auditors to continue providing consulting services to clients, the accounting scandals erupted.

Why We're Vulnerable

Predictable surprises stem from three kinds of vulnerabilities:

- **Psychological.** Cognitive biases lead us to see the world as we'd like it to be—not as it is. We favor only evidence supporting our preconceptions, fail to notice others' behavior, and ignore problems we haven't personally experienced.
- **Organizational.** In large organizations, decision makers receive fragmented, distorted, and incomplete data. Everyone assumes someone else is accountable; no one acts.
- **Political.** Power imbalances lead executives to overvalue some groups' interests and slight others'. Vested interests can impede action.

What We Can Do

To anticipate and avert crises, first ask yourself and your colleagues, "What predictable surprises are currently brewing in our organization?" Obvious, yes—but rarely asked. People often know of approaching storms but remain silent. Encourage them to speak up.

Then, ferret out threats invisible to insiders by using:

- **Scenario planning.** Gather individuals from inside and outside your company to analyze external trends and identify business drivers. Create scenarios for surprises that could emerge over the next two years, then design preparatory measures.
- **Risk analysis.** Estimate future events' probabilities and costs and benefits. Create cross-functional teams of insiders and outsiders to synthesize industry intelligence.
- **Incentives.** To promote information sharing, reward managers for balancing corporate and local interests.
- **Networks.** Gather internal and external advisers to test and refine early impressions and counter unconscious biases. Build formal coalitions to mobilize people outside direct lines of control.

The signs of an impending crisis often lie all around us, yet we still don't see them. Fortunately, there are ways to spot danger before it's too late.

Predictable Surprises: The Disasters You Should Have Seen Coming

by Michael D. Watkins
and Max H. Bazerman

April 29, 1995, was not a good day for Royal Dutch/Shell. That morning, a small group of Greenpeace activists boarded and occupied the Brent Spar, an obsolete oil-storage platform in the North Sea that Shell's UK arm was planning to sink. The activists brought with them members of the European media fully equipped to publicize the drama, and announced that they were intent on blocking Shell's decision to junk the Spar, arguing that the small amounts of low-level radioactive residues in its storage tanks would damage the environment. Greenpeace timed the operation for maximum effect – just one month before European Union environmental ministers were scheduled to meet and discuss North Sea pollution issues.

Shell rushed to court, successfully suing Greenpeace for trespassing. In the full glare of the media spotlight, the activists were forcibly removed from the platform. For weeks afterward, as the cameras continued to roll, Shell blasted Greenpeace boats with water cannons to prevent the group from reoccupying the Spar. It was a public relations nightmare, and it only got worse. Opposition to Shell's plans – and to Shell itself – mounted throughout Europe. In Germany, a boycott of Shell gas stations was organized, and many of them were firebombed or otherwise vandalized. Pilloried in the press and criticized by governments, Shell finally retreated. It announced on June 20 that it was abandoning its plan to sink the Spar.

Shell's uncoordinated, reactionary, and ultimately futile response to the Greenpeace protest revealed a lack of foresight and planning. The attack on the Spar had clearly come as a surprise to the company. But should it have? Shell actually had all the information it needed to predict what would transpire. The company's own security advisers entertained the possibility that environmental activists might try to block the dumping. Other oil companies, fearing a backlash, had protested Shell's plans when they were originally announced. Greenpeace had a history of occupying environmentally sensitive structures. And the Spar was nothing if not an obvious target: Weighing 14,500 tons, it was one of the largest offshore structures in the world and only one of a few North Sea platforms containing big storage tanks with toxic residues.

But, even with all the warning signs, Shell never saw the calamity coming. Unfortunately, its experience is all too common in the business world. Despite thoughtful managers and robust planning processes, even the best run companies are frequently caught unaware by disastrous events – events that should have been anticipated and prepared for. Such predictable surprises, as we call them, take many forms, from financial scandals to disruptions in operations, from organizational upheavals to product failures. Some result in short-term losses or distractions. Some cause damage that takes years to repair. And some are truly catastrophic – the events of September 11, 2001, are a tragic example of a predictable surprise.

The bad news is that all companies – including your own – are vulnerable to predictable surprises. In fact, if you're like most executives, you could probably point to at least one potential crisis or disaster that hasn't been given enough attention – a major customer that's in financial trouble, for instance, or an overseas plant that could be a terrorist target. But there's good news as well. In studying predictable surprises that have taken place in business and government, we have found that organizations' inability to prepare for them can be traced to three kinds of barriers: psychological, organizational, and political. Executives might not be able to eliminate those barriers entirely, but they can take practical steps to lower them substantially. And given the extraordinarily high stakes involved, taking those steps should be recognized as a core responsibility of every business leader.

Three Ways to Fail

It's all too easy, of course, to play Monday-morning quarterback when things go terribly wrong. That's not our intent here. We readily admit that many surprises are unpredictable – that some bolts out of the blue really do come out of the blue – and in those cases leaders shouldn't be blamed for a lack of foresight. Nor should they be blamed if they've taken all reasonable preventive measures against a looming crisis. But if a damaging event happens that was foreseeable and preventable, no excuses should be brooked. The leaders' feet need to be held to the fire.

So how can you tell the difference between a true surprise and one that should have been predicted? Anticipating and avoiding business disasters isn't just a matter of doing better environmental scanning or contingency planning. It requires a number of steps, from recognizing the threat, to making it a priority in the organization, to actually mobilizing the resources required to stop it. We term this the "RPM process": recognition, prioritization, mobilization. Failure at any of these three stages will leave a company vulnerable to potentially devastating predictable surprises. (See the sidebar "Are You to Blame?" for a further discussion of the RPM process.)

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Are You to Blame?

Predictable surprises arise out of failures of recognition, prioritization, or mobilization. The best way to figure out whether a disaster could have been avoided, as the diagram at right illustrates, is to ask the following:

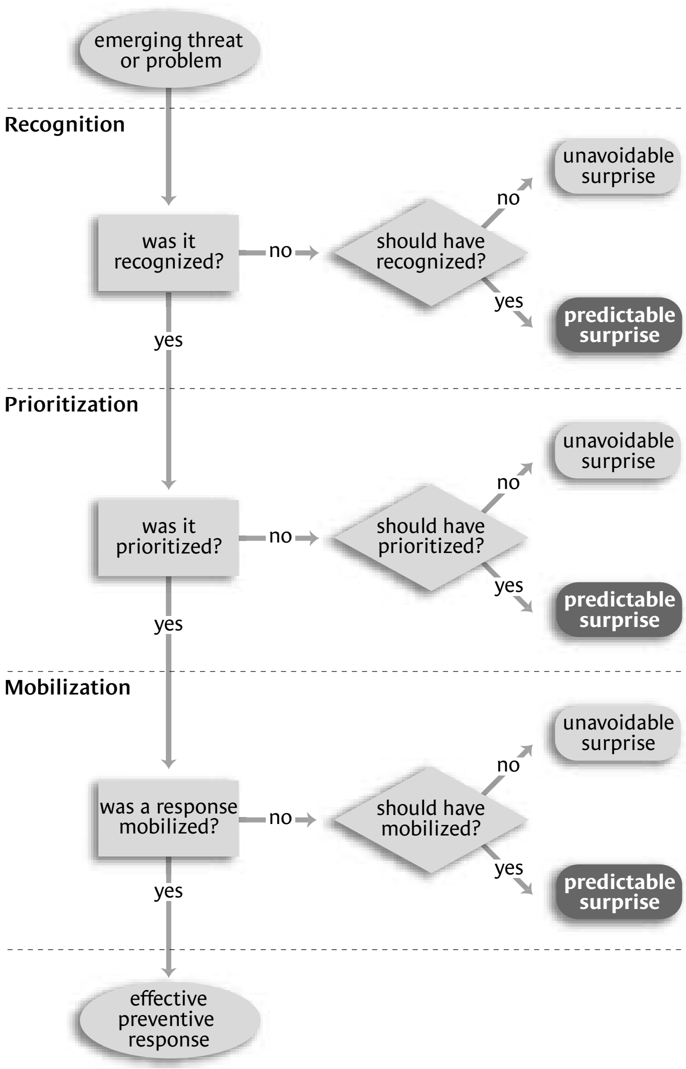
Did the leader recognize the threat? Some disasters can't be foreseen. No one, for instance, could have predicted that the HIV virus would jump the species barrier to infect humans on such a vast scale. But in examining the unforeseen disasters that strike companies, we've found that the vast majority should have been predicted. The way to determine whether a failure of recognition occurred is to assess whether the organization's leader marshaled resources to scan the environment for emerging threats. That includes ascertaining whether he did a reasonable job of analyzing and interpreting the data. If not, then the leader should be held accountable.

Did the leader prioritize appropriately? Predictable surprises also occur when a threat is recognized but not given priority. Failures of prioritization are particularly common, as business leaders are typically beset by many competing demands on their attention. How can they possibly distinguish the surprise that will happen from the myriad potential surprises that won't happen? The answer is that they can't make such distinctions with 100% accuracy. Uncertainty exists – high-probability disasters sometimes do not occur, and low-probability ones sometimes do. If, therefore, a leader performs careful cost-benefit analyses and gives priority to those threats that represent the highest costs, he should not be held accountable for a failure of prioritization.

Did the leader mobilize effectively? When a threat has been deemed serious, the leader is obligated to mobilize to try to prevent it. If he takes precautionary measures commensurate with the risks involved, he should not be held accountable. Nor should he be blamed if he lacked the resources needed to mount an effective response.

Lapses in recognition occur when leaders remain oblivious to an emerging threat or problem – a lack of attention that can plague even the most skilled executives. After European Commission regulators refused to approve General Electric's $42 billion acquisition of Honeywell in 2001, for example, Jack Welch was quoted as saying, "You are never too old to be surprised." Welch is a famously hard-nosed executive, and if anyone could have been expected to do his homework, it would have been him. But was Welch correct in viewing the decision as a true surprise, an event that couldn't have been foreseen? The evidence suggests he was not. The *Economist* reported at the time that there were many warning flags of the EC's intent to scuttle the deal. For some time, the magazine pointed out, a philosophical gap had been widening between Europe and America over the regulation of mergers. And Mario Monti, the recently appointed head of the European Commission's competition authority, was widely believed to be looking for an opportunity to assert Continental independence.

It seems the real reason Welch was surprised is that he just didn't pay enough attention. According to the Associated Press, when GE's CEO and his counterpart at Honeywell, Michael Bonsignore, were rushing to close the deal (United Technologies was also eager to acquire Honeywell), they "reportedly never held initial consultations with their Brussels lawyers who specialize in European competition concerns." Welch appeared to assume that the merger would sail through the antitrust review. But while it did pass easily through the U.S. review – no doubt further reinforcing his confidence – it smashed on the rocks in Europe. Had Welch recognized the potential for a negative decision ahead of time, he almost certainly would have managed the merger negotiations and antitrust consultations differently – and Honeywell might well be a part of GE today.



Failures of prioritization arise when potential threats are recognized by leaders but not deemed sufficiently serious to warrant immediate attention. Monsanto fell into this trap in late 1999 when CEO Robert Shapiro and his advisers failed to concentrate on winning public acceptance of genetically modified foods in Europe. Betting the company on a "life sciences" vision, Shapiro had sold or spun off Monsanto's traditional chemical businesses and moved aggressively to acquire seed companies. Dazzled by the seemingly vast commercial opportunities of genetically modified plants, the company pressed forward with launches of GMO food products in Europe, giving far too little weight to the fact that Europeans were still reeling from the mad cow disease crisis, reports of dioxin-contaminated chicken, and numerous other food-related concerns. By focusing on technical and strategic challenges, not on the hard work of winning hearts and minds, Shapiro ultimately lost his company. He was forced to sell Monsanto to Pharmacia-Upjohn, which bought it for its pharmaceutical division, valuing the agricultural biotechnology operations at essentially zero.

Breaks in the third link in the chain – failures of mobilization – occur when leaders recognize and give adequate priority to a looming problem but fail to respond effectively. When the Securities and Exchange Commission tried to reform the U.S. accounting system – well before the collapses of Enron and WorldCom – the Big Five accounting firms fiercely lobbied Congress to block new regulations that would have limited auditors' ability to provide consulting services. Appearing at congressional hearings in 2000, accounting firm CEOs assured legislators that no real problem existed. Joseph Berardino, then the managing partner of Arthur Andersen, stated in a written testimony that "the future of the [accounting] profession is bright and will remain bright – as long as the commission does not force us into an outdated role trapped in the old economy. Unfortunately, the proposed rule [on auditor independence] threatens to do exactly that." The Big Five also spent millions of dollars urging members of Congress to threaten the SEC leadership with budget cuts if it imposed limits on auditor services. The lobbying worked. The SEC backed off, and the all-too-predictable accounting scandals soon began to unfold.

It's important to note that the leadership failure here lies not just with the SEC but also with the accounting firms, which were well aware that their addiction to consulting fees was compromising their independence as auditors. Also culpable were political leaders – Republicans and Democrats, in the executive branch and in Congress – who lacked the courage to risk political damage and take a stand on the issue.

Sometimes, leaders actually set themselves up for predictable surprises. A classic example is the 1998 decision by a coalition of 39 pharmaceutical companies to sue the government of South Africa over its attempt to reduce the cost of HIV drugs through parallel importation (buying pharmaceuticals in countries with lower prices and then importing them) and compulsory licensing (requiring patent holders to allow others to manufacture and sell their drugs at far lower cost). The companies feared that the precedent set by the South African move would undermine their control over valuable intellectual property in the developing world. But the suit sparked international outrage against the industry, prompting a very public and unflattering look at drug firms' profit margins and industry practices, which the press juxtaposed against the grim realities of AIDS in southern Africa. In response, governmental and nongovernmental organizations formed a coalition that ultimately won big public health exemptions on international intellectual property protection in developing countries. By mobilizing to win the narrow legal battle in South Africa, and not focusing on the broader context, the industry suffered a severe setback.

> Anticipating and avoiding business disasters requires a number of steps, from recognizing the threat, to making it a priority in the organization, to actually mobilizing the resources required to stop it.

Why We're Vulnerable

When we studied examples of predictable surprises occurring at every stage of the RPM process, we found that they share similar causes. Some of those causes are psychological – cognitive defects that leave individuals blind to approaching threats. Others are organizational – barriers within companies that impede communication and dilute accountability. Still others are political – flaws in decision making that result from granting too much influence from special interests. Alone or in combination, these three kinds of vulnerabilities can sabotage any company at any time. All of them, as you'll see, were apparent in Shell's failure to anticipate the Brent Spar controversy.

Psychological Vulnerabilities. The human mind is a notoriously imperfect instrument. Extensive research has shown that the way we process information is subject to a slew of flaws – scholars call them cognitive biases – that can lead us to ignore or underestimate approaching disasters. Here are a few of the most common:

- We tend to harbor illusions that things are better than they really are. We assume that potential problems won't actually materialize or that their consequences won't be severe enough to merit preventive measures. "We'll get by," we tell ourselves.
- We give great weight to evidence that supports our preconceptions and discount evidence that calls those preconceptions into question.
- We pay too little heed to what other people are doing. As a result, we overlook our vulnerability to predictable surprises resulting from others' decisions and actions.
- We are creatures of the present. We try to maintain the status quo while downplaying the importance of the future, which undermines our motivation and courage to act now to prevent some distant disaster. We'd rather avoid a little pain today than a lot of pain tomorrow.
- Most of us don't feel compelled to prevent a problem that we have not personally experienced or that has not been made real to us through pictures or other vivid information. We act only after we've experienced significant harm or are able to graphically imagine ourselves, or those close to us, in peril.

All of these biases share something in common: They are self-serving. We tend to see the world as we'd like it to be rather than as it truly is. Much of Shell's failure to anticipate the disastrous response to its decision to dump the Brent Spar can be traced to the self-serving biases of its people – to their unshakable belief that they were right. Shell was an engineering company run by executives trained to make decisions through rigorous technical and economic analysis. Having reviewed more than 30 independent studies and arrived at "the correct answer" about the Spar, and having received approval from the British government to sink it, executives at Shell UK were utterly confident that their decision made the most sense, and they assumed that every reasonable person would see the issue their way. They were unprepared to deal with a group of true believers who opposed any dumping on principle and who were skilled at making emotional arguments that resonated with the public. In the contest for people's hearts and minds, emotion easily defeated analysis – much to the consternation of Shell executives. Even well after it was obvious that they were losing the battle, the leaders of Shell UK still couldn't back away from a failing course of action.

Self-serving bias can be particularly destructive when there are conflicts of interest. Think of the many business scandals that arose after the Internet bubble burst. Although corruption certainly played a role in these disasters, the more fundamental cause was a series of biased judgments. Professional auditors distorted their accounting in ways that served the interests of their clients. Analysts on Wall Street gave overly positive assessments of companies that were clients of their firms' investment-banking arms. Corporate directors failed to pay enough attention to the actions of the CEOs who appointed and paid them. Many of these auditors, analysts, and board members knew that the bubble would burst, but their unconscious biases prevented them from fully acknowledging the consequences or taking preventive action. (For an in-depth discussion of how biases distort accounting results, see "Why Good Accountants Do Bad Audits," by Max H. Bazerman, George Loewenstein, and Don A. Moore, in the November 2002 issue of HBR.)

Organizational Vulnerabilities. The very structure of business organizations, particularly those that are large and complex, makes it difficult to anticipate predictable surprises. Because companies are usually divided into organizational silos, the information leaders need to see and assess an approaching threat is often fragmented. Various people have various pieces of the puzzle, but no one has them all. In theory, corporate management should play the role of synthesizer, bringing together the fragmented information in order to see the big picture. But the barriers to this happening are great. Information is filtered as it moves up through hierarchies – sensitive or embarrassing information is withheld or glossed over. And those at the top inevitably receive incomplete and distorted data. That's exactly what happened in the months and years leading up to September 11. Various government agencies had pieces of information on terrorists' methods and plans that, had they been combined, would have pointed to the type of attack that was carried out against the World Trade Center and the Pentagon. Tragically, the information remained fragmented. (For more on September 11, see the sidebar: "9/11: The Surprise That Shouldn't Have Been.")

Organizational silos not only disperse information; they also disperse responsibility. In some cases, everyone assumes that someone else is taking responsibility, and so no one ever acts. In other cases, one part of an organization is vested with too much responsibility for a particular issue. Other parts of the organization, including those with important information or perspectives, aren't consulted or are even actively pushed out of the decision-making process. The result? Too narrow a perspective is brought to bear on the issue, and potential problems go unrecognized or are given too little priority.

Put another way, decision makers focus on an "impact horizon" that is too narrow, neglecting the implications for key constituencies. This sort of organizational parochialism was clearly evident within Shell. The company failed to see that sinking the Spar would set a precedent for dealing with other obsolete structures in the North Sea and that it was probably the worst structure to start with given its size and toxic residues. The company's decentralized management structure, made up of autonomous national business units, worked well when dealing with routine problems such as customizing marketing efforts to local customers. But it worked very badly when dealing with crises that crossed national lines. The Brent Spar was located in the British part of the North Sea, so responsibility for disposing of it was naturally vested with Shell UK. Shell UK, in turn, dealt with the British government to get the necessary permissions and consulted with British environmental groups. But Greenpeace changed the game by focusing its public relations attack not in Britain but in Germany. The German Shell operating company had not been involved in the process and had no part in the decision to dump the Spar. But it became the target of most of the pressure – financial and political – from Greenpeace. Indeed, the chairman of Shell Germany, Peter Duncan, remarked publicly that he first heard about the planned sinking of the Spar "more or less from the television." Once the crisis broke, Shell's decentralized structure inhibited the company from coordinating crisis response activities and notifying employees of decisions and events. Senior Shell managers outside the UK publicly criticized both the disposal plans and each other through the press.

Political Vulnerabilities. Finally, predictable surprises can emerge out of systemic flaws in decision-making processes. Imbalances of power, for example, may lead executives to overvalue the interests of one group while slighting those of other equally important groups. Such imbalances tend to be particularly damaging during the mobilization phase, when vested interests can slow or block action intended to resolve a growing problem. A case in point is the U.S. Congress, where single-interest groups, such as the National Rifle Association or the AARP, wield disproportionate influence. Through a combination of focused contributions to reelection campaigns, well-connected lobbyists, nurtured relationships with committee chairpeople and staff members, and intimate knowledge of leverage points in key processes, special-interest groups routinely stall or torpedo policy changes, even when there is a broad consensus that action is needed.

We saw this dynamic play out after Enron collapsed and WorldCom and other companies restated their financial results. Following an early burst of enthusiasm for seriously tightening corporate governance rules, Congress retreated in the face of intense lobbying by an array of business groups. In the critical area of auditing, for example, accounting industry lobbyists succeeded in watering down the Sarbanes-Oxley Act on corporate responsibility, enabling "independent" auditors to continue to provide consulting and other lucrative services to audit clients and to be rehired indefinitely by the clients, as well as allowing audit-firm staffers to take jobs with their clients. Efforts to reform pension laws to help protect workers from future Enron-like debacles were also beaten back by lobbyists representing employers. As a result, companies and investors remain vulnerable to damaging new "surprises."

Companies are all too often oblivious to the dynamics of governmental systems. Shell, for example, failed to anticipate and shape European political responses to its Brent Spar plan. Company officials had finalized the disposal plan after four years of study and quiet negotiations with the British government, which approved the dumping. After signing on to the Shell plan, the British government notified the other European governments with oil development and other interests in the North Sea. These governments raised no objections at that time, but the absence of objections is by no means the same as active support. As Greenpeace applied more pressure on the Continent, the German government responded by openly undercutting the UK's decision to allow Shell to sink the Spar. Through public criticism and direct requests, Germany pressured the UK to reverse its decision. Not building a broad consensus – with governments and with other oil companies – on how to deal with aging North Sea oil rigs cost Shell dearly.

Political vulnerabilities can also crop up within companies. Sanford Weill, the chairman of Citigroup, recently came under fire for apparently using corporate resources to provide personal assistance to Jack Grubman, a star analyst at Citi's Salomon Smith Barney. Weill allegedly helped get Grubman's children into a prestigious day care center in return for issuing a more favorable report on AT&T, a very important client of Salomon's investment-banking unit. But broader organizational politics also appear to have played a role in Weill's actions. As the *Economist* reported, "There is much speculation, and some e-mail evidence, that the recommendation helped to win support for Mr. Weill's successful ousting of [Citigroup's co-CEO, John] Reed from Michael Armstrong, AT&T's chief executive, who also happened to sit on Citi's board." The resulting damage to the reputations of Weill and his company was entirely predictable.

What You Can Do

"Prediction is very difficult," physicist Niels Bohr once said, "especially about the future." Difficult, yes. Impossible, no. Even though many organizations are caught unprepared for disasters they should have seen coming, many have successfully recognized approaching crises and taken evasive action. In the public sector, for example, governments, corporations, and charitable organizations banded together to curtail the use of CFC refrigerants once it became clear they were damaging the ozone layer. In the business arena, leaders are today sponsoring what we call "surprise-avoidance initiatives" on topics ranging from genomics research and stem cell biology to

9/11 The Surprise That Shouldn't Have Been

When fanatics commandeered jetliners on September 11, 2001, and steered them into buildings full of people, it came as a horrifying shock to most of the world. But however difficult it might have been to imagine individuals carrying out such an act, it shouldn't have been a surprise. Portents had been building up for years. It was well known that Islamic militants were willing to become martyrs for their cause and that their hatred and aggression toward the United States had been mounting throughout the 1990s. In 1993, terrorists set off a car bomb under the World Trade Center in an attempt to destroy the building. In 1995, other terrorists hijacked an Air France plane and made an aborted attempt to fly it into the Eiffel Tower. Also in 1995, the U.S. government learned of a failed Islamic terrorist plot to simultaneously hijack 11 U.S. commercial airplanes over the Pacific Ocean and then crash a lightplane filled with explosives into the CIA's headquarters near Washington, DC. Meanwhile, dozens of federal reports, including one issued by then Vice President Al Gore's special commission

Internet security to the reform of corporate governance.

Individual companies can learn a lot from such efforts. We have distilled from our own research a set of practical steps that managers can take to better recognize emerging problems, set appropriate priorities, and mobilize an effective preventive response. The first step is the simplest: Ask yourself and your colleagues, "What predictable surprises are currently brewing in our organization?" This may seem like an obvious question, but the fact is, it's rarely asked. People at various levels in organizations, from the top to the bottom, are often aware of approaching storms but choose to keep silent, often out of a fear of rocking the boat or being seen as troublemakers. By actively encouraging people to speak up, executives can bring to the surface many problems that might otherwise go unmentioned.

Some threats, of course, are invisible to insiders. To ferret out these potential dangers, companies should use two proven techniques – scenario planning and risk assessment.

on aviation security, provided comprehensive evidence that the U.S. aviation security system was full of holes. Anyone who flew on a regular basis knew how simple it was to board an airplane with items, such as small knives, that could be used as weapons.

But despite the signals, no precautionary measures were taken. The failure can be traced to lapses in recognition, prioritization, and mobilization. Information that might have been pieced together to highlight the precise contours of the threat remained fragmented among the FBI, the CIA, and other governmental agencies. No one gave priority to plugging the security holes in the aviation system because, psychologically, the substantial and certain short-term costs of fixing the problems loomed far larger than the uncertain long-term costs of inaction. And the organizations responsible for airline security, the airlines, had the wrong incentives, desiring faster, lower-cost screening to boost profitability. Inevitably, plans to fix the system fell afoul of concerted political lobbying by the airline industry.

In scenario planning, a knowledgeable and creative group of people from inside and outside the organization is convened to review company strategies, digest available information on external trends, and identify critical business drivers and potential flash points. (It's essential to include outsiders in this group as a counterweight to the self-serving biases of employees.) Based on this analysis, the group constructs a plausible set of scenarios for potential surprises that could emerge over, say, the coming two years. These scenarios form the basis for the design of preventive and preparatory measures. This exercise should include scenarios that, while unlikely, would have a very large impact on the organization if they occurred. A full scenario-planning exercise should be conducted annually, and formal updates of changes in the organization and its environment should be scheduled every quarter.

Rigorous risk analysis – combining a systematic assessment of the probabilities of future events and an estimation of the costs and benefits of particular outcomes – can be invaluable in overcoming the biases that afflict organizations in estimating the likelihood of unpleasant events. It can be useful not just in setting priorities but in sifting through alternative responses. During the Cuban Missile Crisis in 1962, for example, U.S. military leaders wanted to attack. Fortunately, however, President Kennedy organized a decision-making process that examined in detail the risks of available options. Two groups, each including government officials and outside experts, were organized to flesh out two particular alternatives, attack and blockade, and assess their associated risks and rewards. Based on the analysis, Kennedy eventually decided to conduct a blockade. Recently, Kennedy's Secretary of Defense Robert McNamara made it clear that if the United States had invaded, the consequences might well have been catastrophic. Even if American forces had quickly destroyed all the weapons known to exist in Cuba, several U.S. cities could still have been struck by nuclear missiles – missiles that the military were unaware of at the time.

At its best, risk analysis combines subjective and objective evaluations. Teams of experts, like the ones Kennedy relied on, can be organized to make regular qualitative assessments of conditions and threats. At the same time, decision analysis has developed useful techniques for helping individuals and organizations to more effectively assess the probabilities of future events and their potential consequences. (John Hammond, Ralph Keeney, and Howard Raiffa's book *Smart Choices* provides a particularly good overview of this field.)

Organizational vulnerabilities are often the toughest to overcome. But while it's rarely possible to eradicate all the internal barriers within an organization, it is possible to counter their effects by establishing cross-company systems to gather intelligence. Typically, this requires that leaders create one or more cross-functional teams responsible for collecting and synthesizing relevant information from all corners of the business. Some companies use what are called action-learning groups – teams of future leaders that meet to share data and analyze key business challenges. Also required is a change in incentives to get employees to see beyond their parochial interests and begin to share information freely. In the case of the Brent Spar fiasco, the leaders of Shell UK and Shell Germany were each focused exclusively on their own bottom lines and as a result pursued conflicting parochial interests – to the detriment of the company as a whole. Had a broader system of measures and rewards been in place, one that provided incentives to balance corporate and local interests, Shell would have been better protected against internal infighting and miscommunication.

Finally, executives need to build good networks – both informal advice networks and formal coalitions – for influencing political decisions. Leaders' beliefs and impressions about the potential challenges facing their organizations are based, in large measure, on their intuition. By organizing a set of knowledgeable advisers, drawn from both inside and outside the company, leaders can test and refine their early impressions and help counter their own unconscious biases. Hank McKinnell, the CEO of Pfizer, is a good example of a leader who routinely calls on a group of external advisers to avoid predictable surprises. One of McKinnell's most valuable "leadership counselors" is Dan Ciampa, former CEO of Rath & Strong. By serving as both a sounding board and an adviser on key issues and decisions, Ciampa is reportedly instrumental in helping McKinnell avoid undesirable outcomes.

And when managers have to mobilize people outside their direct lines of control to confront a difficult problem – as is almost always necessary – they need to build formal coalitions. Coalition building is particularly important for getting anything done in highly politicized environments like the U.S. Congress. But it is important in business, too. Sometimes, executives have to make major organizational changes to guard against a potential disaster. Such changes always create winners and losers and generate overt and covert resistance. To prevail, leaders must be able to consolidate their supporters, neutralize their opponents, and persuade fence-sitters to back the changes. That requires, in turn, that they be good at figuring out who wields influence, inside and outside the organization, and then use that knowledge to build support and momentum for their cause.

Taking these steps will help you get an effective RPM process up and running in your company. Once the process is in place, you'll need to shift your attention to speeding it up and making it more responsive. Events move swiftly, and they can quickly spin out of control – as Shell found out. If you're unable to stay ahead of a potential disaster as it unfolds, you'll be stuck in a reactive mode. You'll become a victim of circumstances rather than a master of your own destiny.

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ARTICLES

"When Paranoia Makes Sense" by Roderick M. Kramer (*Harvard Business Review*, July 2002, Product no. R0207D)

To anticipate and avert predictable surprises, you must be a bit mistrustful of the forces affecting your company's fate. True, most management literature touts the benefits of trust. But a moderate degree of suspicion—which Kramer calls **prudent paranoia**—can help you succeed at every stage of the RPM process.

Prudently paranoid executives monitor the events and actions around them in minute detail, searching for signs of impending disasters. But to keep their paranoia prudent rather than paralyzing, they ensure they have *all* the facts—not just those they want to hear. They also question their interpretations of evidence, keep their enemies close, protect themselves against trickery during negotiations, behave unpredictably when dealing with potential foes, and know when to follow their instincts rather than rules.

"Why Good Accountants Do Bad Audits" by Max H. Bazerman, George Loewenstein, and Don A. Moore (*Harvard Business Review*, November 2002, Product no. 2217)

This article examines the **psychological vulnerabilities** described in "Predictable Surprises." Using the corporate-accounting scandals as a backdrop, the authors show how unconscious, self-serving biases can prevent us from recognizing and responding to potential disasters.

We tend to reach conclusions we're highly motivated to reach. We also discount facts that contradict our position and uncritically embrace evidence supporting it. In particular, we often reach self-serving conclusions when ambiguity surrounds evidence. For example, many accounting decisions (such as what constitutes an expense) require subjective interpretations of ambiguous information.

Human nature can also amplify bias. In particular, we're more responsive to immediate consequences than to delayed, uncertain ones. And we often explain away minor indiscretions, then conceal the growing problem. The lesson? To reduce our vulnerability to predictable surprises, we must be aware of and counteract these biases.

"Why Hierarchies Thrive" by Harold J. Leavitt (*Harvard Business Review*, March 2003, Product no. R0303G)

Leavitt shifts the focus to the **organizational vulnerabilities** that prevent us from staving off predictable surprises. In particular, he examines the hierarchical structure characterizing most large organizations.

Hierarchies are inevitably authoritarian. That authoritarianism influences everything in organizations—especially communication. Messages get distorted as they travel along the ladder of command. Self-protection and self-interest weigh in, and data dissipates as messages stop along the communication route. Sensitive leaders work to make speaking the truth as painless as possible. But it's never completely painless—because of hierarchy's inherent authoritarianism.

Nevertheless, hierarchy persists because it fulfills our deep human need for order and security. Leaders of large organizations seeking to address predictable surprises face a daunting challenge in lowering the organizational-vulnerability barrier.