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APRIL 2011

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A black and white photograph of a crumpled piece of paper. Printed across the surface is a narrative about failure and its role in personal growth. The text reads:

Oneness that nothing is a better teacher
entirely to have seen or to have started
success is an "epic failure"
keeping something unusual—devoting the entire
life to thinking well. In the following pages, we'll share stories
of failure, of a fall, and on how to turn things around.
My pieces are like one
my pieces are like one
my pieces are like one
my pieces are like one

A large, bold, black letter 'E' is positioned in the bottom-left corner of the image.

THE FAILURE ISSUE

HOW TO UNDERSTAND IT,
LEARN FROM IT, AND
RECOVER FROM IT

From the Editor

When We Fail at Failure

One mantra of modern business is that nothing is a better teacher than failure. For some entrepreneurs, it's virtually a badge of honor to have stumbled, even spectacularly, on the way to success. Most of us, however, find it hard to draw useful lessons from our missteps. We tend to fail at failure. (My teenage son and his friends would call this an "epic fail.")

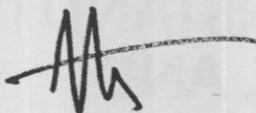
So with this month's HBR, we're attempting something unusual: devoting the entire issue to "the F word"—to examining the art and science of failing well. In the following pages, we'll share some of the smartest thinking on how to tell when you're headed for a fall and how to turn things around—or put the pieces back together.

Like everyone else, I've made my share of mistakes in my career. One stands out. In early 2001, when I was in Hong Kong as the editor of *Time* magazine's Asian edition, we ran a story on the city of Jerusalem, which had been produced by our U.S.-based editors. It was meant to be a soft, feel-good article for the spring holidays, a walking tour of a city deemed holy by Christians, Muslims, and Jews alike. The problem was, an illustration in the article depicted the prophet Muhammad. This was before 9/11, when many in the West were still unaware of Islamic sensitivities to images of the prophets. The reaction to the artwork, which many Muslims considered blasphemous, was fierce.

Though we certainly weren't trying to inflame or shock, we set off a wave of anger. Within days of publication, angry protests denouncing *Time* occurred in a few Asian cities. As the senior editorial person in the region, I was even burned in effigy in Kashmir. We had a failure to deal with.

The way out was clear. I issued a full apology. This wasn't a question of free speech or editorial integrity. We had provoked and offended people needlessly, and so it seemed right to express regret. The lessons from the incident were plain: Pay close attention to anything that goes out under your name, because you're responsible for it. And if you didn't set out to pick a fight, it's OK to back down if the other side feels aggrieved.

I hope you enjoy this issue. If you like it, let us know. If not, well, let us know that, too. How else will we learn?



Adi Ignatius, Editor in Chief

PHOTOGRAPHY: ELIE HONEIN

Interaction



Creating Shared Value

HBR article by Michael E. Porter and Mark R. Kramer, January–February 2011

“The capitalist system is under siege,” say Porter and Kramer. Business increasingly is viewed as a cause of social and environmental problems, and that has led government officials to set policies that undermine competitiveness. To remedy this, the authors suggest a new purpose for the corporation, one defined by “creating shared value” with society. Moving beyond the idea of trade-offs—profits for social good—shared value “recognizes that societal needs, not just conventional economic needs, define markets.”

If you want businesses to make different choices, you must give them reasons to do so. If the idea of shared value moves to the mainstream, it will be because of meaningful regulatory changes. Business leaders have an important role to play in bringing about such political change, but anyone who takes a stand on one side loses friends on the other.

Atilla Habip, partner, The Ripples Group

The authors’ theory works with elements of human motivation. However, I can’t see it gaining traction. Pride, egocentrism, na-

tionalism, bigotry, racism, and xenophobia are all hurdles here. You have to start with the individual.

Julie Pigdon, business development, Team Management Systems

Shared value is nothing more than 21st-century cheerleading. It will never happen. Business has only one requirement: to make a profit. The rallying cry is for government regulation, but regulation is always a response to a business wrong. Sarbanes-Oxley, for example, was a checklist of the wrongs perpetrated by Enron. Business



believes something is wrong only when it gets caught.

Joseph M. Galante, accounting program manager, King's College

How will a generation of businesspeople steeped

in discounted-present-value analytics and quarterly earnings come to believe in the power of investment in urban markets or in extending largesse to sectors not directly reflected in income statements? What will the folks at Goldman Sachs make of this? I don’t see a definition of “shared value” with anywhere near the cohesion of “shareholder value” or “competitive advantage.” The answer may be treating business as yet another social institution, rather than something with a unique and self-defining inner logic. There may be no home-run solution out there; there may simply be another decade or two of coming to grips with the idea that business has to change in a thousand ways. “Creating Shared Value” could be a contribution. But it doesn’t feel like a solution, not yet.

Charles H. Green, founder and CEO, Trusted Advisor Associates

Can we permanently replace the term “growth” with “sustainability”? “Growth” implies a mental climate that perpetuates dated, detrimental neoclassical concepts. Elise Holowicki, office coordinator, Lunchbox LP

ILLUSTRATION: MATT DORMAN

Preparing for the Big Mobile Revolution

HBR Agenda item by Eric Schmidt, January–February 2011

Before stepping down as CEO, Schmidt revealed that most of Google’s strategic initiatives in 2011 would be mobile—and would include making smartphones accessible to the poor: “We envision literally a billion people getting inexpensive, browser-based touch-screen phones over the next few years.”

I have a PhD student working on an ethnographic study of how village farmers in Bangladesh have integrated

mobile phones into their lives and work. He found that it is not smartphones they need, but devices that

make sense to people who are partially literate in Bengali and less literate in English. They managed to find ways of using the phones to help them, but they used notebooks to store numbers because they couldn’t understand the phone’s address book. And the one phone with a Bengali interface used a word for “select an option” that means “vote in an election” in Bengali.

Dr. David Newman, former lecturer, Queen’s University Management School

Interaction



The End of the Middle Manager

HBR column by Lynda Gratton, January–February 2011

Like the Industrial Revolution before it, the technology revolution is creating seismic shifts in how people work. London Business School professor Gratton asserts that “the classic job of the middle manager will soon disappear” now that “technology itself has become the great general manager.” Her research shows that younger workers value a highly skilled “master” who is capable of mentoring instead of “someone who simply keeps track of what they do.”

I disagree. As a jack-of-all-trades, the middle manager understands how to leverage multiple sources of information—creating value by acting as a hub in a sea of complexity.

Adam Piotrowski, manager, advanced portfolio development, Stryker

I agree that a “skilled team” doesn’t need much management. But to become such a team takes a lot of management, the type that the midlevel manager alone is capable of providing.

Ray Kehoe, president, Ray Kehoe Consulting

The idea that middle managers are a vestige of an era predating sophisticated technology is inaccurate. Gratton’s narrow definition ignores the fact that in the most successful organizations, managers are part of a nested, adaptive learning system. Likewise, one would be hard-pressed to imagine the military operating with privates and generals alone, absent corporals and sergeants, let alone lieutenants, captains, and majors. For an analogy: Complex body systems have control at the cellular, tissue, organ, and system level. Very little of what we do rises to conscious thought. When it does—such as when a diabetic controls insulin and blood sugar levels—the processing burden can be incredible.

Steven Spear, senior lecturer, MIT Sloan School of Management

Gratton responds: *This is where the idea of deep skills comes in. If you want to manage complex teams, you have to gain their commitment. Much of that will be determined by the extent to which you are seen to be adding value.*

“Keeping track of what others do”? Is that really all (some) managers are doing?

Liliana Panic, management consultant and executive coach, Liliana Panic Company

Too many managers focus on daily minutiae aimed at making sure the employee is following management’s preferred path toward results. But results are proof of productivity, and how the employee achieves it shouldn’t be your concern as long as it is happening.

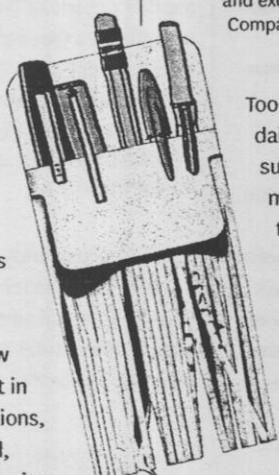
Carrie Patrick, social media manager, AAA Colorado

The problem is that companies do not hire managers that are experts at managing, and instead reward individual contributors by promoting them into management positions. This has devalued the role.

Greg Lowe

Managers will transition from being supervisors who monitor work to facilitators who help subordinates realize their full potential.

Deepali Agarwal, area sales manager, Hindustan Unilever Limited



The Worst Job Interview Question

HBR blog post by Priscilla Claman, January 2011

We’ve all heard it: “What’s your greatest weakness?” Career coach Claman suggests preparing an answer that’s “true, trivial, brief, and not a fault”—for example, saying that you lack a strong local professional network because you are moving to join your fiancé or that you attended an obscure college. But she still believes this uncomfortable question should go out of style.

This is a canned question, but if anyone gave me any of those canned answers I would immediately call him or her on it. The fiancé answer is a good rationale for the job move but hardly a weakness, and certainly not the greatest weakness.

Chris Bird, chief architect, Sabre Airline Solutions

Present your biggest weakness and a strategy to combat it. If someone told me that her undergraduate school was her biggest weakness, I would lose respect for her.

Rebecca Rapple, account manager, Rubicon Marketing Group

If everyone told the truth, no one would get hired.

Phik Li, Sin, English teacher, Kumon Asia & Oceania

This is actually my favorite question, but I change it up a bit: “What are you currently working to improve in yourself?”

Mike Thompson, former senior manager, Windstream Communications

I don’t mind asking a potential boss about his greatest weakness, too. After all, the interview is about both people buying into a mutually benefiting relationship.

Bob Ferrer, consultant, Ferrer Creative



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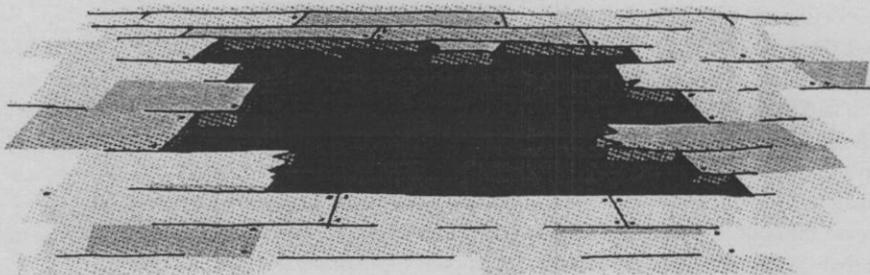
IdeaWatch

New Thinking. Research in Progress hbr.org

FIRST

Why Most Product Launches Fail

Getting attention for a new offering is a big challenge. Five causes of flops—and how to avoid them *by Joan Schneider and Julie Hall*



As partners in a firm that specializes in product launches, we regularly get calls from entrepreneurs and brand managers seeking help with their “revolutionary” products. After listening politely, we ask about the research supporting their claims. The classic response? “We haven’t done the research yet, but we know anecdotally that it works and is totally safe.” We’ve been fielding these calls for so long that we can often tell from one conversation whether the launch will succeed.

Most won’t. According to a leading market research firm, about 75% of consumer packaged goods and retail products fail to earn even \$7.5 million during their first year. This is in part because of the intransigence of consumer shopping habits. The consultant Jack Trout has found that American families, on average, repeatedly buy the same 150 items, which constitute as much as 85% of their household needs; it’s hard to get something new on the radar. Even P&G routinely whiffs with product

rollouts. Less than 3% of new consumer packaged goods exceed first-year sales of \$50 million—considered the benchmark of a highly successful launch. And products that start out strong may have trouble sustaining success: We looked at more than 70 top products in the Most Memorable New Product Launch survey (which we help conduct) for the years 2002 through 2008. A dozen of them are already off the market.

Numerous factors can cause new products to fail. (Go to hbr.org/40-reasons for an extensive list.) The biggest problem we’ve encountered is lack of preparation: Companies are so focused on designing and manufacturing new products that they postpone the hard work of getting ready to market them until too late in the game. Here are five other frequent, and frequently fatal, flaws.

FLAW 1 The company can’t support fast growth.

THE LESSON Have a plan to ramp up quickly if the product takes off.

MOSQUITO MAGNET In 2000 we worked with American Biophysics on the launch of its Mosquito Magnet, which uses carbon dioxide to lure mosquitoes into a trap. The timing was perfect: The West Nile virus scare had elevated mosquitoes from irritating nuisances to life-threatening disease carriers.

Mosquito Magnet quickly became one of the top-selling products in the Frontgate catalog and at Home Depot. But American Biophysics proved more adept at killing mosquitoes than at running a fast-growing consumer products company. When it



CONNECT WITH THE AUTHORS Do you have questions or comments about this article? The authors will respond to reader feedback at hbr.org.

Companies are so focused on designing and manufacturing new products that they postpone the hard work of getting ready to market them until too late in the game.

expanded manufacturing from its low-volume Rhode Island facility to a mass-production plant in China, quality dropped. Consumers became angry, and a product that was saving lives almost went off the market. American Biophysics, which had once had \$70 million in annual revenue, was sold to Woodstream for the bargain-basement price of \$6 million. Mosquito Magnet is making money for Woodstream today, but the shareholders who originally funded the device have little to show for its belated success.

FLAW 2 The product falls short of claims and gets bashed.

THE LESSON Delay your launch until the product is really ready.

MICROSOFT WINDOWS VISTA In 2007, when Microsoft launched Windows Vista, the media and the public had high expectations. So did the company, which allotted \$500 million for marketing and predicted that 50% of users would run the premium edition within two years. But the software had so many compatibility and performance problems that even Microsoft's most loyal customers revolted. Vista flopped, and Apple lampooned it in an ad campaign

("I'm a Mac"), causing many consumers to believe that Vista had even more problems than it did.

If Vista were launched today, the outcome might be even worse, owing to the rising popularity of Twitter and YouTube and the prevalence of Facebook "hate" pages. As social media and user-generated reviews proliferate, the power of negative feedback will only increase—making it even more imperative that products be ready before they hit the market.

FLAW 3 The new item exists in "product limbo."

THE LESSON Test the product to make sure its differences will sway buyers.

COCA-COLA C2 For its biggest launch since Diet Coke, Coca-Cola identified a new market: 20- to 40-year-old men who liked the taste of Coke (but not its calories and carbs) and liked the no-calorie aspect of Diet Coke (but not its taste or feminine image). C2, which had half the calories and carbs and all the taste of original Coke, was introduced in 2004 with a \$50 million advertising campaign.

However, the budget couldn't overcome the fact that C2's benefits weren't distinct

enough. Men rejected the hybrid drink; they wanted full flavor with no calories or carbs, not half the calories and carbs. And the low-carb trend turned out to be short-lived. (Positioning a product to leverage a fad is a common mistake.)

Why didn't these issues come up before the launch? Sometimes market research is skewed by asking the wrong questions or rendered useless by failing to look objectively at the results. New products can take on a life of their own within an organization, becoming so hyped that there's no turning back. Coca-Cola's management ultimately deemed C2 a failure. Worldwide case volume for all three drinks grew by only 2% in 2004 (and growth in North America was flat), suggesting that C2's few sales came mostly at the expense of Coke and Diet Coke. The company learned from its mistake, though: A year later it launched Coke Zero, a no-calorie, full-flavor product that can be found on shelves—and in men's hands—today.

FLAW 4 The product defines a new category and requires substantial consumer education—but doesn't get it.

THE LESSON If consumers can't quickly grasp how to use your product, it's toast.

FEBREZE SCENTSTORIES In 2004 P&G launched a scent "player" that looked like a CD player and emitted scents (contained on \$5.99 discs with names like "Relaxing in the Hammock") every 30 minutes. The company hired the singer Shania Twain for

REMEMBER ANY OF THESE SHORT-LIVED SUCCESSES?

Each year the Most Memorable New Product Launch survey names the best launches. But even brands that make the top 10 aren't guaranteed longevity. These products, launched "successfully" from 2002 to 2008, disappeared within two years.



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BERRIES &
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SARAN
DISPOSABLE
CUTTING
SHEETS

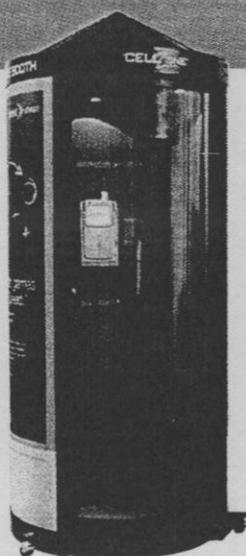
CAN YOU HEAR ME NOW?

One of our biggest misses

When secret agent Maxwell Smart and his boss wanted to have a private chat on the 1960s sitcom *Get Smart*, they hit a button and a transparent “cone of silence” descended from the ceiling. Forty years later, as cell phones led people to gab in restaurants and other public places, Anthony Ferranti saw a need for a real-life silent chamber, both to give callers privacy and to prevent their conversations from annoying

those around them. In 2006 he created a prototype Cell Zone, unveiling it at that year's Restaurant Show, where it was a huge hit. He hired our company, Schneider Associates, to publicize the product, which was soon featured in *USA Today* and on NBC's *Today* show.

But despite all the excitement, hardly anyone ordered the \$3,500 unit. Restaurants weren't willing to give up the square footage. Nightclubs weren't



interested, partly because their clientele was shifting from voice calls to texting. Ferranti tried selling ads on the booths, but that effort fizzled, too. To date he has sold fewer than 300 units (100 of them to college libraries)—and his company has lost more than \$650,000. For a small entrepreneur, that's a steep price to pay for failing to understand the market before launching a product.

its launch commercials. This confused consumers, many of whom thought the device involved both music and scents, and the ambiguity caused Scentstories to fail.

When a product is truly revolutionary, celebrity spokespeople may do more harm than good. A strong educational campaign may be a better way to go. The product's features provide the messages to build brand voice, aided by research and development teams, outside experts, and consumers who've tested and love the product.

FLAW 5 The product is revolutionary, but there's no market for it.

THE LESSON Don't gloss over the basic questions “Who will buy this and at what price?”

SEGWAY The buzz spiraled out of control when news of a secret new product code-named Ginger and created by the renowned inventor Dean Kamen leaked to the press

nearly 12 months before the product's release. Kamen, it was said, was coming up with nothing less than an alternative to the automobile. When investors and the public learned that the invention was actually a technologically advanced motorized scooter, they were dumbfounded. Ads showing riders who looked like circus performers perching on weird-looking chariots didn't help, nor did the price tag—\$5,000. Instead of selling 10,000 machines a week, as Kamen had predicted, the Segway sold about 24,000 in its first five years. Now it sells for far less to police forces, urban tour guides, and warehouse companies, not the general public. If there was ever a product to disprove the axiom “If you build it, they will come,” it's the Segway.

SOME OF these problems are more fixable than others. Flaws 1 and 2 are largely matters of timing: If the launches of Mosquito Magnet and Microsoft Vista had been post-

poned, the manufacturing and quality problems might have been resolved. Even though companies may be wedded to long-established or seasonal launch dates, they would do well to delay if waiting might increase the odds of success. Flaws 3, 4, and 5 are trickier, because they relate more directly to the product itself. Managers must learn to engage the brand team and marketing, sales, advertising, public relations, and web professionals early on, thus gaining valuable feedback that can help steer a launch or, if necessary, abort it. Hearing opposing opinions can be painful—but not as painful as launching a product that's not right for the market or has no market at all. □

HBR Reprint F1104A

 **Joan Schneider** is the president of Schneider Associates; **Julie Hall** is its executive vice president. They are the coauthors of *The New Launch Plan: 152 Tips, Tactics and Trends from the Most Memorable New Products* (BNP Media, 2010).



M&M'S MEGA CHOCOLATE CANDIES



COLGATE SIMPLY WHITE



HERSHEY'S SWOOPS



COCA-COLA C2



ORAL-B BRUSH-UPS



PEPSI BLUE

Stat Watch



The Gift that Keeps on...Getting Lost

Consumers will be unable to redeem some \$2.5 billion worth of gift cards this year, mainly because of loss or expiration, according to projections by the **Corporate Executive Board's TowerGroup**. That's a big number, but it's an improvement over 2007, when recipients failed to cash in on \$8 billion worth of gift cards—more than 10% of the value of all cards purchased that year. The decrease is due in part to new federal regulations that reduce fees and mandate more generous expiration dates.

\$2.5 BILLION

SERVICE FAILURES by Jochen Wirtz

How to Deal with Customer Shakedowns

It's one of the most basic aphorisms of business: The customer is always right. But when companies, especially large ones, try to rectify a service failure and satisfy an aggrieved customer, they face a risk many managers don't think about: becoming a target for opportunists.

In my research, I define opportunistic customers as those who exploit companies' compensation efforts for gain. Examples of this behavior exist in most service industries. One utility company received a claim from a customer for nearly \$1,000 for food spoilage after a two-minute power outage. One travel company was asked for a full refund because a vacation hadn't met unrealistically high expectations. One hotel faced off with a guest who insisted on a penthouse suite to compensate for a res-

ervation error that had been immediately resolved.

All these over-the-top demands involved midsize to large companies. Janet McColl-Kennedy, of the University of Queensland, and I analyzed some 500 claims, both reasonable and opportunistic. Only five of the opportunistic claims were directed against small companies, which constituted 40% of our sample.

We think one reason opportunists prey on larger companies involves self-image and shame. Most people don't want to feel like a bad guy—someone who would take advantage of a company that can ill afford a handout.

An opportunistic claim against a big company evokes little shame, because the customer can easily convince herself it won't really harm the company. Still, many opportunists are aware they're doing something wrong. We asked 40 people, "Have you ever asked for a refund or compensation that you thought was too much or unreasonable given the circumstances?" Seventeen admitted having done so within the past six months.

Another reason bigger companies are targeted probably has to do with the perception that because they have deep pockets, they'll be quicker to offer compensation. Although we don't have hard data on payouts, our research indicates that many midsize and large companies are, in fact, so focused on customer satisfaction and

repeat patronage that they typically agree to opportunistic claims.

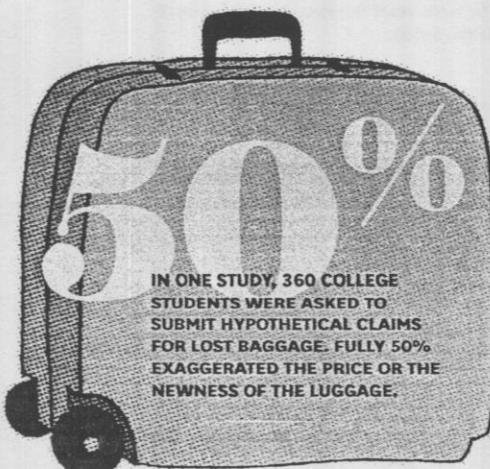
But companies aren't helpless: They can reduce those claims by treating customers justly as soon as something goes wrong. Most people will respond in kind. There are three forms of justice that sway customers after a service glitch: the fairness of the compensation, the convenience of the claims process, and the company's friendliness and level of concern.

And it's the total of a company's efforts in these areas that matters. A company can compensate for smaller payouts with a smooth claims process and a friendly response. Having a manager speak with the customer immediately may help minimize compensation beyond the specific loss. In a study of Taiwanese chain restaurants, Chen-Tsang Tsai, of National Taiwan Normal University, and Ching-Shu Su, of Jinwen University of Science and Technology, found that managerial attention produced the highest levels of customer satisfaction, beating out free food, discounts, coupons, and replacement items.

Finally, any compensation should be offered promptly. Customers who have to negotiate are more likely to make excessive demands—and their satisfaction remains low even after their claims are settled. □

HBR Reprint F1104B

 **Jochen Wirtz** is an associate professor at the National University of Singapore's business school.

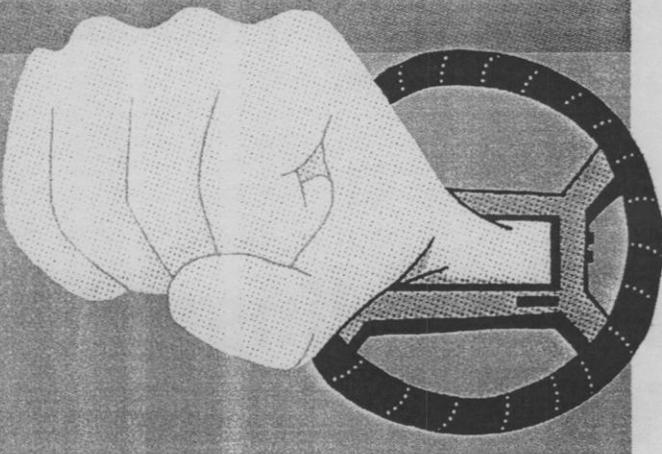


Research Watch

First, Do No Harm

Knowing there's even a slight chance that a safety device could fail is enough to make consumers reject the device, although the decision puts them at greater risk. In an experiment conducted by Andrew D. Gershoff, of the University of Texas at Austin, and Jonathan J. Koehler, of Northwestern University

School of Law, most subjects indicated that they would avoid using an airbag that had a minuscule chance of harming them. People perceive the potential for failure as a betrayal, the researchers explain, and this emotional response gets in the way of their ability to make rational decisions.



SMALL BUSINESS by Deniz Ucbasaran, Paul Westhead, and Mike Wright

Why Serial Entrepreneurs Don't Learn from Failure

Everyone admires serial entrepreneurs for their pluck and persistence, but they pose a big risk for the investors who fund their dreams. Our research shows that instead of learning from mistakes, serial entrepreneurs are just as apt to be overoptimistic after failure as before.

Overoptimism—defined as the tendency to believe that one is more likely than others to experience positive events and less likely to experience negative ones—comes with the start-up territory, of course. Studies have shown that entrepreneurs of all types are more prone to it than the general population.

Although overoptimism is useful in getting a business off the ground, it can also help cause that business to tank. It is associated with a greater tendency to commit to and overinvest in risky projects, to neglect to plan for the unexpected, and to throw good money after bad while postponing the inevitable.

Experiencing failure can temper this surplus of optimism among some entrepreneurs—but not serial entrepreneurs.

In a survey of 576 UK-based entrepreneurs in a variety of industries, conducted through questionnaires that covered successes, failures, and attitudes, we found that those who hold multiple businesses simultaneously—we call them portfolio

entrepreneurs—seem able to adjust their expectations according to experience. If they've suffered flops, they're typically more realistic than novice entrepreneurs. Because they learn from their setbacks, they may be especially good candidates for investment.

But serial entrepreneurs, who take on one project at a time, are a different breed. Even if some retain specific lessons about what worked and what didn't, their overoptimism remains undimmed by failure. Others refuse even to look at why things went wrong. "Spending your time think-

ing about what happened is a ticket to the graveyard," one told us.

Paradoxically, serial entrepreneurs' greater propensity to remain overoptimistic may be due in part to the deep pain, even trauma, they feel when their projects fail—pain that is especially acute precisely because they involve themselves in only one business at a time. Psychological research suggests that strong emotions often prompt people to blame others or external events rather than themselves so that they can maintain some semblance of self-esteem and a sense of control. This "attributional bias" appears to make serial entrepreneurs less capable of learning from failure than portfolio entrepreneurs, whose attachment is spread among multiple initiatives.

Some venture capitalists are aware of serial entrepreneurs' aversion to reflecting on failure and make a point of interviewing candidates for investment about the causes of their past successes and mistakes. A 1999 academic study by the consultant Geoffrey H. Smart suggests that a VC firm's ability to assess entrepreneurs is strongly related to its reliance on such interviews. But the practice is far from universal. The study found that the time devoted to this type of screening ranged from zero to 100 hours per investment opportunity. If more potential investors did this due diligence, they might face less exposure to the overconfidence of serial entrepreneurs. □

HBR Reprint F1104C

Deniz Ucbasaran is a professor at Warwick Business School, Paul Westhead is a professor at Durham Business School, and Mike Wright is a professor at Nottingham University Business School, all in the UK.



Defend Your Research

HBR puts some surprising findings to the test



C. Nathan DeWall
(nathan.dewall@uky.edu) is an assistant professor of social psychology at the University of Kentucky.

Hurt Feelings? You Could Take a Pain Reliever...

The finding: Daily doses of acetaminophen alleviate hurt feelings and reduce neural activity related to the pain of social rejection.

The research: The University of Kentucky's C. Nathan DeWall asked 62 undergraduates to take 1,000 milligrams of acetaminophen or a placebo for three weeks. Each evening they recorded how much social pain they'd felt that day. The hurt feelings of those who took acetaminophen decreased significantly over time; people who took the placebo showed no change. In a related study, functional MRIs showed that people who had taken acetaminophen also had less activity in the brain regions that respond to emotional pain.

The challenge: Aren't mental and physical pain entirely different? Can over-the-counter analgesics improve your emotional state if, say, you get fired? Professor DeWall, defend your research.

Dewall: My research is really just a continuation of extensive studies over the past three decades showing a significant overlap between social and physical pain processes in animals. Rat pups that are freaking out during separation from a parent become less upset when they're injected with opiates—and not because of any sedative effect. The analgesic actually reduces their distress. No one had looked at whether the same thing might be true of humans. Our experiments used acetaminophen for the obvious reason that it's safer and simpler for people to take on a daily basis than an opiate.

HBR: How can you tell if the pain reliever reduces distress or just masks it?

Our subjects knew they'd been rejected; it simply didn't bother them as much. In another part of our research, we had

25 undergraduates undergo functional magnetic resonance imaging while playing a computer-based game in which they were socially included or excluded. During rejection, people who'd taken acetaminophen for three weeks actually showed less activity in the areas of the brain associated with social pain.

Still, distress from rejection isn't really pain—that's just a metaphor, right?

No. We experience social pain differently from physical pain, but there are many commonalities. Probably what happened over the course of human evolution is that as we came to rely more on social inclusion for survival, the body's physical-pain system became the basis for a social-pain system designed to ensure we weren't fending for ourselves in a hostile world. As a result, the social-pain system functions

much like its older cousin, which means it responds similarly to analgesics.

So responses to rejection are hardwired into us, like responses to physical pain? Exclusion certainly provokes intense reactions. People who've been rejected are more likely to overeat, procrastinate, take financial risks, perform poorly on measures of intelligence, and act aggressively. One thing I want to explore is whether acetaminophen can also help reduce these behavioral consequences. In any case, people will do almost anything to avoid rejection, whether by a friend, a lover, or an employer.

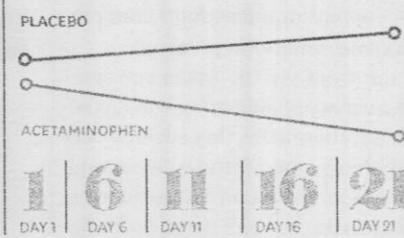
A friend or lover—I can see that.

But an employer?

Fear of rejection is probably one reason people make a big effort not to fail at work. Work can be tedious and harmful to

Our social-pain system functions much like our physical-pain system, and responds to analgesics.

LEVEL OF HURT FEELINGS



Key Number

In DeWall's research, subjects showed hostility and aggressiveness when told that no one in a four-person group wanted to work with them. If they learned that just one person did want to work with them, their aggression dropped dramatically.

1 out of 4

people's health and relationships. Money is thought to be the main compensation for those sacrifices, but don't forget the benefits of social acceptance. The sense of belonging is one of the most important positives of work. In our research, when we ask people to imagine being let go from their jobs, the first thing they tend to say is, "I'm going to lose all my friends." Praise, perks, raises, office parties, outings—employees perceive all those things as evidence of acceptance. They know that to continue to be included, they must avoid failure—they must maintain a certain level of performance. The fear of rejection probably also plays out in another way: It may prevent people from being creative.

That's troubling, because creative thinking is what companies need to grow.

True, but creativity comes with a risk of failure—not all imaginative projects work out. Fear of rejection or even outright termination may sap people's will to be creative. Think of a manager who tells employees to create an iPad app and says that the developer whose app contains the most errors will be fired. On the surface, this may be a rational strategy, but employees' creativity just walked out the door. Google, on the other hand, encourages employees to spend time on activities that are personally meaningful to them, signaling that it doesn't disapprove of initiatives that go nowhere. If your project fizzles, you won't face rejection. A policy like that tends to engender a sense of acceptance, and the research literature suggests this leads to greater innovation.

Should all companies be like Google?

They don't have to go that far. An experiment my colleagues and I did showed that a sense of well-being is boosted by just a little acceptance. When subjects were told that all four people in a group preferred not to work with them, they demonstrated hostility and aggressiveness, but their aggression diminished dramatically if they learned that just one person in the group wanted to work with them. The positive effect of each additional accepting person was much smaller, however. By offering employees frequent tastes of acceptance, firms can harness the full potential of their creativity.

Wouldn't it be easier just to give them acetaminophen?

Definitely not! A lot more research is needed before anyone can say that any analgesic is an effective means of treating social pain. And drugs aren't necessary: It's not hard to create an environment that reduces employees' anxiety about rejection. Rigid rules, for example, send a message that the deviations in thinking that are necessary for creativity won't be tolerated. Greater organizational flexibility can send a message of acceptance, breeding a greater sense of security.

But businesses don't exist to make us feel accepted. Shouldn't employees just suck it up?

Our culture tells us not to make a big deal out of rejection: "Don't be a whiner." But it's just as big a deal as breaking a bone. Even if we try to soldier on, our socially attuned nervous systems are telling us that exclusion is very bad for our survival prospects. □

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Vision Statement

When Failure Looks Like Success

The global effort to bring clean water to Bangladesh appeared to be a huge success—twice. But each time, the success contained the seeds of epic failure. The overarching message? Success requires ongoing vigilance. Don't assume the mission is accomplished.

by Andrew Zolli and Ann Marie Healy; visualization by Open.



1972



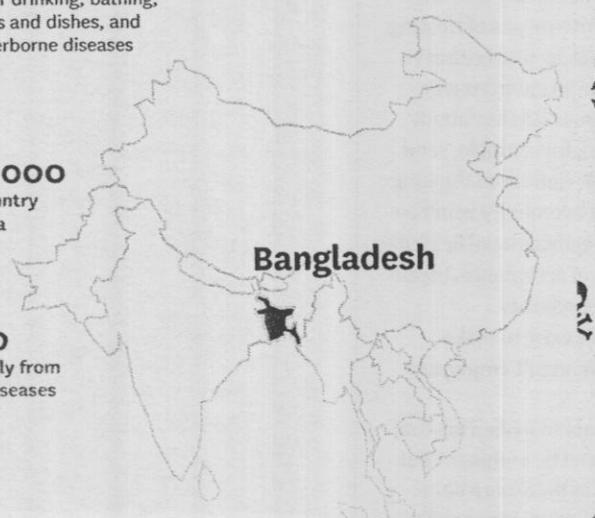
1983

THE PROBLEM Lack of Potable Water

In the early 1970s most of the rural population uses contaminated groundwater for drinking, bathing, washing clothes and dishes, and irrigation. Waterborne diseases are rampant.

90,000,000
people in a country
the size of Iowa

250,000
deaths annually from
waterborne diseases



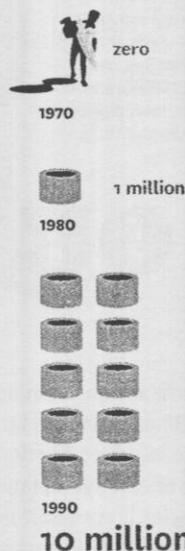
Bangladesh

The Fix

MASSIVE SUCCESS

In 1972 UNICEF initiates a project to install tube wells that pull pure underground water to the surface. More and more wells are put in during the next two decades, and three years ahead of the target date most people are getting their water from them. The wells become status symbols, included by many families in their daughters' dowries.

WELLS INSTALLED



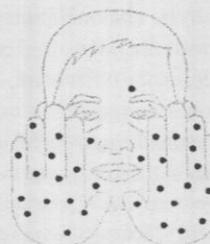
A Disturbing Discovery

EPIC FAILURE

In 1983 a doctor notices "black raindrops" on patients' skin—a sign of arsenic poisoning (lesions are another). Arsenicosis has a latency period as long as 20 years, and over the next decade, even as more wells are installed, more cases are diagnosed. They are linked to well water contaminated with arsenic, which occurs naturally in the country's rocks and soil. In 2000 the World Health Organization cites the crisis as "the largest mass poisoning of a population in history."

EFFECTS OF ARSENICOSIS

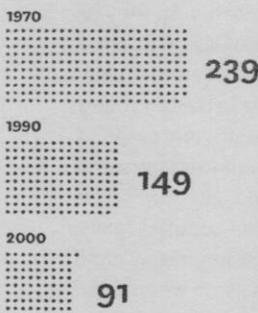
- Confusion
- Numbness
- Gangrene
- Seizures
- Cancer
- Organ failure
- Coma
- Death





Andrew Zolli is the curator of PopTech and the founder of Z+ Partners. He is the author, with **Ann Marie Healy**, of the forthcoming book *Resilience: The Science of Why Things Bounce Back* (Random House). **Open** is a design studio in New York.

UNDER-5 MORTALITY RATES
(DEATHS PER 1,000)



97%

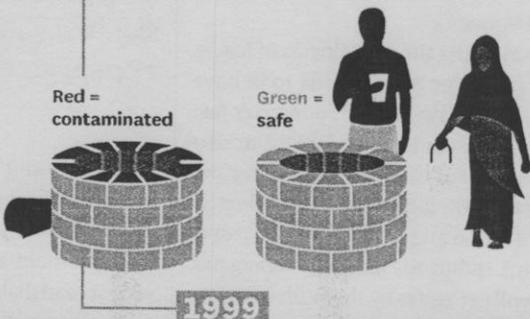
of the rural population has access to well water by 1997.

Fixing the Fix MASSIVE SUCCESS

In 1999 a multimillion-dollar program of well screening, education, public relations, and social marketing begins. By 2004 it is deemed a success: Wells are painted green (safe) or red (contaminated), and officials report that most residents understand the danger and have stopped using water from the red wells.

Red = contaminated

Green = safe



1999

1 in 5 wells is unsafe.

RISE IN ARSENICOSIS

40,000 CASES

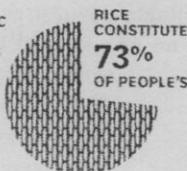
FIRST CASE DIAGNOSED

1,200 CASES

1983 1987 1993

CONTAMINATED WATER LEADS TO TAINTED RICE
(BANGLADESHI CROP, EARLY 2000S)

AVERAGE ARSENIC LEVEL IN RICE ABOUT 200 PARTS PER BILLION



RICE CONSTITUTES 73% OF PEOPLE'S DIET

HIGHEST LEVEL MEASURED 1,839 PPB



Unforeseen Consequences NEW FAILURES

Few follow-up measures are taken after the testing, labeling, and education process. New problems emerge. Villagers who live close to red wells are stigmatized. Those afflicted with arsenic poisoning are discriminated against in employment and social activities and, in the case of young women, face diminished marriage prospects. Some women turn to prostitution to survive.



20%
Researchers estimate that diarrheal diseases will increase by 20% among villagers who resume using surface water.



1 in 20

In 2001 only 5% of parents would allow their children to marry someone with arsenicosis.

SOURCES UNICEF; UN FOUNDATION; WORLD BANK; ANDREW MEHARG, UNIVERSITY OF ABERDEEN

Kanter



Rosabeth Moss Kanter holds Harvard Business School's Arbuckle Professorship and specializes in strategy, innovation, and leadership. Her latest book is *SuperCorp* (Crown, 2009).

Cultivate a Culture Of Confidence

One difference between winners and losers is how they handle losing.

Even for the best companies and most-accomplished professionals, long track records of success are punctuated by slips, slides, and mini-turnarounds. Even the team that wins the game might make mistakes, fumble, and lag behind for part of it. That's why the ability to recover quickly and get back on course is so important.

Troubles are ubiquitous. Surprises can fall from the sky like volcanic ash and appear to change everything. New ventures can begin with great promise and still face unexpected obstacles, unanticipated delays, and critics that pop up at the wrong moment. That's why I coined Kanter's Law: "Anything can look like a failure in the middle."

Nothing succeeds for long without considerable effort and constant vigilance. Winning streaks end for predictable reasons: Strategies run their course. New competition emerges to take on the industry leader. Ideas get dusty. Technology marches on. Complacency sets in, making people feel entitled to success rather than motivated to work for it.

Thus, a key factor in high achievement is bouncing back from the low points. Long-

term winners often face the same problems as long-term losers, but they respond differently, as I found in the research for my book *Confidence*. I compared companies and sports teams with long winning streaks and long losing streaks, and then looked at how leaders led turnarounds from low to high performance.

Consider first the pathologies of losing. Losing produces temptations to behave in ways that make it hard to recover fast enough—and could even make the situation worse. For example, panicking and throwing out the game plan. Scrambling for self-protection and abandoning the rest of the group. Hiding the facts and hoping that things will get better by themselves before anyone notices. Denying that there is anything to learn or change. Using decline as an excuse to let facilities or investments deteriorate.

The culture and support system that surrounds high performers helps them avoid these temptations. They can put troubles in perspective because they are ready for them. They rehearse through

diligent practice and preparation; they remain disciplined and professional. Their leaders put facts on the table and review what went right or wrong in the last round, in order to shore up strengths and pinpoint weaknesses and to encourage personal responsibility for actions. They stress collaboration and teamwork—common goals; commitment to a joint vision; respect and support for team members, so when someone drops the ball, someone else is there to

Troubles are ubiquitous. Surprises can fall from the sky like volcanic ash and appear to change everything.

pick it up—and responsibility for mentoring, so the best performers lift everyone's capabilities. They seek creative ideas for improvement and innovation, favoring widespread dialogue and brainstorming.

Resilience is not simply an individual characteristic or a psychological phenomenon. It is helped or hindered by the surrounding system. Teams that are immersed in a culture of accountability, collaboration, and initiative are more likely to believe that they can weather any storm. Self-confidence, combined with confidence in one another and in the organization, motivates winners to make the extra push that can provide the margin of victory.

The lesson for leaders is clear: Build the cornerstones of confidence—accountability, collaboration, and initiative—when times are good and achievement comes easily. Maintain a culture of confidence as insurance against the inevitable downturns. And while no one should deliberately seek failure, remember that performance under pressure—the ability to stay calm, learn, adapt, and keep on going—separates winners from losers. □

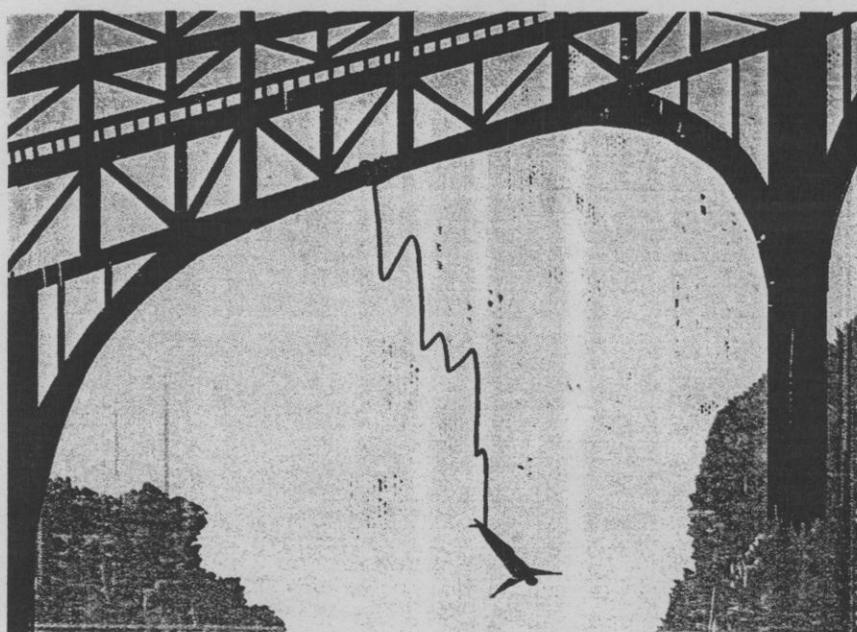


Isenberg



Daniel Isenberg is a professor of management practice at Babson Global and the executive director of the Babson Entrepreneurship Ecosystem Project.

Entrepreneurs and The Cult of Failure



Policy makers from the government of Singapore to the European Union have advocated “embracing failure” to encourage entrepreneurship. During this year’s launch of the White House initiative Startup America, one attendee made an impassioned plea that the United States follow this advice. After all, wasn’t it the fearlessness of America’s great pioneers—their willingness to stumble during their quest—that led them to succeed against all odds?

Well-intentioned though they may be, these attempts to celebrate failure are misguided. Fear should not be confused with anxiety—and celebrating failure seems aimed at reducing anxiety.

Anxiety, Freud is said to have explained, is when you irrationally react to a simple stick as if it were a dangerous snake. Fear is when you react to a dangerous snake as if it were, well, dangerous. Anxiety is dysfunctional, but fear can be good: It helps protect us from things that are dangerous—such as

“Embracing failure” to encourage entrepreneurship is misguided. Failure should not be celebrated.

risk taking. Entrepreneurs, in my experience, develop a healthy fear of what can go wrong. They just don’t let it paralyze them.

Here are three ideas to help policy makers calibrate the fear of failure to encourage entrepreneurship without suggesting that failure be vaunted.

Accept that failure is a natural part of doing business. In “hyperentrepreneurial” countries such as Israel, Taiwan, and Iceland, early business failures are common. And the famous J-curve of returns is ideology among venture capitalists everywhere: Failures come early; successes take time. Early failures are important because they generate systemic learning about where op-

portunities are (and are not) and how to address them, and they quickly free up people, capital, and ideas for more-promising projects. Rapid failure functions like the draft of a chimney: The fast exit of failures sucks in new entrants. Yet many policy makers who encourage entrepreneurship as a strategy for economic development treat low failure rates as a sign that their policies are working. They should be looking for lots successes and failures, although the former should, of course, outweigh the latter, in sheer numbers, in impact, or in both.

Remove structural obstacles to reduce the objective risks of a failed venture. Many countries, even those with advanced economies, inadvertently discourage entrepreneurship by punishing bankruptcy: They prevent failed entrepreneurs from conducting future business or even opening bank accounts, and in some cases treat bankruptcy as a crime. Laws that increase the costs of failure stifle engagement from new players, much as a blocked chimney prevents oxygen from feeding the flames. Labor laws are another case in point: Research has shown that eliminating those that make it hard for employers to fire people and instead providing support for laid-off workers makes entrepreneurs much more willing to hire for their start-ups, knowing they can reduce their ranks if necessary.

Turn failure into fodder. Contrary to myth, entrepreneurs are not reckless gamblers. True, risky business is an intrinsic aspect of pushing the innovation envelope. But it’s important to train entrepreneurs to fail small, fast, and cheaply. Inexpensive failures don’t make headlines—and don’t cause embarrassment or shame. Policy makers can support the training of entrepreneurs in risk-mitigation strategies and skills.

If you follow this advice, you won’t have to break out the champagne when entrepreneurs fail. Treating failure as a normal aspect of venturing into new business, and developing the right perspective on its value, will help fix the fear of failure without going overboard with festivities in its name. □

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How I Did It...

Blockbuster's Former CEO On Sparring with an Activist Shareholder



by John Antioco

THE IDEA

After losing a proxy fight to the activist investor Carl Icahn, Blockbuster's then CEO faced a new obstacle: executing strategy in the face of boardroom opposition. He looks back on what he might have done differently.

PHOTOGRAPH: BRENDAN McDERMID/REUTERS/CORBIS

When my assistant came into my office in early 2005 and told me that Carl Icahn was on the phone, it was a complete surprise. I knew, of course, that Icahn was an “activist shareholder,” but I had no idea why he might be calling. Icahn told me he’d bought nearly 10 million shares of Blockbuster, where I’d served as CEO for eight years. I didn’t know what kind of play he saw in Blockbuster—and I certainly didn’t expect the new challenges his being our biggest shareholder would bring over the next couple of years.

Long before Carl Icahn arrived on the scene, Blockbuster faced its share of chal-

lenges. Indeed, expectations of failure were hovering over the company even before I joined in 1997. Most outsiders were convinced that our bricks-and-mortar video retail business would be killed off by market shifts and technological advances. But I firmly believed we could keep the Blockbuster brand relevant, no matter how people decided to watch movies. Even though Blockbuster nearly doubled revenues to more than \$6 billion from the time I joined the company, plenty of people were betting against us.

The atmosphere became even more difficult when a group of dissident directors were put into the board mix. CEOs need to

be devising strategy, working with board members, energizing organizations, and dealing with shareholders, but most leaders are ill prepared to handle an activist shareholder who comes at the company with a proxy fight and wins seats on the board. This became readily apparent in 2005. When directors with preconceived notions are determined to serve as obstacles to management's plans, it's hard to find a formula for success. Three years after my departure as CEO, Blockbuster declared bankruptcy.

A Career Built on Turnarounds

In a way, it's ironic that Blockbuster is being featured in a special issue on failure, because I spent most of my career capitalizing on failure by fixing troubled businesses.

After graduating from New York Institute of Technology in 1970, I worked at 7-Eleven. Trainees like me restaffed and restocked failing stores and tried to keep them in business. I was assigned to Long Island—an area where the company had made mistakes in choosing both locations and operators. By the time I was 25, I was a

I didn't believe that technology would threaten Blockbuster as fast as critics thought.

district manager, running 35 stores in Suffolk County. Over time, we transformed the market into one of the company's most profitable. As a result I was promoted—first to northeast division manager, then to national marketing manager, and finally to senior vice president with worldwide responsibilities. In all, I spent 20 years at 7-Eleven. It was a rapidly expanding business with a lot of growing pains, which created many opportunities.

After leaving 7-Eleven, I spent a very short time as COO for Pearle Vision; then I became CEO of Circle K, a convenience store chain that was in bankruptcy. We took the company private, improved the business, and three years later sold it to Tosco, an oil company, earning our investors a more than quadrupled return on their money.

Next PepsiCo hired me as CEO of its struggling Taco Bell chain. There I learned an important lesson: Just because you're hired to lead a turnaround doesn't mean you have to throw out the existing strategy. On my fourth day at Taco Bell, its senior managers presented their business plan. Their analysis made sense. I saw no need to change it simply in order to put my fingerprints on it.

We executed the plan and turned three years of negative comparable store sales into positive growth. With that momentum, PepsiCo (which also owned KFC and Pizza Hut) spun off its restaurant group as Tricon. (Today it's Yum! Brands.) Around that time Sumner Redstone, the CEO of Viacom, called. He wanted to talk to me about running Blockbuster.

I met with Redstone for five hours in his bungalow at the Beverly Hills Hotel. It was a very good meeting except for one tense moment, when Sumner called the kitchen and personally reprimanded the chef for boiling his hot dog too long. I ended up working for Sumner for six years, and I never had a bad day with him. I found him to be a big-picture visionary and a very supportive leader.

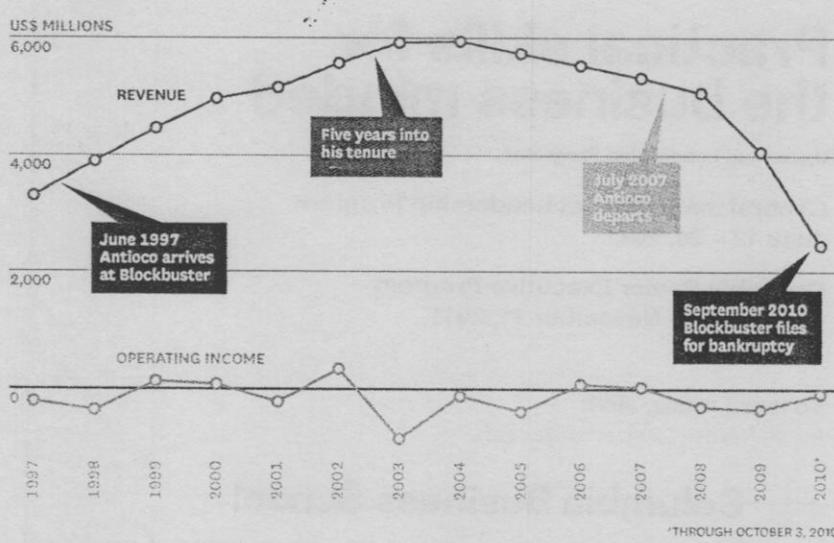
I decided to join Blockbuster for a few reasons: I liked the brand. I saw a lot that could be fixed quickly. And I didn't believe that technology would threaten the company as fast as critics thought. Blockbuster was by far the biggest video rental company, but its market share was only 25%. To me, that was an opportunity.

A Challenging Model

A lot of what I learned about business came from my father, who was an independent milkman in Brooklyn. He believed that you need to focus on always giving customers what they want while still making money

Antioco's Tenure at Blockbuster

...by the numbers.



for the company. That's what I set out to do at Blockbuster.

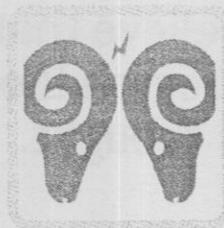
Blockbuster's biggest problem stemmed from its business model. Movie studios sold VHS cassettes to rental companies for about \$65 apiece, so a store had to rent out each tape about 30 times to make back the money. That's a big up-front investment for a product that most people want just during the few weeks after it first comes out. The whole industry was hurt by stores' never having enough copies of new releases.

We asked the movie studios to shift to a revenue-sharing system. We proposed that instead of buying the cassettes for \$65 each, we would pay \$1 a copy up front but give the studios 40% of rental revenues on their titles. Eventually they agreed. That allowed us to stock many more copies of hot titles and to advertise their availability. We rolled out an ad campaign about guaranteed availability that featured animated Blockbuster boxes singing the classic tune "I'll Be There." Comp store sales and market share grew strongly.

Even with this success, people continued to worry that video on demand was going to torpedo the rental business. It's ironic that we were hurt by a different technology shift: the advent of the DVD. Whereas VHS cassettes were mostly rented, DVDs were introduced by the studios as a retail product, and mass merchants like Walmart and Best Buy priced them below \$20. The adoption rate soared.

DVDs also allowed Netflix to take hold, because they could easily be sent through the mail. Previously the video business had been driven by spontaneity: You didn't have any plans for the evening, so you decided to stay in and rent a movie. We weren't sure whether a model in which you managed your selections by means of a queue and got a movie in the mail a few days later would catch on. But in August 2004 we jumped into the online business in a big way. A few months later we made a dramatic change by eliminating late fees, which had always been a major customer irritant. Those moves put Blockbuster back into growth mode.

How to realize leadership potential



1. Recognize Organizational Problem



2. Call for Help



3. Address the Issue



4. Apply Resolution

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The day the company's failure will hit me hardest is probably when my own neighborhood store closes.

When we began these initiatives, Viacom still owned about 80% of us. We were planning to spend \$200 million to launch Blockbuster Online and another \$200 million to eliminate late fees. Viacom didn't think these investments made sense for its own strategy, so it sold its stake in Blockbuster, which became publicly held. Our stock was depressed by the \$400 million planned investment—and that set the stage for the proxy fight.

A Fight We Were Doomed to Lose

Icahn got involved with Blockbuster in late 2004, when the company tried to buy Hollywood Video. Our goal was to orchestrate an orderly downsizing of its store-based business and take on its customers as our own while we also focused on developing alternative movie-delivery methods. Icahn bought positions in both companies as an arbitrage play. Ultimately the FTC declined to approve the deal, and another company—Movie Gallery—bought Hollywood

Video. After acquiring his interest in Blockbuster, Icahn began giving interviews to the press and writing letters to shareholders (and to me) claiming that we'd botched the acquisition, that we'd spent too much money on our online business, that we shouldn't have ended late fees, and that the CEO (that would be me) was making too much money. By early 2005 he had decided to launch a proxy fight.

I was about as prepared for such a fight as I could be without ever having gone through one. You hire a bunch of lawyers and bankers, who give you their points of view. You hire a proxy solicitation firm. You write a letter to shareholders, and the opposing shareholder writes a letter. The reality is, we'd just been spun off from Viacom, and most of our stock was held by hedge funds. They were all in for a quick pop, and Icahn is well-known in that community. We were probably doomed from the start. I'm sure the hedge funds figured that having Icahn's guys in the boardroom could lead to a deal that would drive up the stock price.

At our 2005 shareholder meeting, in a Dallas auditorium, the votes for Icahn's slate of directors were tallied up. The preliminary results showed that we'd lost. I felt like my guts had been ripped out. It was quite emotional. Most in the audience were Blockbuster employees, and quite a few tears were shed.

I went to the podium and basically said, "The results are the results, but as far as I'm concerned, our strategy is still our strategy. We're disappointed, but we'll work with Icahn and his designees to carry out the mission of the company."

Soon after that I went to New York and met Icahn in person for the first time. We ate at his favorite Italian restaurant, Il Tinello—they even have a dish named after him: Pasta alla "Icahn." In a social setting Carl is quite engaging. Having dinner with him was actually enjoyable. He has a lot of stories, from past deals to poker games. I came away thinking that maybe we could work this out, and that if Carl or any other directors had any good ideas, they should bring them on.

Carl and his two chosen directors were now on our board of eight. Even though he lacked a majority, sheer force of will gave him a lot of power. Since it could be a formidable task, after a while the other directors were disinclined to pick a fight with him. Then one of the sitting board members retired, and Carl and his directors kept vetoing choices for a replacement. The board settled on someone whom Carl would support for whatever reason. So within a few months he effectively controlled the board.

Carl never physically attended a board meeting at Blockbuster's corporate headquarters in Dallas—he called in. It's always hard when someone calls in to a board meeting, and with Carl it's even more difficult. He likes to make himself heard, and he can go on forever. He's not shy about interrupting, and he's not known for boardroom protocol. Frankly, it was a bit of a free-for-all. Eventually, to avoid having to deal with Carl on the phone, I began holding half the board meetings at his New York office. He was winning the power struggle bit by bit.

Why Blockbuster Failed

by Carl Icahn

Having contentious directors was a nightmare; as management, we spent much of our time justifying everything we did. One of them had a bunch of ideas, such as putting greeting cards in the stores, carrying adult movies, and making a deal with Barnes & Noble to add a book section. Mostly, though, they questioned our strategy, which focused on growing an online business and finding new ways to satisfy customers, like getting rid of late fees. We presented data demonstrating that franchisees that had dropped late fees were outperforming those that retained them, but they remained unmoved. They wanted us to reinstate late fees, which would have been a disaster—as apparently it was when they were reinstated after my departure.

In December 2006 the situation finally came to a head over executive compensation. Blockbuster had a very good year, and management was due big bonuses. At the board meeting, when it came time to discuss bonuses, the board went into executive session, meaning I had to leave the room. When I came back in, they had decided that my bonus would be greatly reduced, despite my contract. I said I wouldn't take it and that I'd see them in arbitration. A few weeks later they cut me a check. I returned it.

Ditching the Existing Strategy

The compensation issue led to a long Friday-night phone discussion between Carl and me. We finally agreed that I'd leave the company in July 2007 and would be paid a negotiated bonus plus an exit package. I felt good. I felt it was time to leave. The board environment had become very frustrating and stressful, but instead of resigning and walking away with nothing, I had cut a deal giving me a major portion of the pay I was entitled to. After that phone call, I celebrated by having a margarita or two with my wife.

Although I was a lame-duck CEO for the next six months, I remained fully engaged, and the business was doing well. I firmly believe that if our online strategy had not been essentially abandoned, Blockbuster

I liked John Antioco personally. He's not a bad guy. He was a capable executive, but I wasn't impressed with his work ethic—his heart didn't seem in it. When I launched the proxy fight at Blockbuster, the feeling that he'd botched the Hollywood Video deal was widespread. The biggest issue was his excessive compensation package. Investors were outraged that he'd get \$50 million if there was a change of control. That was the nail in his coffin. I've been involved in many proxy fights, but Blockbuster was easy. We won the vote by a huge margin. Antioco was really unpopular among shareholders.

I want to clarify a few things here. It's not true that I controlled Blockbuster's board. The two directors I brought in were independent, experts in the media industry, and not "my guys"—they sometimes voted against my position. I'm also not so domineering in the boardroom. During the dispute over Antioco's 2006 bonus, for instance, I was strongly against giving him the money, but even his friends on the board were irate about it. His departure wasn't just my wish—the board was not unhappy when he left.

I have a long track record of stepping in as a director and helping clean up companies like Federal-Mogul, Motorola, XO Communications, Philip Morris, National Energy, and Yahoo. As a result, I've done very well. [Editor's note: *Forbes* estimates Icahn's net worth at \$11 billion.] The fact that I can make so much money as an activist investor shows that something's wrong with governance in most of corporate America. There's no accountability for CEOs. There are good CEOs and good boards, but too many directors don't care. Activist investors provide some accountability and can be important catalysts for change.

Blockbuster turned out to be the worst investment I ever made. It

failed because of too much debt and changes in the industry. It had too many stores, Netflix created a better business model, and then Redbox kiosks and the whole digital phenomenon eliminated the need for consumers to go to a separate DVD store. Maybe the board did make a mistake in picking Jim Keyes as Antioco's successor—Keyes knows retailing and did an excellent job with the stores, but he isn't a digital guy. I also think Antioco did a good job in executing on Blockbuster's Total Access program, which allowed customers to rent unlimited movies online and in stores. Over time it



Blockbuster turned out to be the worst investment I ever made.

might have helped Blockbuster fend off Netflix. But Keyes felt the company couldn't afford to keep losing so much money, so we pulled the plug. To this day I don't know what would have happened if we'd avoided the big blowup over Antioco's bonus and he'd continued growing Total Access. Things might have turned out differently.

 Carl Icahn is the chairman of Icahn Enterprises.

I sold my Blockbuster stock and bought a bunch of Netflix shares. It wasn't an emotional investment.

Online would have 10 million subscribers today, and we'd be rivaling Netflix for the leadership position in the internet downloading business.

For months the directors searched for a new CEO. After my departure they passed over an inside candidate I favored in order to hire Jim Keyes, with whom I'd worked years before at 7-Eleven. I didn't think he was the best person for the job, but obviously it wasn't my decision. I followed Blockbuster very closely for a few months after my departure, partly because I still held stock and options. Even though Blockbuster Online was growing incredibly fast and we had successfully slowed Netflix's momentum, Keyes made it very public that management planned to drastically change the strategy. The company announced a big price increase for online customers, cut way back on marketing, and decided to in-

tensify the focus on the store-based business. Part of that was an ill-fated attempt to take over Circuit City, which went bankrupt soon afterward. All the members of the senior management team I'd worked with left the company. I sold my stock and bought a bunch of Netflix shares, which were then priced around \$20. It wasn't an emotional investment. I could see that Netflix was going to have the whole DVD-by-mail market handed to it, along with a direct path to streaming movies into homes—which is exactly what Netflix has done. I thought I was a genius when I sold my shares at about \$35. Today they're over \$200.

I believe that Carl lost about \$200 million of his original Blockbuster stock investment. I'd have been very happy if he had been able to figure out how to help the company succeed in a difficult environment for many reasons. Carl is very good at what he

does—he can make investors rich. But my experiences with him at Blockbuster suggest that his expertise lies in areas other than helping to set a company's strategy while being a busy activist investor.

In hindsight, there are things that could have been done differently. It was probably a mistake to sell Viacom's 80% stake all at once—that's a lot of stock for a market that hasn't really been following the company. I probably should have met with Carl earlier, before the proxy fight, to lay out what we were doing and why. That might or might not have had an impact on his desire to hold on to the stock. And if I could turn back the clock, I might focus on the online business for a few more years and then drop late fees. Both were the right thing to do, but doing them simultaneously increased costs and made a bitter pill for investors.

I was home watching the morning news on September 23, 2010, when I saw that Blockbuster had filed for bankruptcy. I wasn't surprised—there'd been speculation that this day was coming—but I was sad and disappointed. I had spent roughly a quarter of my adult life leading that company, so I felt a sense of loss and some anger at the company's near demise. To be honest, my emotions about Blockbuster are still complicated.

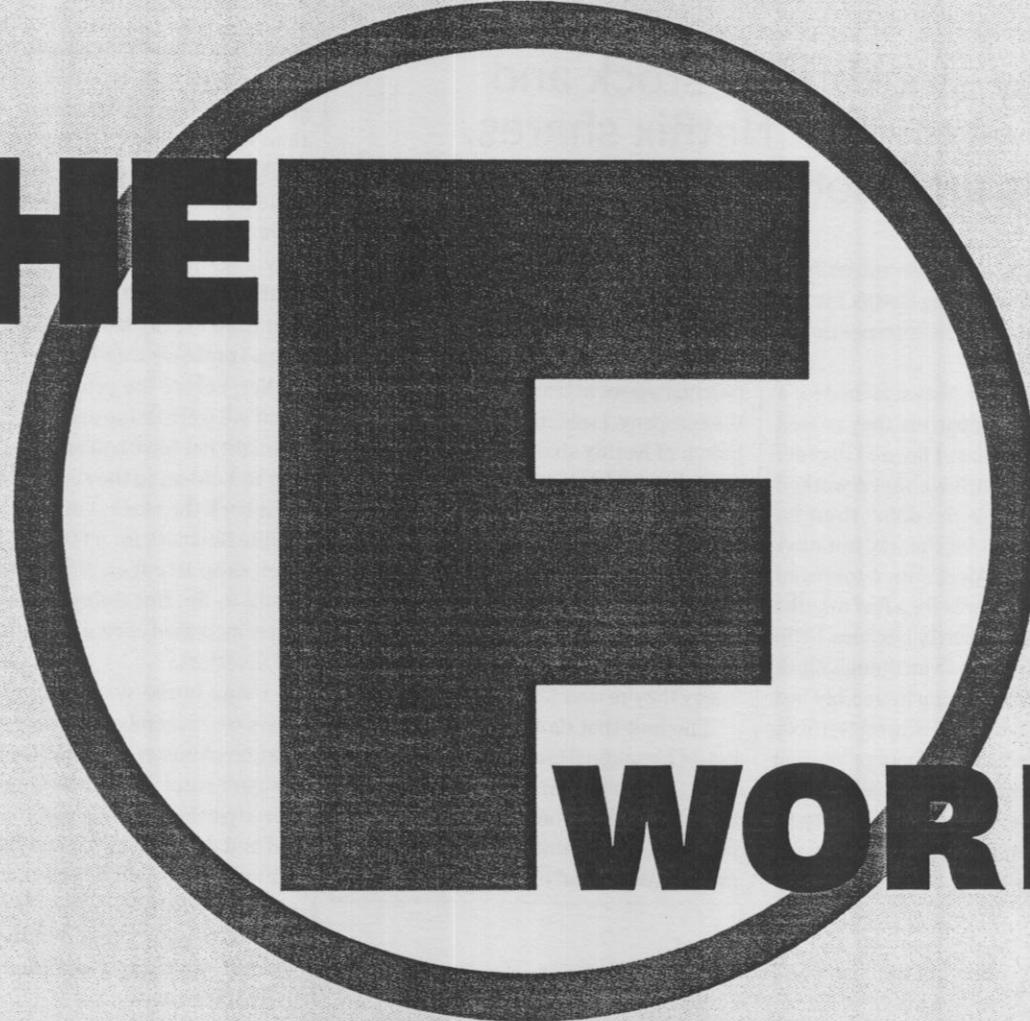
The day the company's failure will hit me hardest is probably when my own neighborhood store closes. I went in there recently with my son, who's now eight. We have a deal where if he behaves well at church, I take him to Blockbuster and let him pick out a movie or a video game. On that visit we rented a couple of Wii games. As I looked around, realizing that this local institution probably wouldn't be there much longer, I felt an almost overwhelming sadness. My team and I had worked hard to create a future for this company. Unfortunately, turnarounds don't always stay turned around forever. □

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 John Anteoco was CEO of Blockbuster from 1997 to 2007. Today he invests in retail franchise concepts.

CARTOON: JOSEPH FARRIS

UNDERSTAND : LEARN : RECOVER

A large, bold, black-outlined circle surrounds the word "THE" on the left and "WORD" on the right. In the center of the circle is a large, dark gray square containing the letter "F".

THE F WORD

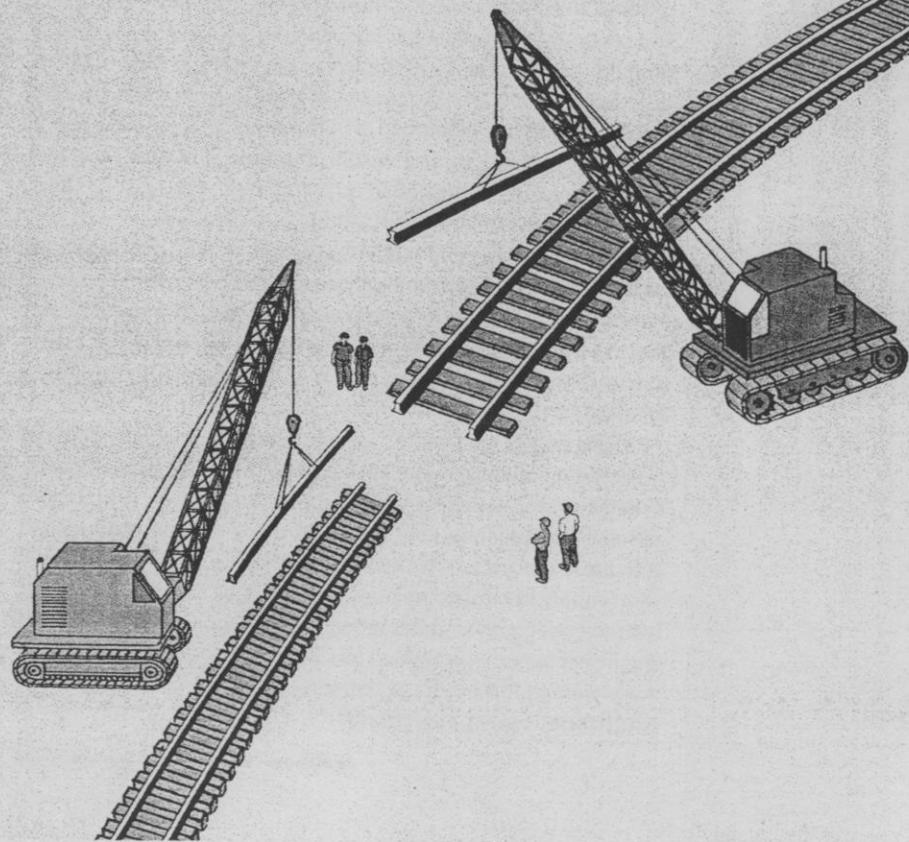
Failure. We're hypocrites about it. Go online, and you'll find scores of pleasant aphorisms celebrating the inevitability of failure and the importance of learning from it. But in real life—and in real companies—failure is anathema. We're afraid of it. We avoid it. We penalize it.

It's time for managers to get past platitudes and confront the F-word taboo. In this special issue every article provides some home truths about good failures (when we expect to fail and learn something), bad failures (when we're sabotaged by errors in judgment), or unavoidable failures (when complex systems break down).

Failure is inevitable and often out of our control. But we can choose to understand it, to learn from it, and to recover from it.

Failure **Understand It**

Strategies For Learning From Failure





Amy C. Edmondson
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of Leadership and
Management and co-head
of the Technology and
Operations Management
unit at Harvard Business
School.

We are programmed at an early age to think that failure is bad. That belief prevents organizations from effectively learning from their missteps. *by Amy C. Edmondson*

THE WISDOM OF LEARNING from failure is incontrovertible. Yet organizations that do it well are extraordinarily rare. This gap is not due to a lack of commitment to learning. Managers in the vast majority of enterprises that I have studied over the past 20 years—pharmaceutical, financial services, product design, telecommunications, and construction companies; hospitals; and NASA's space shuttle program, among others—genuinely wanted to help their organizations learn from failures to improve future performance. In some cases they and their teams had devoted many hours to after-action reviews, postmortems, and the like. But time after time I saw that these painstaking efforts led to no real change. The reason: Those managers were thinking about failure the wrong way.

Most executives I've talked to believe that failure is bad (of course!). They also believe that learning from it is pretty straightforward: Ask people to reflect on what they did wrong and exhort them to avoid similar mistakes in the future—or, better yet, assign a team to review and write a report on what happened and then distribute it throughout the organization.

These widely held beliefs are misguided. First, failure is not always bad. In organizational life it is sometimes bad, sometimes inevitable, and sometimes even good. Second, learning from organizational failures is anything but straightforward. The attitudes and activities required to effectively detect and analyze failures are in short supply in most companies, and the need for context-specific learning strategies is underappreciated. Organizations need new and better ways to go beyond lessons that are superficial ("Procedures weren't followed") or self-serving ("The market just wasn't ready for our great new product"). That means jettisoning old

A Spectrum of Reasons for Failure

cultural beliefs and stereotypical notions of success and embracing failure's lessons. Leaders can begin by understanding how the blame game gets in the way.

The Blame Game

Failure and fault are virtually inseparable in most households, organizations, and cultures. Every child learns at some point that admitting failure means taking the blame. That is why so few organizations have shifted to a culture of psychological safety in which the rewards of learning from failure can be fully realized.

Executives I've interviewed in organizations as different as hospitals and investment banks admit to being torn: How can they respond constructively to failures without giving rise to an anything-goes attitude? If people aren't blamed for failures, what will ensure that they try as hard as possible to do their best work?

This concern is based on a false dichotomy. In actuality, a culture that makes it safe to admit and report on failure can—and in some organizational contexts *must*—coexist with high standards for performance. To understand why, look at the exhibit "A Spectrum of Reasons for Failure," which lists causes ranging from deliberate deviation to thoughtful experimentation.

Which of these causes involve blameworthy actions? Deliberate deviance, first on the list, obviously warrants blame. But inattention might not. If it results from a lack of effort, perhaps it's blameworthy. But if it results from fatigue near the end of an overly long shift, the manager who assigned the shift is more at fault than the employee. As we go down the list, it gets more and more difficult to find blameworthy acts. In fact, a failure resulting from thoughtful experimentation that generates valuable information may actually be praiseworthy.

When I ask executives to consider this spectrum and then to estimate how many of the failures in their organizations are truly blameworthy, their answers are usually in single digits—perhaps 2% to 5%. But when I ask how many are *treated* as blameworthy, they say (after a pause or a laugh) 70% to 90%. The unfortunate consequence is that many failures go unreported and their lessons are lost.

Not All Failures Are Created Equal

A sophisticated understanding of failure's causes and contexts will help to avoid the blame game and institute an effective strategy for learning from

BLAMEWORTHY

DEVIANCE

An individual chooses to violate a prescribed process or practice.

INATTENTION

An individual inadvertently deviates from specifications.

LACK OF ABILITY

An individual doesn't have the skills, conditions, or training to execute a job.

PROCESS INADEQUACY

A competent individual adheres to a prescribed but faulty or incomplete process.

TASK CHALLENGE

An individual faces a task too difficult to be executed reliably every time.

PROCESS COMPLEXITY

A process composed of many elements breaks down when it encounters novel interactions.

UNCERTAINTY

A lack of clarity about future events causes people to take seemingly reasonable actions that produce undesired results.

HYPOTHESIS TESTING

An experiment conducted to prove that an idea or a design will succeed fails.

EXPLORATORY TESTING

An experiment conducted to expand knowledge and investigate a possibility leads to an undesired result.

PRASIEWORTHY

failure. Although an infinite number of things can go wrong in organizations, mistakes fall into three broad categories: preventable, complexity-related, and intelligent.

Preventable failures in predictable operations.

Most failures in this category can indeed be considered "bad." They usually involve deviations from spec in the closely defined processes of high-volume or routine operations in manufacturing and services. With proper training and support, employees can follow those processes consistently. When they don't, deviance, inattention, or lack of ability is usually the reason. But in such cases, the causes can be readily identified and solutions developed. Checklists (as in the Harvard surgeon Atul Gawande's recent best seller *The Checklist Manifesto*) are one solution. Another is the vaunted Toyota Production System, which builds continual learning from tiny failures (small process deviations) into its approach to improvement. As most students of operations know well, a team member on a Toyota assembly line who spots a problem or even a potential problem is encouraged to pull a rope called the andon cord, which immediately initiates a diagnostic and problem-solving process. Production continues unimpeded if the problem can be remedied in less than a minute. Otherwise, production is halted—despite the loss of revenue entailed—until the failure is understood and resolved.

Unavoidable failures in complex systems. A large number of organizational failures are due to the inherent uncertainty of work: A particular combination of needs, people, and problems may have never occurred before. Triage patients in a hospital emergency room, responding to enemy actions on the battlefield, and running a fast-growing start-up all occur in unpredictable situations. And in complex organizations like aircraft carriers and nuclear power plants, system failure is a perpetual risk.

Although serious failures can be averted by following best practices for safety and risk management, including a thorough analysis of any such events that do occur, small process failures are inevitable. To consider them bad is not just a misunderstanding of how complex systems work; it is counterproductive. Avoiding consequential failures means rapidly identifying and correcting small failures. Most accidents in hospitals result from a series of small failures that went unnoticed and unfortunately lined up in just the wrong way.

Intelligent failures at the frontier. Failures in this category can rightly be considered "good," be-

Idea in Brief

The ingrained attitude that all failures are bad means organizations don't learn from them.

Leaders need to recognize that failures occur on a spectrum from blameworthy to praiseworthy, and that they fall into three categories:

- Failures in routine or predictable operations, which can be prevented
- Those in complex operations, which can't be avoided but can be managed so that

they don't mushroom into catastrophes

- Unwanted outcomes in, for example, research settings, which are valuable because they generate knowledge

Although learning from failures requires different strategies in different work settings, the goal should be to detect them early, analyze them

deeply, and design experiments or pilot projects to produce them. But if the organization is ultimately to succeed, employees must feel safe admitting to and reporting failures. Creating that environment takes strong leadership.

cause they provide valuable new knowledge that can help an organization leap ahead of the competition and ensure its future growth—which is why the Duke University professor of management Sim Sitkin calls them intelligent failures. They occur when experimentation is necessary: when answers are not knowable in advance because this exact situation hasn't been encountered before and perhaps never will be again. Discovering new drugs, creating a radically new business, designing an innovative product, and testing customer reactions in a brand-new market are tasks that require intelligent failures. “Trial and error” is a common term for the kind of experimentation needed in these settings, but it is a misnomer, because “error” implies that there was a “right” outcome in the first place. At the frontier, the right kind of experimentation produces good failures quickly. Managers who practice it can avoid the *unintelligent* failure of conducting experiments at a larger scale than necessary.

Leaders of the product design firm IDEO understood this when they launched a new innovation-strategy service. Rather than help clients design new products within their existing lines—a process IDEO had all but perfected—the service would help them create new lines that would take them in novel strategic directions. Knowing that it hadn't yet figured out how to deliver the service effectively, the company started a small project with a mattress company and didn't publicly announce the launch of a new business.

Although the project failed—the client did not change its product strategy—IDEO learned from it and figured out what had to be done differently. For instance, it hired team members with MBAs who could better help clients create new businesses and made some of the clients' managers part of the team. Today strategic innovation services account for more than a third of IDEO's revenues.

FOCUS ON FAILURE**M&A**

Overpayment for acquisitions is a perennial mistake in business.



Tolerating unavoidable process failures in complex systems and intelligent failures at the frontiers of knowledge won't promote mediocrity. Indeed, tolerance is essential for any organization that wishes to extract the knowledge such failures provide. But failure is still inherently emotionally charged; getting an organization to accept it takes leadership.

Building a Learning Culture

Only leaders can create and reinforce a culture that counteracts the blame game and makes people feel both comfortable with and responsible for surfacing and learning from failures. (See the sidebar “How Leaders Can Build a Psychologically Safe Environment.”) They should insist that their organizations develop a clear understanding of what happened—not of “who did it”—when things go wrong. This requires consistently reporting failures, small and large; systematically analyzing them; and proactively searching for opportunities to experiment.

How Leaders Can Build a Psychologically Safe Environment

If an organization's employees are to help spot existing and pending failures and to learn from them, their leaders must make it safe to speak up. Julie Morath, the chief operating officer of Children's Hospital and Clinics of Minnesota from 1999 to 2009, did just that when she led a highly successful effort to reduce medical errors. Here are five practices I've identified in my research, with examples of how Morath employed them to build a psychologically safe environment.

FRAME THE WORK ACCURATELY

People need a shared understanding of the kinds of failures that can be expected to occur in a given work context (routine production, complex operations, or innovation) and why openness and collaboration are important for surfacing and learning from them. Accurate framing detoxifies failure.

IN A COMPLEX OPERATION LIKE A HOSPITAL, many consequential failures are the result of a series of small events. To heighten awareness of this system complexity, Morath presented data on U.S. medical error rates, organized discussion groups, and built a team of key influencers from throughout the organization to help spread knowledge and understanding of the challenge.

EMBRACE MESSENGERS

Those who come forward with bad news, questions, concerns, or mistakes should be rewarded rather than shot. Celebrate the value of the news first and then figure out how to fix the failure and learn from it.

MORATH IMPLEMENTED "BLAMELESS REPORTING"—an approach that encouraged employees to reveal medical errors and near misses anonymously. Her team created a new patient safety report, which expanded on the previous version by asking employees to describe incidents in their own words and to comment on the possible causes. Soon after the new system was implemented, the rate of reported failures shot up. Morath encouraged her people to view the data as good news, because the hospital could learn from failures—and made sure that teams were assigned to analyze every incident.

Leaders should also send the right message about the nature of the work, such as reminding people in R&D, "We're in the discovery business, and the faster we fail, the faster we'll succeed." I have found that managers often don't understand or appreciate this subtle but crucial point. They also may approach failure in a way that is inappropriate for the context. For example, statistical process control, which uses data analysis to assess unwarranted variances, is not good for catching and correcting random invisible glitches such as software bugs. Nor does it help in the development of creative new products. Conversely, though great scientists intuitively adhere to IDEO's slogan, "Fail often in order to succeed sooner," it would hardly promote success in a manufacturing plant.

Often one context or one kind of work dominates the culture of an enterprise and shapes how it treats failure. For instance, automotive companies, with their predictable, high-volume operations, understandably tend to view failure as something that can and should be prevented. But most organizations engage in all three kinds of work discussed above—routine, complex, and frontier. Leaders must ensure that the right approach to learning from failure is applied in each. All organizations learn from failure through three essential activities: detection, analysis, and experimentation.

Detecting Failure

Spotting big, painful, expensive failures is easy. But in many organizations any failure that can be hidden is hidden as long as it's unlikely to cause immediate or obvious harm. The goal should be to surface it early, before it has mushroomed into disaster.

Shortly after arriving from Boeing to take the reins at Ford, in September 2006, Alan Mulally insti-

tuted a new system for detecting failures. He asked managers to color code their reports green for good, yellow for caution, or red for problems—a common management technique. According to a 2009 story in *Fortune*, at his first few meetings all the managers coded their operations green, to Mulally's frustration. Reminding them that the company had lost several billion dollars the previous year, he asked straight out, "Isn't anything *not* going well?" After one tentative yellow report was made about a serious product defect that would probably delay a launch, Mulally responded to the deathly silence that ensued with applause. After that, the weekly staff meetings were full of color.

That story illustrates a pervasive and fundamental problem: Although many methods of surfacing current and pending failures exist, they are grossly underutilized. Total Quality Management and soliciting feedback from customers are well-known techniques for bringing to light failures in routine operations. High-reliability-organization (HRO) practices help prevent catastrophic failures in complex systems like nuclear power plants through early detection. Electricité de France, which operates 58 nuclear power plants, has been an exemplar in this area: It goes beyond regulatory requirements and religiously tracks each plant for anything even slightly out of the ordinary, immediately investigates whatever turns up, and informs all its other plants of any anomalies.

Such methods are not more widely employed because all too many messengers—even the most senior executives—remain reluctant to convey bad news to bosses and colleagues. One senior executive I know in a large consumer products company had grave reservations about a takeover that was already

ACKNOWLEDGE LIMITS	INVITE PARTICIPATION	SET BOUNDARIES AND HOLD PEOPLE ACCOUNTABLE
<p>Being open about what you don't know, mistakes you've made, and what you can't get done alone will encourage others to do the same.</p> <p>AS SOON AS SHE JOINED THE HOSPITAL, Morath explained her passion for patient safety and acknowledged that as a newcomer, she had only limited knowledge of how things worked at Children's. In group presentations and one-on-one discussions, she made clear that she would need everyone's help to reduce errors.</p>	<p>Ask for observations and ideas and create opportunities for people to detect and analyze failures and promote intelligent experiments. Inviting participation helps defuse resistance and defensiveness.</p> <p>MORATH SET UP CROSS-DISCIPLINARY TEAMS to analyze failures and personally asked thoughtful questions of employees at all levels. Early on, she invited people to reflect on their recent experiences in caring for patients: Was everything as safe as they would have wanted it to be? This helped them recognize that the hospital had room for improvement. Suddenly, people were lining up to help.</p>	<p>Paradoxically, people feel psychologically safer when leaders are clear about what acts are blameworthy. And there must be consequences. But if someone is punished or fired, tell those directly and indirectly affected what happened and why it warranted blame.</p> <p>WHEN SHE INSTITUTED BLAMELESS REPORTING, Morath explained to employees that although reporting would not be punished, specific behaviors (such as reckless conduct, conscious violation of standards, failing to ask for help when over one's head) would. If someone makes the same mistake three times and is then laid off, coworkers usually express relief, along with sadness and concern—they understand that patients were at risk and that extra vigilance was required from others to counterbalance the person's shortcomings.</p>
<p>in the works when he joined the management team. But, overly conscious of his newcomer status, he was silent during discussions in which all the other executives seemed enthusiastic about the plan. Many months later, when the takeover had clearly failed, the team gathered to review what had happened. Aided by a consultant, each executive considered what he or she might have done to contribute to the failure. The newcomer, openly apologetic about his past silence, explained that others' enthusiasm had made him unwilling to be "the skunk at the picnic."</p> <p>In researching errors and other failures in hospitals, I discovered substantial differences across patient-care units in nurses' willingness to speak up about them. It turned out that the behavior of midlevel managers—how they responded to failures and whether they encouraged open discussion of them, welcomed questions, and displayed humility and curiosity—was the cause. I have seen the same pattern in a wide range of organizations.</p> <p>A horrific case in point, which I studied for more than two years, is the 2003 explosion of the <i>Columbia</i> space shuttle, which killed seven astronauts (see "Facing Ambiguous Threats," by Michael A. Roberto, Richard M.J. Bohmer, and Amy C. Edmondson, HBR November 2006). NASA managers spent some two weeks downplaying the seriousness of a piece of foam's having broken off the left side of the shuttle at launch. They rejected engineers' requests to resolve the ambiguity (which could have been done by having a satellite photograph the shuttle or asking the astronauts to conduct a space walk to inspect the area in question), and the major failure went largely undetected until its fatal consequences 16 days later. Ironically, a shared but unsubstantiated belief among program managers that there was little</p>		

The slogan “Fail often in order to succeed sooner” would hardly promote success in a manufacturing plant.

they could do contributed to their inability to detect the failure. Postevent analyses suggested that they might indeed have taken fruitful action. But clearly leaders hadn't established the necessary culture, systems, and procedures.

One challenge is teaching people in an organization when to declare defeat in an experimental course of action. The human tendency to hope for the best and try to avoid failure at all costs gets in the way, and organizational hierarchies exacerbate it. As a result, failing R&D projects are often kept going much longer than is scientifically rational or economically prudent. We throw good money after bad, praying that we'll pull a rabbit out of a hat. Intuition may tell engineers or scientists that a project has fatal flaws, but the formal decision to call it a failure may be delayed for months.

Again, the remedy—which does not necessarily involve much time and expense—is to reduce the stigma of failure. Eli Lilly has done this since the early 1990s by holding "failure parties" to honor intelligent, high-quality scientific experiments that fail to achieve the desired results. The parties don't cost much, and redeploying valuable resources—particularly scientists—to new projects earlier rather than later can save hundreds of thousands of dollars, not to mention kickstart potential new discoveries.

Designing Successful Failures

Perhaps unsurprisingly, pilot projects are usually designed to succeed rather than to produce intelligent failures—those that generate valuable information. To know if you've designed a genuinely useful pilot, consider whether your managers can answer yes to the following questions:

Is the pilot being tested under typical circumstances (rather than optimal conditions)?

Do the employees, customers, and resources represent the firm's real operating environment?

Is the goal of the pilot to learn as much as possible (rather than to demonstrate the value of the proposed offering)?

Is the goal of learning well understood by all employees and managers?

Is it clear that compensation and performance reviews are not based on a successful outcome for the pilot?

Were explicit changes made as a result of the pilot test?

Analyzing Failure

Once a failure has been detected, it's essential to go beyond the obvious and superficial reasons for it to understand the root causes. This requires the discipline—better yet, the enthusiasm—to use sophisticated analysis to ensure that the right lessons are learned and the right remedies are employed. The job of leaders is to see that their organizations don't just move on after a failure but stop to dig in and discover the wisdom contained in it.

Why is failure analysis often shortchanged? Because examining our failures in depth is emotionally unpleasant and can chip away at our self-esteem. Left to our own devices, most of us will speed through or avoid failure analysis altogether. Another reason is that analyzing organizational failures requires inquiry and openness, patience, and a tolerance for causal ambiguity. Yet managers typically admire and are rewarded for decisiveness, efficiency, and action—not thoughtful reflection. That is why the right culture is so important.

The challenge is more than emotional; it's cognitive, too. Even without meaning to, we all favor evidence that supports our existing beliefs rather than alternative explanations. We also tend to downplay our responsibility and place undue blame on external or situational factors when we fail, only to do the reverse when assessing the failures of others—a psychological trap known as *fundamental attribution error*.

My research has shown that failure analysis is often limited and ineffective—even in complex organizations like hospitals, where human lives are at stake. Few hospitals systematically analyze medical errors or process flaws in order to capture failure's lessons. Recent research in North Carolina hospitals, published in November 2010 in the *New England Journal of Medicine*, found that despite a dozen years of heightened awareness that medical errors result in thousands of deaths each year, hospitals have not become safer.

Fortunately, there are shining exceptions to this pattern, which continue to provide hope that organizational learning is possible. At Intermountain

Healthcare, a system of 23 hospitals that serves Utah and southeastern Idaho, physicians' deviations from medical protocols are routinely analyzed for opportunities to improve the protocols. Allowing deviations and sharing the data on whether they actually produce a better outcome encourages physicians to buy into this program. (See "Fixing Health Care on the Front Lines," by Richard M.J. Bohmer, HBR April 2010.)

Motivating people to go beyond first-order reasons (procedures weren't followed) to understanding the second- and third-order reasons can be a major challenge. One way to do this is to use interdisciplinary teams with diverse skills and perspectives. Complex failures in particular are the result of multiple events that occurred in different departments or disciplines or at different levels of the organization. Understanding what happened and how to prevent it from happening again requires detailed, team-based discussion and analysis.

A team of leading physicists, engineers, aviation experts, naval leaders, and even astronauts devoted months to an analysis of the *Columbia* disaster. They conclusively established not only the first-order cause—a piece of foam had hit the shuttle's leading edge during launch—but also second-order causes: A rigid hierarchy and schedule-obsessed culture at NASA made it especially difficult for engineers to speak up about anything but the most rock-solid concerns.

Promoting Experimentation

The third critical activity for effective learning is strategically producing failures—in the right places, at the right times—through systematic experimentation. Researchers in basic science know that although the experiments they conduct will occasionally result in a spectacular success, a large percentage of them (70% or higher in some fields) will fail. How do these people get out of bed in the morning? First, they know that failure is not optional in their work; it's part of being at the leading edge of scientific discovery. Second, far more than most of us, they understand that every failure conveys val-

Too often, pilots are conducted under optimal conditions rather than representative ones. Thus they can't show what won't work.

FOCUS ON FAILURE



ALL THINGS MUST END

In 2006 the world's oldest company—Kongō Gumi, a family-owned Japanese temple builder—closed down. It had been in business for 1,400 years.

able information, and they're eager to get it before the competition does.

In contrast, managers in charge of piloting a new product or service—a classic example of experimentation in business—typically do whatever they can to make sure that the pilot is perfect right out of the starting gate. Ironically, this hunger to succeed can later inhibit the success of the official launch. Too often, managers in charge of pilots design optimal conditions rather than representative ones. Thus the pilot doesn't produce knowledge about what *won't* work.

In the very early days of DSL, a major telecommunications company I'll call Telco did a full-scale launch of that high-speed technology to consumer households in a major urban market. It was an unmitigated customer-service disaster. The company missed 75% of its commitments and found itself confronted with a staggering 12,000 late orders. Customers were frustrated and upset, and service reps couldn't even begin to answer all their calls. Employee morale suffered. How could this happen to a leading company with high satisfaction ratings and a brand that had long stood for excellence?

A small and extremely successful suburban pilot had lulled Telco executives into a misguided confidence. The problem was that the pilot did not resemble real service conditions: It was staffed with unusually personable, expert service reps and took place in a community of educated, tech-savvy customers. But DSL was a brand-new technology and, unlike traditional telephony, had to interface with customers' highly variable home computers and technical skills. This added complexity and unpredictability to the service-delivery challenge in ways that Telco had not fully appreciated before the launch.

A more useful pilot at Telco would have tested the technology with limited support, unsophisticated customers, and old computers. It would have been designed to discover everything that could go wrong—instead of proving that under the best of conditions everything would go right. (See the sidebar "Designing Successful Failures.") Of course, the managers in charge would have to have understood that they were going to be rewarded not for success but, rather, for producing intelligent failures as quickly as possible.

In short, exceptional organizations are those that go beyond detecting and analyzing failures and try to generate intelligent ones for the express purpose

of learning and innovating. It's not that managers in these organizations enjoy failure. But they recognize it as a necessary by-product of experimentation. They also realize that they don't have to do dramatic experiments with large budgets. Often a small pilot, a dry run of a new technique, or a simulation will suffice.

THE COURAGE to confront our own and others' imperfections is crucial to solving the apparent contradiction of wanting neither to discourage the reporting of problems nor to create an environment in which anything goes. This means that managers must ask employees to be brave and speak up—and must not respond by expressing anger or strong disapproval of what may at first appear to be incompetence. More often than we realize, complex systems are at work behind organizational failures, and their lessons and improvement opportunities are lost when conversation is stifled.

Savvy managers understand the risks of unbridled toughness. They know that their ability to find out about and help resolve problems depends on their ability to learn about them. But most managers I've encountered in my research, teaching, and consulting work are far more sensitive to a different risk—that an understanding response to failures will simply create a lax work environment in which mistakes multiply.

This common worry should be replaced by a new paradigm—one that recognizes the inevitability of failure in today's complex work organizations. Those that catch, correct, and learn from failure before others do will succeed. Those that wallow in the blame game will not. □

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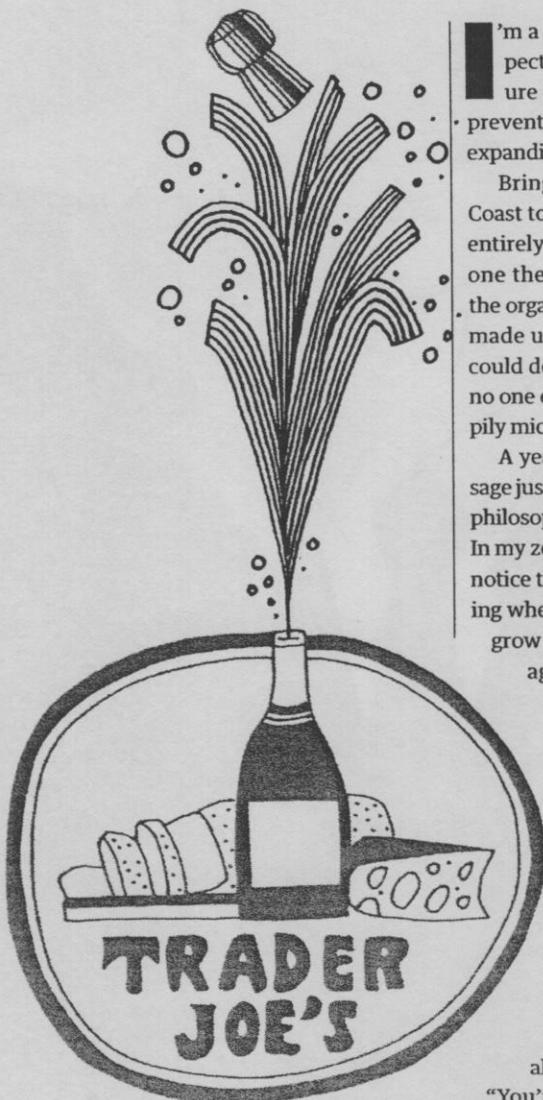
Failure Chronicles



Doug Rauch was president of Trader Joe's grocery stores. He retired in 2008 and is currently a senior fellow at Harvard's Advanced Leadership Institute.

by Doug Rauch, Trader Joe's

"You're driving us crazy. You've got to back off."



I'm a recovering controlaholic, as I suspect a lot of C-suite people are. My failure to recognize this problem nearly prevented Trader Joe's from successfully expanding.

Bringing Trader Joe's from the West Coast to the East meant we had to hire an entirely new staff. We had to teach everyone the Trader Joe's buying philosophy, the organizational culture, the details that made us successful. In my mind, no one could do that better than I could, because no one else had the knowledge I did. I happily micromanaged the expansion.

A year or so in, they'd gotten my message just fine. The culture was instilled, the philosophy bought into. Only I didn't see it. In my zeal to control everything, I failed to notice that it was time to take off the training wheels and let the new staff members grow into their roles. I kept micromanaging. The effect was stifling, especially on our buyers, the heart of our organization. I had always said that a buying team that doesn't make mistakes isn't worth a damn, yet I wasn't letting them make their own mistakes. They started to be afraid to take chances. It was beginning to affect the business.

Luckily for me, one intrepid senior buyer helped put a stop to all this. She approached me and said, "You're driving us crazy. You've got to

In my zeal to control everything, I kept micromanaging. The effect was stifling.

back off. We'll make mistakes, but you've got to let us go."

It was a turning point. I went back to the buying team and admitted my problem. I told them I was "on the wagon" and that I needed them to give me regular feedback or I might fall off. We laughed about it—and the company flourished.

As I worked on letting go, I came to see micromanaging as a failure to let others shine or grow. So instead of fixing problems, I focused on nurturing problem solvers. I turned "Try this" into "What do you think we should try?" I replaced the satisfaction of doing something myself, the way I wanted it done, with the joy of watching others do something their way and succeed.

And that turns out to be far more rewarding. □

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ILLUSTRATION: CHRISTIAN ROUX

Failure **Understand It**

Good people often let bad things happen. Why? by Max H. Bazerman and Ann E. Tenbrunsel

Ethical Breakdowns

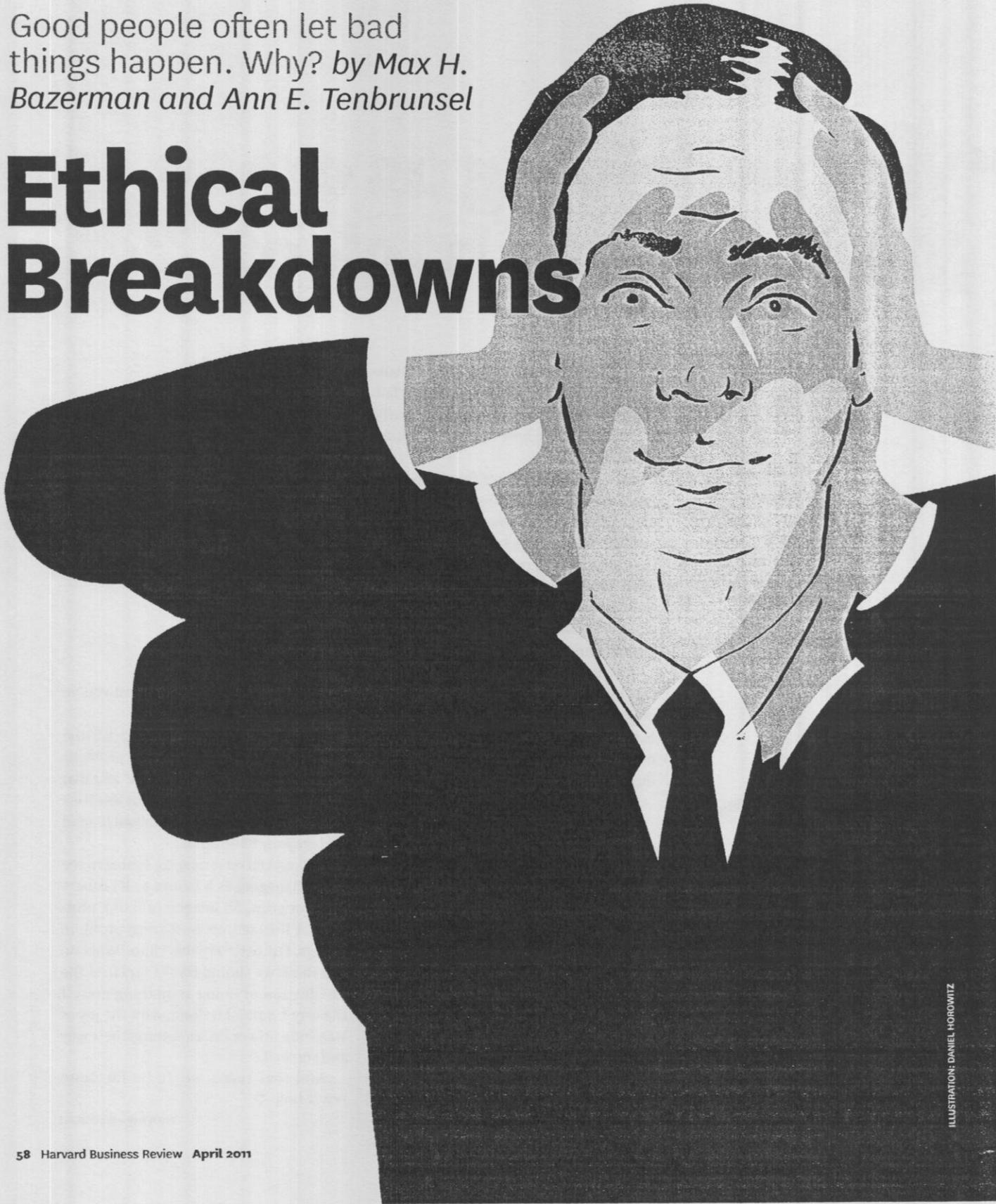
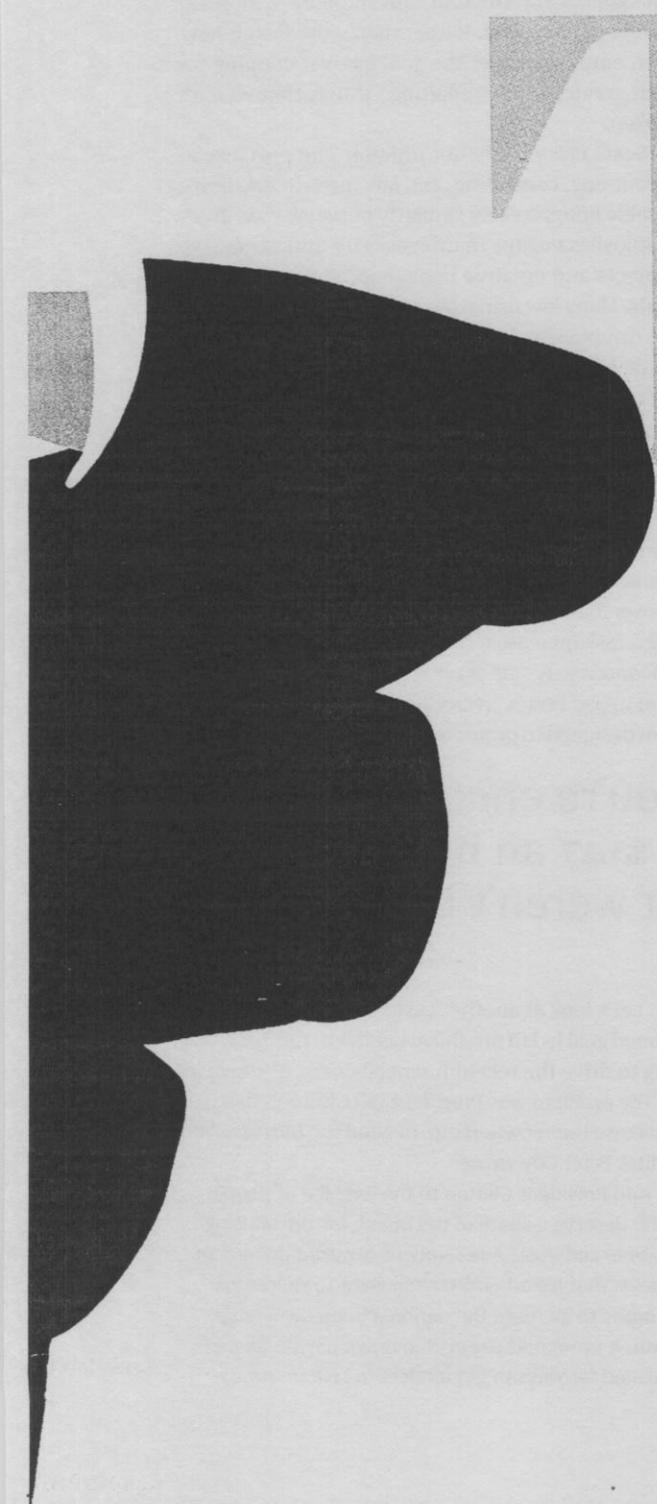


ILLUSTRATION: DANIEL HOROWITZ



THE VAST MAJORITY of managers mean to run ethical organizations, yet corporate corruption is widespread. Part of the problem, of course, is that some leaders are out-and-out crooks, and they direct the malfeasance from the top. But that is rare. Much more often, we believe, employees bend or break ethics rules because those in charge are blind to unethical behavior and may even unknowingly encourage it.

Consider an infamous case that, when it broke, had all the earmarks of conscious top-down corruption. The Ford Pinto, a compact car produced during the 1970s, became notorious for its tendency in rear-end collisions to leak fuel and explode into flames. More than two dozen people were killed or injured in Pinto fires before the company issued a recall to correct the problem. Scrutiny of the decision process behind the model's launch revealed that under intense competition from Volkswagen and other small-car manufacturers, Ford had rushed the Pinto into production. Engineers had discovered the potential danger of ruptured fuel tanks in preproduction crash tests, but the assembly line was ready to go, and the company's leaders decided to proceed. Many saw the decision as evidence of the callousness, greed, and mendacity of Ford's leaders—in short, their deep unethicality.

But looking at their decision through a modern lens—one that takes into account a growing understanding of how cognitive biases distort ethical decision making—we come to a different conclusion. We suspect that few if any of the executives involved in the Pinto decision believed that they were making an unethical choice. Why? Apparently because they thought of it as purely a business decision rather than an ethical one.

Taking an approach heralded as rational in most business school curricula, they conducted a formal cost-benefit analysis—putting dollar amounts on a redesign, potential lawsuits, and even lives—and determined that it would be cheaper to pay off lawsuits than to make the repair. That methodical process colored how they viewed and made their choice. The moral dimension was not part of the equation. Such “ethical fading,” a phenomenon first described by Ann Tenbrunsel and her colleague David Messick, takes ethics out of consideration and even increases unconscious unethical behavior.

What about Lee Iacocca, then a Ford executive VP who was closely involved in the Pinto launch? When the potentially dangerous design flaw was first discovered, did anyone tell him? “Hell no,” said one high company official who worked on the Pinto, according to a 1977 article in *Mother Jones*. “That person would have been fired. Safety wasn’t a popular subject around Ford in those days. With Lee it was taboo.”

FOCUS ON FAILURE



My life has been nothing but a failure, and all that's left for me to do is to destroy my paintings before I disappear."



CLAUDE MONET
PAINTER

Whenever a problem was raised that meant a delay on the Pinto, Lee would chomp on his cigar, look out the window and say 'Read the product objectives and get back to work.'

We don't believe that either Iacocca or the executives in charge of the Pinto were consciously unethical or that they intentionally sanctioned unethical behavior by people further down the chain of command. The decades since the Pinto case have allowed us to dissect Ford's decision-making process and apply the latest behavioral ethics theory to it. We believe that the patterns evident there continue to recur in organizations. A host of psychological and organizational factors diverted the Ford executives' attention from the ethical dimensions of the problem, and executives today are swayed by similar

rather than profits. The lesson is clear: When employees behave in undesirable ways, it's a good idea to look at what you're encouraging them to do. Consider what happened at Sears, Roebuck in the 1990s, when management gave automotive mechanics a sales goal of \$147 an hour—presumably to increase the speed of repairs. Rather than work faster, however, employees met the goal by overcharging for their services and "repairing" things that weren't broken.

Sears is certainly not unique. The pressure at accounting, consulting, and law firms to maximize billable hours creates similarly perverse incentives. Employees engage in unnecessary and expensive projects and creative bookkeeping to reach their goals. Many law firms, increasingly aware that goals are driving some unethical billing practices, have made billing more transparent to encourage honest reporting. Of course, this requires a detailed allotment of time spent, so some firms have assigned codes to hundreds of specific activities. What is the effect? Deciding where in a multitude of categories an activity falls and assigning a precise number of minutes to it involves some guesswork—which becomes a component of the billable hour. Research shows that as the uncertainty involved in completing a task increases, the guesswork becomes more unconsciously self-serving. Even without an intention to pad hours, overbilling is the outcome. A system designed to promote ethical behavior backfires.

It's a good idea to look at what you're encouraging employees to do. A sales goal of \$147 an hour led auto mechanics to "repair" things that weren't broken.

forces. However, few grasp how their own cognitive biases and the incentive systems they create can conspire to negatively skew behavior and obscure it from view. Only by understanding these influences can leaders create the ethical organizations they aspire to run.

ILL-Conceived Goals

In our teaching we often deal with sales executives. By far the most common problem they report is that their sales forces maximize sales rather than profits. We ask them what incentives they give their salespeople, and they confess to actually rewarding sales

Let's look at another case in which a well-intentioned goal led to unethical behavior, this time helping to drive the recent financial crisis. At the heart of the problem was President Bill Clinton's desire to increase homeownership. In 2008 the *BusinessWeek* editor Peter Coy wrote:

Add President Clinton to the long list of people who deserve a share of the blame for the housing bubble and bust. A recently re-exposed document shows that his administration went to ridiculous lengths to increase the national homeownership rate. It promoted paper-thin down payments and pushed for ways to get lenders to give mortgage

Idea in Brief

Companies have poured time and money into ethics training and compliance programs, but unethical behavior in business is nevertheless widespread. That's because cognitive biases and organizational systems blind managers to unethical behavior, whether their own or that of others.

All these serve to derail even the best-intentioned managers:

- Goals that reward unethical behavior
- Conflicts of interest that motivate people to ignore bad behavior when they have something to lose by recognizing it
- A tendency to overlook dirty work that's been outsourced to others
- An inability to notice when behavior deteriorates gradually
- A tendency to overlook unethical decisions when the outcome is good

Surveillance and sanctioning systems won't work by themselves to improve the ethics of your organization. You must be aware of these biases and incentives and carefully consider the ethical implications of every decision.

loans to first-time buyers with shaky financing and incomes. It's clear now that the erosion of lending standards pushed prices up by increasing demand, and later led to waves of defaults by people who never should have bought a home in the first place.

The Sears executives seeking to boost repair rates, the partners devising billing policies at law firms, and the Clinton administration officials intending to increase homeownership never meant to inspire unethical behavior. But by failing to consider the effects of the goals and reward systems they created, they did.

Part of the managerial challenge is that employees and organizations require goals in order to excel. Indeed, among the best-replicated results in research on managerial behavior is that providing specific, moderately difficult goals is more effective than vague exhortations to "do your best." But research also shows that rewarding employees for achieving narrow goals such as exact production quantities may encourage them to neglect other areas, take undesirable "ends justify the means" risks, or—most important from our perspective—engage in more unethical behavior than they would otherwise.

Leaders setting goals should take the perspective of those whose behavior they are trying to influence and think through their potential responses. This will help head off unintended consequences and prevent employees from overlooking alternative goals, such as honest reporting, that are just as important to reward if not more so. When leaders fail to meet this responsibility, they can be viewed as not only promoting unethical behavior but blindly engaging in it themselves.

Motivated Blindness

It's well documented that people see what they want to see and easily miss contradictory information when it's in their interest to remain ignorant—a psy-

chological phenomenon known as motivated blindness. This bias applies dramatically with respect to unethical behavior. At Ford the senior-most executives involved in the decision to rush the flawed Pinto into production not only seemed unable to clearly see the ethical dimensions of their own decision but failed to recognize the unethical behavior of the subordinates who implemented it.

Let's return to the 2008 financial collapse, in which motivated blindness contributed to some bad decision making. The "independent" credit rating agencies that famously gave AAA ratings to collateralized mortgage securities of demonstrably low quality helped build a house of cards that ultimately came crashing down, driving a wave of foreclosures that pushed thousands of people out of their homes. Why did the agencies vouch for those risky securities?

Part of the answer lies in powerful conflicts of interest that helped blind them to their own unethical behavior and that of the companies they rated. The agencies' purpose is to provide stakeholders with an objective determination of the creditworthiness of financial institutions and the debt instruments they sell. The largest agencies, Standard & Poor's, Moody's, and Fitch, were—and still are—paid by the companies they rate. These agencies made their profits by staying in the good graces of rated companies, not by providing the most accurate assessments of them, and the agency that was perceived to have the laxest rating standards had the best shot at winning new clients. Furthermore, the agencies provide consulting services to the same firms whose securities they rate.

Research reveals that motivated blindness can be just as pernicious in other domains. It suggests, for instance, that a hiring manager is less likely to notice ethical infractions by a new employee than are people who have no need to justify the hire—

particularly when the infractions help the employee's performance. (We've personally heard many executives describe this phenomenon.) The manager may either not see the behavior at all or quickly explain away any hint of a problem.

Consider the world of sports. In 2007 Barry Bonds, an outfielder for the San Francisco Giants, surpassed Hank Aaron to become the all-time leader in career home runs—perhaps the most coveted status in Major League Baseball. (Bonds racked up 762 versus Aaron's 755.) Although it was well known that the use of performance-enhancing drugs was common in baseball, the Giants' management, the players' union, and other interested MLB groups failed to fully investigate the rapid changes in Bonds's physical appearance, enhanced strength, and dramatically increased power at the plate. Today Bonds stands accused of illegally using steroids and lying to a grand jury about it; his perjury trial is set for this spring. If steroid use did help bring the home runs that swelled ballpark attendance and profits, those with a stake in Bonds's performance had a powerful motivation to look the other way: They all stood to benefit financially.

Managers routinely delegate unethical behaviors to others, and not always consciously.

It does little good to simply note that conflicts of interest exist in an organization. A decade of research shows that awareness of them doesn't necessarily reduce their untoward impact on decision making. Nor will integrity alone prevent them from spurring unethical behavior, because honest people can suffer from motivated blindness. Executives should be mindful that conflicts of interest are often not readily visible and should work to remove them from the organization entirely, looking particularly at existing incentive systems.

Indirect Blindness

In August 2005 Merck sold off two cancer drugs, Mustargen and Cosmegen, to Ovation, a smaller pharmaceutical firm. The drugs were used by fewer than 5,000 patients and generated annual sales of only about \$1 million, so there appeared to be a clear logic to divesting them. But after selling the rights to manufacture and market the drugs to Ovation, Merck

continued to make Mustargen and Cosmegen on a contract basis. If small-market drugs weren't worth the effort, why did Merck keep producing them?

Soon after the deal was completed, Ovation raised Mustargen's wholesale price by about 1,000% and Cosmegen's even more. (In fact, Ovation had a history of buying and raising the prices on small-market drugs from large firms that would have had public-relations problems with conspicuous price increases.) Why didn't Merck retain ownership and raise the prices itself? We don't know for sure, but we assume that the company preferred a headline like "Merck Sells Two Products to Ovation" to one like "Merck Increases Cancer Drug Prices by 1,000%."

We are not concerned here with whether pharmaceutical companies are entitled to gigantic profit margins. Rather, we want to know why managers and consumers tend not to hold people and organizations accountable for unethical behavior carried out through third parties, even when the intent is clear. Assuming that Merck knew a tenfold price increase on a cancer drug would attract negative publicity, we believe most people would agree that using an intermediary to hide the increase was unethical. At the same time, we believe that the strategy worked because people have a cognitive bias that blinds them to the unethicability of outsourcing dirty work.

Consider an experiment devised by Max Bazerman and his colleagues that shows how such indirectness colors our perception of unethical behavior. The study participants read a story, inspired by the Merck case, that began this way: "A major pharmaceutical company, X, had a cancer drug that was minimally profitable. The fixed costs were high and the market was limited. But the patients who used the drug really needed it. The pharmaceutical was making the drug for \$2.50/pill (all costs included), and was only selling it for \$3/pill."

Then a subgroup of study participants was asked to assess the ethicality of "A: The major pharmaceutical firm raised the price of the drug from \$3/pill to \$9/pill," and another subgroup was asked to assess the ethicality of "B: The major pharmaceutical X sold the rights to a smaller pharmaceutical. In order to recoup costs, company Y increased the price of the drug to \$15/pill."

Participants who read version A, in which company X itself raised the price, judged the company more harshly than did those who read version B, even though the patients in that version ended up paying more. We asked a third subgroup to read both versions and judge which scenario was more

Five Barriers to an Ethical Organization

Even the best-intentioned executives are often unaware of their own or their employees' unethical behavior.

Here are some of the reasons—and what to do about them.

DESCRIPTION	ILL-CONCEIVED GOALS	MOTIVATED BLINDNESS	INDIRECT BLINDNESS	THE SLIPPERY SLOPE	OVERVALUING OUTCOMES
EXAMPLE	We set goals and incentives to promote a desired behavior, but they encourage a negative one.	We overlook the unethical behavior of others when it's in our interest to remain ignorant.	We hold others less accountable for unethical behavior when it's carried out through third parties.	We are less able to see others' unethical behavior when it develops gradually.	We give a pass to unethical behavior if the outcome is good.
REMEDIES	The pressure to maximize billable hours in accounting, consulting, and law firms leads to unconscious padding.	Baseball officials failed to notice they'd created conditions that encouraged steroid use.	A drug company deflects attention from a price increase by selling rights to another company, which imposes the increase.	Auditors may be more likely to accept a client firm's questionable financial statements if infractions have accrued over time.	A researcher whose fraudulent clinical trial saves lives is considered more ethical than one whose fraudulent trial leads to deaths.

unethical. Those people saw company X's behavior as less ethical in version B than in version A. Further experiments using different stories from inside and outside business revealed the same general pattern: Participants judging on the basis of just one scenario rated actors more harshly when they carried out an ethically questionable action themselves (directly) than when they used an intermediary (indirectly). But participants who compared a direct and an indirect action based their assessment on the outcome.

These experiments suggest that we are instinctively more lenient in our judgment of a person or an organization when an unethical action has been delegated to a third party—particularly when we have incomplete information about the effects of the outsourcing. But the results also reveal that when we're presented with complete information and reflect on it, we can overcome such "indirect blindness" and see unethical actions—and actors—for what they are.

Managers routinely delegate unethical behaviors to others, and not always consciously. They may tell subordinates, or agents such as lawyers and accountants, to "do whatever it takes" to achieve some goal, all but inviting questionable tactics. For example, many organizations outsource production to countries with lower costs, often by hiring another company to do the manufacturing. But the offshore

manufacturer frequently has lower labor, environmental, and safety standards.

When an executive hands off work to anyone else, it is that executive's responsibility to take ownership of the assignment's ethical implications and be alert to the indirect blindness that can obscure unethical behavior. Executives should ask, "When other people or organizations do work for me, am I creating an environment that increases the likelihood of unethical actions?"

The Slippery Slope

You've probably heard that if you place a frog in a pot of boiling water, the frog will jump out. But if you put it in a pot of warm water and raise the temperature gradually, the frog will not react to the slow change and will cook to death. Neither scenario is correct, but they make a fine analogy for our failure to notice the gradual erosion of others' ethical standards. If we find minor infractions acceptable, research suggests, we are likely to accept increasingly major infractions as long as each violation is only incrementally more serious than the preceding one.

Bazerman and the Harvard Business School professor Francesca Gino explored this in an experiment in which the participants—"auditors"—were asked to decide whether to approve guesses provided by "estimators" of the amount of money in jars. The



Rewarding unethical decisions because they have good outcomes is a recipe for disaster over the long term.

auditors could earn a percentage of a jar's contents each time they approved an estimator's guess—and thus had an incentive to approve high estimates—but if they were caught approving an exaggerated estimate, they'd be fined \$5. Over the course of 16 rounds, the estimates rose to suspiciously high levels either incrementally or abruptly; all of them finished at the same high level. The researchers found that auditors were twice as likely to approve the high final estimates if they'd been arrived at through small incremental increases. The slippery-slope change blinded them to the estimators' dishonesty.

Now imagine an accountant who is in charge of auditing a large company. For many years the client's financial statements are clean. In the first of two scenarios, the company then commits some clear transgressions in its financial statements, even breaking the law in certain areas. In the second scenario, the auditor notices that the company stretched but did not appear to break the law in a few areas. The next year the company's accounting is worse and includes a minor violation of federal accounting standards. By the third year the violation has become more severe. In the fourth year the client commits the same clear transgressions as in the first scenario.

The auditors-and-estimators experiment, along with numerous similar ones by other researchers, suggest that the accountant above would be more likely to reject the financial statements in the first scenario. Bazerman and colleagues explored this effect in depth in "Why Good Accountants Do Bad Audits" (HBR November 2002).

To avoid the slow emergence of unethical behavior, managers should be on heightened alert for even trivial-seeming infractions and address them immediately. They should investigate whether there has been a change in behavior over time. And if something seems amiss, they should consider inviting a colleague to take a look at all the relevant data and evidence together—in effect creating an "abrupt" experience, and therefore a clearer analysis, of the ethics infraction.

Overvaluing Outcomes

Many managers are guilty of rewarding results rather than high-quality decisions. An employee may make a poor decision that turns out well and be rewarded for it, or a good decision that turns out poorly and be punished. Rewarding unethical decisions because they have good outcomes is a recipe for disaster over the long term.

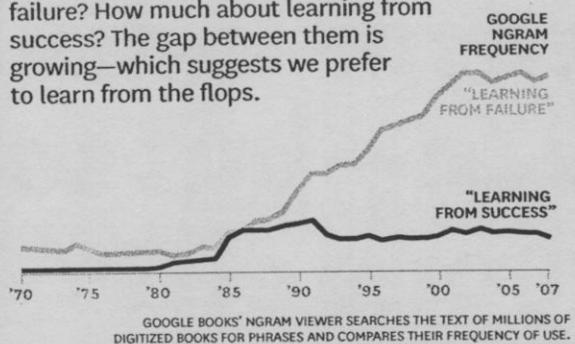
The Harvard psychologist Fiery Cushman and his colleagues tell the story of two quick-tempered brothers, Jon and Matt, neither of whom has a criminal record. A man insults their family. Jon wants to kill the guy: He pulls out and fires a gun but misses, and the target is unharmed. Matt wants only to scare the man but accidentally shoots and kills him. In the United States and many other countries, Matt can expect a far more serious penalty than Jon. It is clear that laws often punish bad outcomes more aggressively than bad intentions.

Bazerman's research with Francesca Gino and Don Moore, of Carnegie Mellon University, high-

FOCUS ON FAILURE

SCHOOL OF HARD KNOCKS

How much do we talk about learning from failure? How much about learning from success? The gap between them is growing—which suggests we prefer to learn from the flops.



lights people's inclination to judge actions on the basis of whether harm follows rather than on their actual ethicality. We presented the following stories to two groups of participants.

Both stories begin: "A pharmaceutical researcher defines a clear protocol for determining whether or not to include clinical patients as data points in a study. He is running short of time to collect sufficient data points for his study within an important budgetary cycle in his firm."

Story A continues: "As the deadline approaches, he notices that four subjects were withdrawn from the analysis due to technicalities. He believes that the data in fact are appropriate to use, and when he adds those data points, the results move from not quite statistically significant to significant. He adds these data points, and soon the drug goes to market. This drug is later withdrawn from the market after it kills six patients and injures hundreds of others."

Story B continues: "He believes that the product is safe and effective. As the deadline approaches, he notices that if he had four more data points for how subjects are likely to behave, the analysis would be significant. He makes up these data points, and soon the drug goes to market. This drug is a profitable and effective drug, and years later shows no significant side effects."

After participants read one or the other story, we asked them, "How unethical do you view the researcher to be?" Those who read story A were much more critical of the researcher than were those who read story B, and felt that he should be punished more harshly. Yet as we see it, the researcher's behavior was more unethical in story B than in story A. And that is how other study participants saw it when we removed the last sentence—the outcome—from each story.

Managers can make the same kind of judgment mistake, overlooking unethical behaviors when outcomes are good and unconsciously helping to undermine the ethicality of their organizations. They should beware this bias, examine the behaviors that drive good outcomes, and reward quality decisions, not just results.

The Managerial Challenge

Companies are putting a great deal of energy into efforts to improve their ethicality—installing codes of ethics, ethics training, compliance programs, and in-house watchdogs. Initiatives like these don't

come cheap. A recent survey of 217 large companies indicated that for every billion dollars of revenue, a company spends, on average, \$1 million on compliance initiatives. If these efforts worked, one might argue that the money—a drop in the bucket for many organizations—was well spent. But that's a big if. Despite all the time and money that have gone toward these efforts, and all the laws and regulations that have been enacted, observed unethical behavior is on the rise.

This is disappointing but unsurprising. Even the best-intentioned ethics programs will fail if they don't take into account the biases that can blind us to unethical behavior, whether ours or that of others. What can you do to head off rather than exacerbate unethical behavior in your organization? Avoid "forcing" ethics through surveillance and sanctioning systems. Instead ensure that managers and employees are aware of the biases that can lead to unethical behavior. (This simple step might have headed off the disastrous decisions Ford managers made—and employees obeyed—in the Pinto case.) And encourage your staff to ask this important question when considering various options: "What ethical implications might arise from this decision?"

Above all, be aware as a leader of your own blind spots, which may permit, or even encourage, the unethical behaviors you are trying to extinguish. □

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Failure Chronicles



Linda Rottenberg is a cofounder and the CEO of Endeavor, a global organization that supports high-impact entrepreneurs in emerging markets.

by Linda Rottenberg, Endeavor

Endeavor India had arrived—but so had everyone else.

As the plane took off for New Delhi, my mind was still grounded in the intense board meeting I had just held in New York. It was 2007, and Endeavor, the organization I had cofounded a decade earlier to support high-impact entrepreneurs around the world, was expanding rapidly. We had offices in nearly a dozen developing countries, from Brazil to Turkey. But our board was agitating.

"Linda," the directors said to me firmly, "we've been operating in emerging markets for 10 years. Why are we not in India?"

We were not in one of the world's fastest-growing economies because I felt that India, with its thriving culture of entrepreneurship, was not the right market for us. Endeavor's mission—to mentor young business leaders, to get them access to capital, to turn them into rock stars—had already landed in India. But the board made a compelling case, arguing that if Endeavor was serious about growth markets, we couldn't ignore one of the biggest in the world—not to mention one in which many of our own entrepreneurs wished to expand.

Once I was on the ground, my resistance softened further. I had encouraging meetings with top business leaders in Delhi, Mumbai, and Bangalore. Sure, India had a vibrant community of entrepreneurs, they told me, but more local innovators were needed. Within months, Endeavor had secured \$1.5 million in committed funds—half the capital required to launch local operations—and three (out of the needed six)

local business leaders were ready to join the board. At our annual gala, I announced the news: Endeavor India had arrived!

But so had everyone else, I soon realized. Silicon Valley's premier VC firms were already active in India. The media were full of homegrown entrepreneurial success stories like Wipro and Infosys. Although we were off to a successful start, I feared the seeds of failure were already planted.

Still, I was reluctant to give up. I had faced this situation before. A decade earlier, Endeavor's inaugural office, in Chile, had been struggling because of lackluster buy-in from the local business community. I decided to shut down the office. Six months later we reopened, having received calls from many business leaders there expressing their desire to work with us. Endeavor Chile swiftly became one of our top offices, led by an all-star board.

Was India another Chile, I wondered, needing only time to flourish? The answer was no. We had trouble recruiting additional local board members. Also, people were asking Endeavor to relax its "high impact" standards by focusing outside the capital cities, on the base of the pyramid. I feared mission drift. I needed to face reality: Failure was an option.

I soon announced that we would close Endeavor India.

As the leader of a fast-growing organization, I know the importance of setting an ambitious course of action—and stubbornly following it. I believe passion is a powerful



One of my favorite mantras is "Go big, or go home." Embracing failure is as important as toasting success.

guide. But the Law of India, to me, is: You can't always will an outcome. You can't always win. You just need to fail smart.

I often think of that plane ride to Delhi and of how important that experience has become to my understanding of entrepreneurship. One of my favorite business mantras is "Go big, or go home." We talk a lot in business—and at Endeavor—about the first half of that equation, "Go big."

But we need to spend a lot more time on the second half, "Go home." Sometimes knowing when to shut down a failed initiative is as vital as knowing when to start one. Sometimes embracing failure is as important as toasting success. □

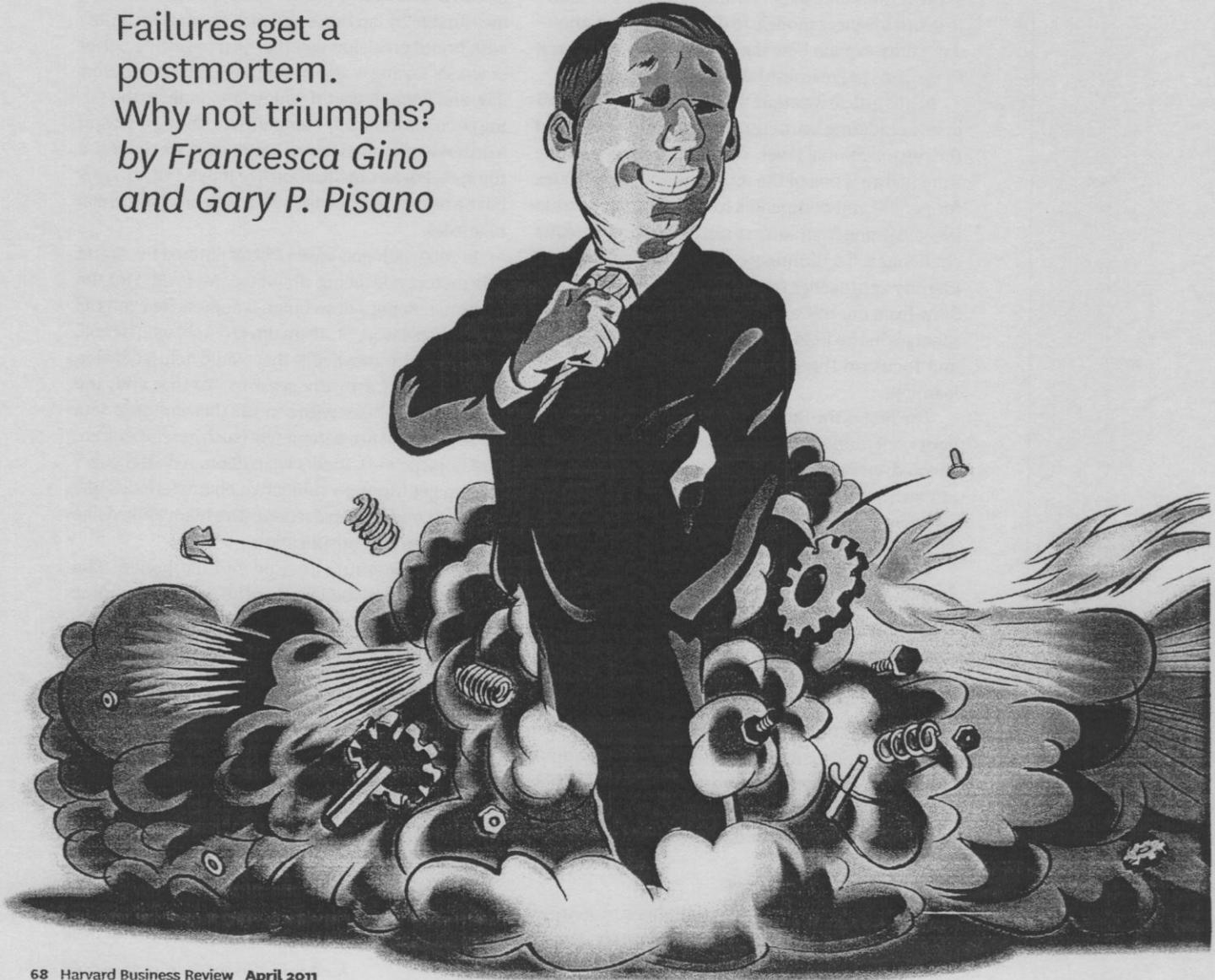
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ILLUSTRATION: SELÇUK DEMIREL

Failure Understand It

Why Leaders Don't Learn From Success

Failures get a postmortem.
Why not triumphs?
*by Francesca Gino
and Gary P. Pisano*





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THE ANNALS of business history are full of tales of companies that once dominated their industries but fell into decline. The usual reasons offered—staying too close to existing customers, a myopic focus on short-term financial performance, and an inability to adapt business models to disruptive innovation—don't fully explain how the leaders who had steered these firms to greatness lost their touch.

In this article we argue that success can breed failure by hindering learning at both the individual and the organizational level. We all know that learning from failure is one of the most important capacities for people and companies to develop. Yet surprisingly, learning from success can present even greater challenges. To illuminate those challenges—and identify approaches for overcoming them—we will draw from our research and from the work of other scholars in the field of behavioral decision making, and focus on three interrelated impediments to learning.

The first is the inclination to make what psychologists call *fundamental attribution errors*. When we succeed, we're likely to conclude that our talents and our current model or strategy are the reasons. We also give short shrift to the part that environmental factors and random events may have played.

The second impediment is *overconfidence bias*: Success increases our self-assurance. Faith in ourselves is a good thing, of course, but too much of it can make us believe we don't need to change anything.

The third impediment is the *failure-to-ask-why syndrome*—the tendency not to investigate the causes of good performance systematically. When executives and their teams suffer from this syndrome, they don't ask the tough questions that would help them expand their knowledge or alter their assumptions about how the world works.

Lessons from Ducati

We began to examine the challenges of learning from success in 2004, when we did a case study of

an organization with a long history of winning: the Ducati Corse motorcycle racing team. Motorcycle racing may seem a long way from the world of business, but in fact it provides a perfect laboratory for research on learning. Performance is unambiguously measurable by lap times and race results. You know with brutal precision whether you're getting better or worse. Racing is also unforgiving. The race is Sunday, and it won't wait if you're late. Finally, the racing circuit is intensely competitive: During a season a dozen world-class teams battle each week for the top spot. For an organization like Italy's Ducati, wins have a huge impact on brand equity and commercial bike sales.

In 2003, Bologna-based Ducati entered the Grand Prix motorcycle racing circuit (or "MotoGP") for the first time. Being a newcomer, it approached 2003 as "a learning season," its team director told us. The goal was to acquire knowledge that would help it develop a better bike for future seasons. To that end, the team fitted its bikes with sensors that captured data on 28 performance parameters (such as temperature and horsepower). Riders were debriefed after every race to get input on subjective characteristics like handling and responsiveness. The team looked like a model learning organization.

Then something unexpected happened: The rookie team finished among the top three in nine races and was second overall for the season, and its bike was the fastest in the field. But with each success the team focused more on winning and less on learning, and it ended up analyzing little of the data it collected. As one team member commented, "You look at the data when you want to understand what's going wrong. You do not look at the data because you want to understand why you're performing well."

The successful season caused the team members to believe Ducati could win it all in 2004. After all, if they could finish second as rookies, why shouldn't they take first now that they had some experience?



ILLUSTRATION: JACK BLACK

FOCUS ON FAILURE



I was considered by all my masters and my father a very ordinary boy, rather below the common standard of intellect."

CHARLES DARWIN
SCIENTIST

This confidence manifested itself in the decision to radically redesign the team's bike for the 2004 season rather than incrementally improve the 2003 model.

More than 60% of the 2004 model's 915 components were new. But at the outset of that season, it became apparent that the bike had serious handling problems and that the team had made a big mistake in changing so much at once without giving itself the time to test everything.

Interestingly, the team still finished third overall that year—thanks to extensive experiments it conducted to understand the causes of the bike's problems. Though third place wasn't bad, it was viewed as a failure, given the high expectations. And this disappointment then triggered a comprehensive and ultimately quite effective reexamination of the team's approach to developing bikes. (One big change was to have the engineering group begin developing the bike for the next season much earlier, so it could be thoroughly tested before being raced.) The team turned in solid performances in the 2005 and 2006 seasons and took the world title in 2007. In short, success led the Ducati Corse team to stop learning, and only perceived failure caused it to start again.

After studying Ducati, we went on to conduct research in the entertainment, pharmaceutical, and

Success led the Ducati racing team to stop learning, and only a perceived failure caused it to start again. After its disappointing third-place finish, the team reexamined its approach to developing bikes.

software industries and performed experiments in the laboratory and in executive education classes. Again and again, we saw the same phenomenon. Ultimately, we recognized that there was a common cause: the three impediments to learning.

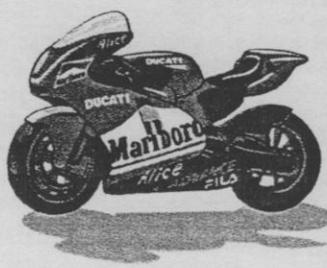
Making Dangerous Attribution Errors

In racing, many interdependent factors affect outcomes. Without a detailed analysis, it was impossible to know whether the Ducati team's performance in 2003 was due to its bike design, its strategy for particular races, its riders' talents and decisions, bad choices by other teams, luck, random events like the weather or crashes, or some complex combination of all those things. And without such knowledge (and given Ducati's long history of winning in other venues), it was too easy to attribute the team's excellent performance to the quality of its decisions, actions, and capabilities.

In business, likewise, any number of factors may lead to success, independent of the quality of a product or management's decisions. Yet it is all too common for executives to attribute the success of their organizations to their own insights and managerial skills and ignore or downplay random events or external factors outside their control. Imagine, for instance, that you are leading a team whose numbers are great: It's tempting to credit yourself or your team's actions for that achievement, though it may actually just be a stroke of good luck or the result of your competitors' problems.

Research (including a classic study by the psychologists Edward Jones and Victor Harris) has proved that this is normal human behavior. Moreover, when examining the bad performance of others, people tend to do the exact opposite. In exercises that we conducted in executive education classes at Harvard, the University of North Carolina at Chapel Hill, and Carnegie Mellon University, most participants, when evaluating the success of others, minimized the role of leadership skills and strategy and maximized the role of external factors and luck.

Another study found that people also have trouble adjusting for the difficulty of the situation when judging successes. (See the sidebar "The Challenge of Discounting Easy Successes.") In business this bias can affect many critical decisions, including whom to hire or promote, which products to launch, and which practices to spread throughout the organization. Someone who has led a thriving business in a highly profitable industry, for instance, often ap-



Idea in Brief

Virtually all leaders recognize the need to learn from failures, but amazingly few try to understand the true causes of their firms' successes, which helps explain why great companies fall into decline.

The reality is, success can breed failure by hindering learning at both individual and organizational levels, in three interrelated ways:

1 When we succeed, we tend to give too much credit to our talents and our model or strategy and too little to external factors and luck.

2 Success can make us so overconfident that we believe we don't need to change anything.

3 We have a tendency not to investigate the causes of good performance.

Recognizing that these impediments exist is a big first step in overcoming them. Some basic practices also can help: systematic after-action reviews, tools like Six Sigma, and experiments that test assumptions about what is needed to achieve great performance.

pears more attractive than a similarly skilled or even more qualified candidate who has struggled to lead a firm in an industry in which most companies are failing.

We repeatedly observed pharmaceutical companies making these kinds of attribution errors in choosing which drugs to kill or push forward. They selected drugs whose initial tests were successful as potential winners and allocated more money to them for further testing and development. But often managers assumed a success was due to the unique abilities of their in-house scientists and didn't consider whether it could be due to greater general knowledge in that particular scientific area, which competitors might have, too.

In addition, we found that long lead times can blind executives to problems with their current strategies. Again, consider the pharmaceutical industry. Because it takes 12 years, on average, to get a drug from discovery to market, a company's performance today has relatively little to do with its most recent actions and decisions. Yet both managers and investors often attribute today's high performance to the company's current strategy, management, and scientists.

Falling Prey to the Overconfidence Bias

Without some confidence, we could not make decisions or tackle any kind of risky endeavor; we would be constantly second-guessing ourselves. That said, too much confidence can be a problem, and nothing inflates confidence like success. Take Alan Greenspan, who until the near meltdown of the financial system in 2008 was considered one of the best Federal Reserve chairmen in U.S. history. Afterward, it became apparent that Fed policy makers, led by Greenspan, had placed too much faith in their financial models. In testimony to Congress in October

2008, Greenspan acknowledged his own shock that the models had failed. And, of course, he was not the only one who succumbed to excessive confidence. During the housing boom, many leaders of large and small banks and managers of mortgage lending, investing, and trading operations stopped examining the key assumptions that underpinned the models they were using.

Success can make us believe that we are better decision makers than we actually are. In a simple recent study of managers in various industries, we asked members of one group to recall a time when they experienced a success in their professional lives and members of a second group to recall a time when they experienced a failure. We then asked people in both groups to engage in a series of decision-making tasks and embedded measures in the exercise that allowed us to assess their confidence, optimism, and risk-seeking behavior. Compared with the executives who'd recalled a failure, those who'd recalled a success were much more confident in their abilities, made more-optimistic forecasts of their future success, and were more likely to take bigger bets. These findings are consistent with research examining how success breeds overconfidence in other contexts. (See the sidebar "How Power Causes Us to Ignore Advice.")

Overconfidence inspired by past successes can infect whole organizations, causing them to dismiss new innovations, dips in customer satisfaction, and increases in quality problems, and to make overly risky moves. Consider all the companies that grew rapidly through acquisitions only to stumble badly after biting off one too many; the countless banks that made ever-riskier loans in the past decade, sure of their ability to sort good borrowers from bad; and all the darlings of the business media that had winning formulas but did not try to update or alter their strategies until it was way too late.

THE CHALLENGE OF DISCOUNTING EASY SUCCESSES

The inability of people to adjust for degree of difficulty when assessing accomplishments was clearly demonstrated in a study that one of us, Francesca Gino, conducted with Don Moore of Berkeley and Sam Swift and Zachariah Sharek of Carnegie Mellon. Students at a U.S. university assumed the role of admissions officers for an MBA program and were presented with information about candidates' grade point averages as well as the average GPA at their colleges. In their decisions, the participants overweighted applicants' nominal GPAs and underweighted the effect of the grading norms at different schools. In other words, they didn't take into account the ease with which grades were earned.

How Power Causes Us to Ignore Advice

When we're in positions of authority and influence, we tend to shut out those bearing bad news.

Research that Francesca Gino recently conducted with Leigh Tost of the University of Washington and Rick Larrick of Duke University illustrated this phenomenon. In one study a group of participants (students from U.S. universities) were asked to write about a time they had power over other people, a task that significantly boosted their level

of confidence. Another group were asked to write about a time other people had power over them, a task that lowered their level of confidence. Then the participants were asked to make a series of decisions with the advice from an expert. When feeling confident, people placed more weight on their own opinion than on the adviser's, even though follow-

ing the adviser's recommendations would have improved their decisions.

In another study, similar feelings of confidence experienced by a team leader caused the leader to do most of the talking during the team discussion and, as a result, to fail to discover critical information that other team members had.

Failing to Ask Why

When you're confronted with failure, it's natural to ask why disaster struck. Unfortunately, success does not trigger such soul-searching. Success is commonly interpreted as evidence not only that your existing strategy and practices work but also that you have all the knowledge and information you need. Several studies, as well as our own research, show that most people tend to think this way. (See the sidebar "How Success Makes Us Less Reflective.")

We have seen the same pattern in the real world. The efforts invested in understanding the causes of the recent financial crash dwarf the efforts that were made to understand why things seemed to be going so well before. In hospitals, doctors conduct rigorous "mortality and morbidity reviews" of cases that ended badly, but little systematic effort is made to understand why patients recover. Even Toyota, which built its vaunted production system around vigorous learning, was much better at uncovering the causes of its problems than of its success. This was revealed by its recent recalls, when its leaders admitted that their success in pursuing higher sales and market share had blinded them to the fact that operations had essentially compromised quality to achieve growth.

A Simple Model of Learning

To avoid the success-breeds-failure trap, you need to understand how experience shapes learning. Learning is, of course, a highly complex cognitive and organizational process, and numerous models have been developed about it in the academic literature. Drawing from those, we present a simplified model that highlights the effect that success and failure have on learning.

We start with the premise that individuals and organizations at any point in time hold certain theories, models, principles, and rules of thumb that

guide their actions. Your choices about the people you hire, the projects you fund (or terminate), the features you include in new product designs, and the business strategies you pursue are all influenced by them. Sometimes theories are quite sophisticated and rooted in science or decades of practical experience. But in many other cases, they are pretty informal—and we may not even be aware that they are swaying our decisions.

Learning is the process of updating our theories. In some cases personal experience alters them. For example, Steve Jobs recounted in a 2005 graduation speech at Stanford University how the inclusion of multiple typefaces and proportional spacing on the first Macintosh stemmed from the calligraphy course he took after dropping out of college. But members of an organization also learn together. Experience with both winners (the iPod) and losers (the Newton) has caused Apple, as a company, to update its theories of what leads to successful products.

From this perspective, learning is all about understanding why things happen and why some decisions lead to specific outcomes. This understanding does not come automatically. We make a conscious choice to challenge our assumptions and models. And usually, we do so as the result of a failure. This has been true from the time we first tried to walk or ride a bicycle. We fall down, it hurts, and we try another approach. An amazing number of high-ranking executives report that early failures in their careers taught them lessons that ultimately led to their success. Failure provides a motivation for organizations to learn, too.

But what about success? Success does not disprove your theory. And if it isn't broken, why fix it? Consequently, when we succeed, we just focus on applying what we already know to solving problems. We don't revise our theories or expand our knowledge of how our business works.

HOW SUCCESS MAKES US LESS REFLECTIVE

In a recent study we conducted in a controlled laboratory setting, students from U.S. universities were asked to work on two decision-making problems. Learning from experience on the first problem could help them perform well on the second. After submitting their solutions to the first problem, the participants were told whether or not they had succeeded. They were then given time to reflect before starting the second problem. Compared with the people who failed at the first problem, those who succeeded spent significantly less time reflecting on the strategies they'd used. This had a cost: Those who succeeded on the first task were more likely to fail on the second. They had neglected to ask why.

FOCUS ON FAILURE

SEMANTICS

The word "failure" appears in HBR with regularity, but the context in which it is used has changed along with the times.



SOURCE HAYDN SHAUGHNESSY, LEXIMANCER

Does success mean "it isn't broken"? Not necessarily. The reality is that while a success (or a string of successes) may mean you're on the right track, you can't assume this to be true without further testing, experimentation, and reflection. You should use success to breed more success by understanding it. Consider Jobs's decision to launch the iPhone, learn from that experience, and apply that knowledge to launch the iPad. Jobs and others at Apple were undoubtedly wary of plunging ahead with the iPad first because of the failure of Apple's Newton tablet in the 1990s. In a brilliant move, they recognized that a touchphone would be easier to launch, given the existing smartphone market, making it the ideal vehicle for Apple to learn about and perfect touch devices.

This example points to a better model for learning, one in which failure and success are on equal footing and both trigger further investigation that helps us revise our assumptions, models, and theories.

Five Ways to Learn

How can you avoid the traps we have discussed? Here are some approaches and strategies that you and your organization can use.

Celebrate success but examine it. There is nothing wrong with toasting your success. But if you stop with the clinking of the champagne glasses, you have missed a huge opportunity. When a win is achieved, the organization needs to investigate what led to it with the same rigor and scrutiny it might apply to understanding the causes of failure.

Recognize that this may be an uncomfortable process. You may learn, for instance, that success was achieved only by happenstance. A biotechnology company we studied, which faced a serious shortage of capacity to produce an important new product, is a case in point. Just when it appeared that the firm would not be able to meet demand, its leaders discovered that a competitor had put a plant up for sale—a stroke of luck that allowed the company to buy all the capacity it needed. The product launched and was extremely successful. Instead of simply rejoicing in their good fortune and moving on, the company's leaders revisited why the introduction had gone so well. That review highlighted the part luck had played. And when they examined why the company had been so vulnerable in the first place, they learned that its demand-forecasting and capacity-planning processes were broken.

The search for causes of success may also identify factors that may be hard or even undesirable to repli-

cate. In one project we studied, a group responsible for developing the software for a complex electronic system was so far behind, it risked delaying a strategic launch. By doubling the size of the team and working 80-hour weeks, the group finished in the nick of time. The product was a major commercial hit. Even so, the company wisely conducted a detailed postproject assessment. While lauding the software development team's dedication, the assessment highlighted critical problems in its process that needed to be fixed.

Institute systematic project reviews. The military holds "after-action reviews" (AARs) of each combat encounter and combat-training exercise, irrespective of the outcome. As in business, the reasons for success or failure in combat often are not clear. AARs are debriefs that, when used properly, generate specific recommendations that can be put to use immediately. Companies can employ the same process, which is relatively straightforward. Like sports coaches and players who convene right after a game to review a team's performance, AAR participants meet after an important event or activity to discuss four key questions: What did we set out to do? What actually happened? Why did it happen? What are we going to do next time?

Pixar, which has had 11 hit animated films in a row (and therefore is an organization that would be very vulnerable to the kinds of traps we have discussed), conducts rigorous reviews of the process used to make each of its films. In "How Pixar Fosters Collective Creativity" (HBR September 2008), Ed Catmull, the president of Pixar, confessed that people don't like to do them and would prefer to just celebrate victories and move on. So Pixar employs various methods to ensure that team members don't

If the chief lesson of a successful project is a list of things to do the same way the next time, consider the exercise a failure.

game the system and are engaged in the process. It might ask participants the top five things they would do and the top five things they would not do again. It changes the format of postmortems from time to time. It religiously collects data about all aspects of a production and uses them to "stimulate discussion and challenge assumptions arising from personal impressions" during the postmortems. Finally, it periodically conducts a review across several productions and tries to get someone with an outsider's perspective (a newly hired senior manager, for example) to head it.

The challenge, of course, is to apply the same degree of rigor whether things are going well or badly. Consider performance evaluations. We all tend to spend much more time reviewing the performance of the employee who is struggling than of the one who is cruising along. However, understanding the reasons behind the good performance of successful employees may bring to light important lessons for others.

Use the right time horizons. When the time lag between an action and its consequences is short, it's relatively easy to identify the causes of performance. The problem is that in many cases, the feedback cycle is inherently long. In industries like pharmaceuticals and aerospace, decisions made today about new products or specific technologies to pursue will not bear fruit (or flop) for a decade or more. Unless you have the appropriate time frame for evaluating performance, you are likely to misconstrue the factors that led to success or failure. By understanding the appropriate time dimensions, you can prevent yourself from being "fooled by randomness" (to use Nassim Nicholas Taleb's famous phrase).

Recognize that replication is not learning.

Replication. When things go well, our biggest concern is how to capture what we did and make sure we can repeat the success. Replication is important; we need to spread good practices throughout our organizations. But if the chief lesson from a

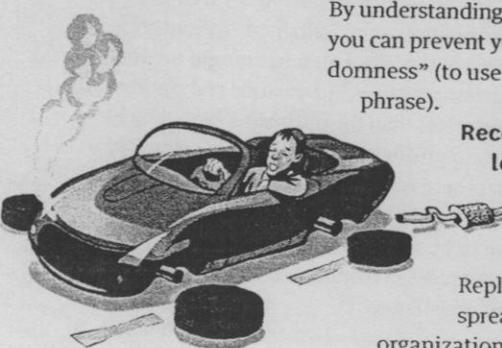
successful project is a list of things to do the same way the next time, consider the exercise a failure.

Tools like Six Sigma and total quality management have taught us to dig into root causes of problems. Why not use the same approach to understand the root causes of success? Institute a phase in the process where each factor that contributed to success is classified as "something we can directly control" or "something that is affected by external factors." Factors under your control can remain part of your winning formula. But you need to understand how external factors interact with them.

If it ain't broke, experiment. Experimentation is one way to test assumptions and theories about what is needed to achieve high levels of performance. And it should continue even after a success. This happens all the time in scientific research and in engineering. Engineers routinely subject their designs to ever-more-rigorous tests until the thing they are designing actually breaks. Organizational experiments can also be conducted to push boundaries. Of course, the costs and impact of such experiments need to be managed carefully (to avoid severe financial consequences or harming customers). The right question for leaders of learning organizations to ask is not "What are we doing well?" but rather "What experiments are we running?"

THE PATH to effective learning involves simple but counterintuitive steps: Managers must actively test their theories, even when they seem to be working, and rigorously investigate the causes of both good and bad performance. Ironically, casting a critical eye on your success can better prepare you to avoid failure. Some may consider this to be an art. But in fact it is much more of a science.

Filippo Preziosi, general director for the Ducati Corse team, reflected on this point in the context of racing-bike design: "In racing, when you make a change, you only care whether or not it leads to superior performance. You tend to care less why something works. But over the long term you need to know why. This is the science." □



Failure Chronicles



Anthony Tjan is the managing partner and founder of the venture capital firm Cue Ball.

by Anthony Tjan, Cue Ball

On the eve of our IPO, we decided to withdraw the offering.

In the mid-1990s, I, along with a former McKinsey colleague and some Harvard Business School classmates, founded ZEFER. At the time, fewer than 10,000 websites existed in the world. We were one of the first internet strategy and development firms in the United States. Our timing couldn't have been better.

By 2000, ZEFER had grown to 900 people and raised tens of millions of dollars in capital. It boasted an annual revenue pace of more than \$100 million. Big global clients like Thomson Reuters, McKinsey, Morgan Stanley, and Siemens had engaged us to develop and implement their internet projects and strategies.

We were an industry darling, and we decided to go public.

That decision precipitated months of legal work and regulatory filings and then an IPO road show, a grueling two weeks of

more than 80 meetings across the United States and Europe. The process was a business version of the film *Groundhog Day*, but adrenaline and the interest in our stock kept us going through the 18-hour days.

On April 13, 2000, I was in New York for that ceremonial and celebratory visit to NASDAQ before going public the next day. But uncertainty now hung in the air, and suddenly our timing couldn't have been worse. In the second week of our road show, the NASDAQ had a stunning run of consecutive daily losses. Virtually overnight, the irrationally exuberant dot-com boom turned into a dot-com bust. By the end of the week, the index had lost more than 1,000 cumulative points and was down over one-third from its high point, set only about a month earlier.

On the eve of our planned IPO, we made the decision to withdraw our stock offering.

Instead of preparing champagne toasts, I was preparing to inform remarkable colleagues that we had failed to pull it off.

At the time, and from such a height of success, ZEFER's missed IPO felt like a massive failure. But with a decade's perspective, I can better appreciate that disappointing moment for the transformative experience that it was. I'm proud of the business we built—which endures today as part of the Japanese technology conglomerate NEC—and the platform for future success that ZEFER afforded many of us.

And there have been lasting business lessons. Warranted as our meteoric rise seemed at the time, it's clear that a company can digest only a certain pace of growth. In times of frenetic growth, the culture, people, and product have little chance of keeping up. Favorable external factors will always tempt businesses to scale ambitiously. But putting up the biggest sail on a boat when you think you're on a lake but you're actually in the ocean invariably leads to trouble.

I often reflect on how lucky we were to participate in—and influence—a pioneering phase of the internet. It has taught me that extrinsic rewards like salaries and options matter less than the intrinsic ones—namely meaningful experiences. Which isn't to say that there isn't a baseline of economics required and that I wouldn't have liked to hit the jackpot. But the misfortune of our IPO event pales in comparison to the fortune of our experience. □

In times of frenetic growth, the culture, people, and product have little chance of keeping up.

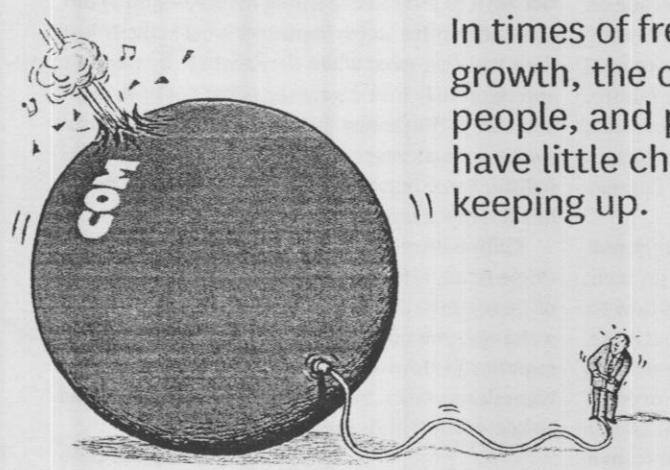


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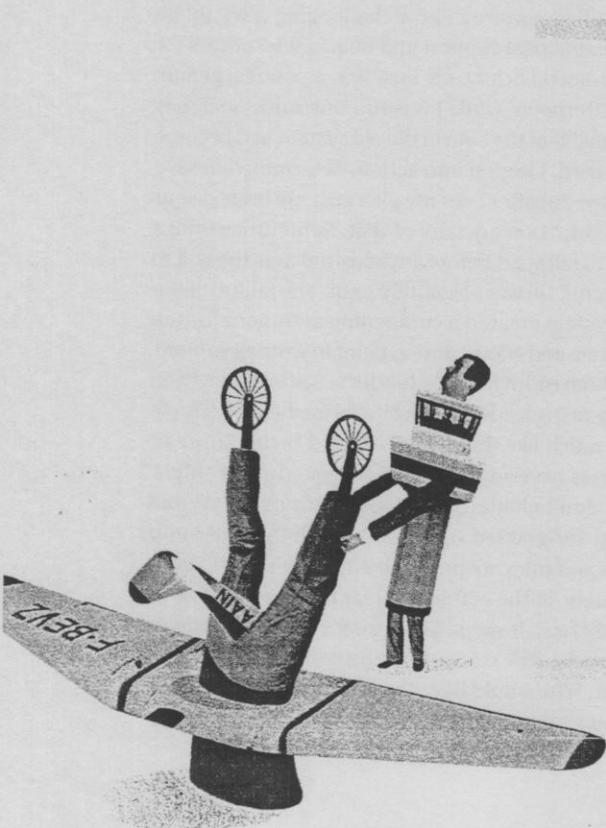


Uncertain environments call for experimentation.
Here's how to set up the trials—and learn from
the errors. *by Rita Gunther McGrath*

Failing. By Design

IT'S HARDLY NEWS that business leaders work in increasingly uncertain environments. Nor will it surprise anyone that under uncertain conditions, failures are more common than successes. And yet, strangely, we don't design organizations to manage, mitigate, and learn from failures. When I ask executives how effective their organizations are at learning from failure, on a scale of one to 10, I often get a sheepish "Two—or maybe three" in response. As this suggests, most organizations are profoundly biased against failure and make no systematic effort to study it. Executives hide mistakes or pretend they were always part of the master plan. Failures become undiscussable, and people grow so afraid of hurting their career prospects that they eventually stop taking risks.

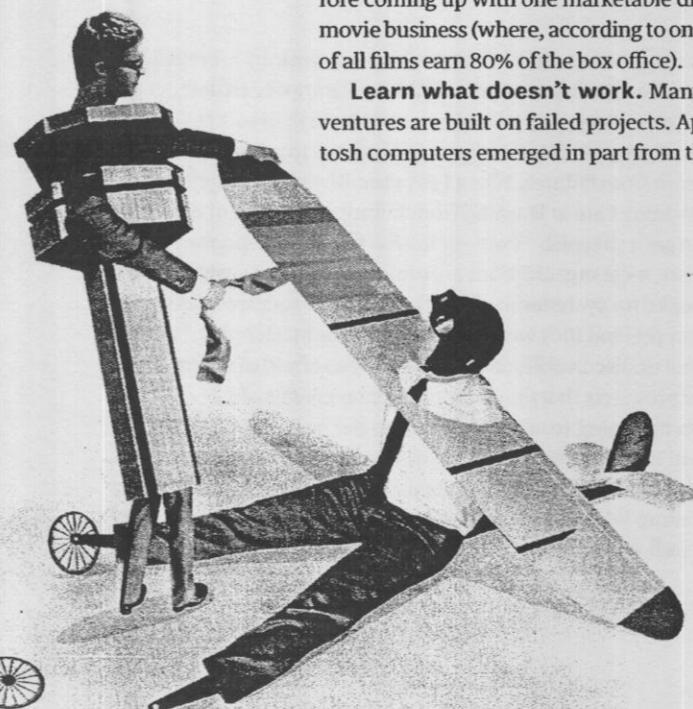
I'm not going to argue that failure per se is a good thing. Far from it: It can waste money, destroy morale, infuriate customers, damage reputations, harm careers, and sometimes lead to tragedy. But failure is inevitable in uncertain environments, and, if managed well, it can be a very useful thing. Indeed, organizations can't



WHAT ARE YOUR NO-FAIL ZONES?

Leaders need to be clear about where failure will be tolerated—and where it won't.

Mike Eskew, the former CEO of UPS, put the customer experience out of bounds: "We fail in such a way that it never touches the customer," he said. In practice this meant that UPS didn't experiment with moving, paying for, or otherwise interacting with a package. In all other respects it permitted—even encouraged—entrepreneurial experiments that stretched the century-old company.



possibly undertake the risks necessary for innovation and growth if they're not comfortable with the idea of failing.

An alternative to ignoring failure is to foster "intelligent failure," a phrase coined by Duke University's Sim Sitkin in a terrific 1992 *Research in Organizational Behavior* article titled "Learning Through Failure: The Strategy of Small Losses." If your organization can adopt the concept of intelligent failure, it will become more agile, better at risk taking, and more adept at organizational learning.

How Failure Can Be Useful

Some of the failures I'm about to describe were the results of intentional experiments. Others were completely unplanned and unexpected. But all of them provide valuable takeaways. A certain amount of failure can help you:

Keep your options open. As the range of possible outcomes for a course of action expands, the chances of that action's succeeding diminish. You'll improve your odds if you make more tries. This is the logic driving businesses that operate in highly uncertain environments, such as venture capital firms (whose success rates range from about 10% to about 20%), pharmaceutical companies (which typically create hundreds of new molecular entities before coming up with one marketable drug), and the movie business (where, according to one study, 1.3% of all films earn 80% of the box office).

Learn what doesn't work. Many successful ventures are built on failed projects. Apple's Macintosh computers emerged in part from the ashes of a

now-forgotten product called Lisa, which introduced a number of the graphical user interfaces and mouse operations in today's computers.

In truly uncertain situations, conventional market research is of little use. If you had asked people in 1990 what they would be willing to pay for an internet search, no one would have known what you were talking about. A massive amount of experimentation was needed before workable search engines emerged. Early entrants sought to be paid for doing the searches themselves. Later, companies explored business models based on advertising. Later still, Google developed a system to maximize the profitability of the ad-based model. Without all that trial and error, it's highly unlikely that Google could have built the algorithm-based juggernaut so familiar today.

Create the conditions to attract resources and attention. Organizations tend to move on to new projects rather than fix systemic problems with existing ones. Let something big go wrong, though, and it's all hands on deck!

I was personally introduced to how failure can be used strategically years ago, when I worked for the City of New York. I ran an IT group charged with installing an automated procurement system. I was blissfully unaware of how challenging it would be to gain political support and financial resources for the project. Luckily, my boss was a political genius. One afternoon, while I was running some analytics, I learned that the data in the old system had become corrupted. I leaped into action, determined to save the day. But after I ran my plan past my boss, he quietly said, "Don't do any of that. Sometimes things have to fall apart before anybody musters the will to fix them." He was absolutely right. The failure of the old system created a compelling argument for the new one and was a turning point in gaining support.

Make room for new leaders. Sad but true: Even today many leadership positions are held by people very much like those who selected them. Entire industries have suffered the consequences of "lifers" who don't challenge unspoken assumptions and taken-for-granted rules. Only when those assumptions and rules are proven ineffective—often, unfortunately, in the course of great trauma—do boards recruit fresh leaders. The change can be surprisingly beneficial. The U.S. auto industry provides a case in point. Who would have thought that Alan Mulally, a former senior executive at Boeing, would be an inspirational turnaround CEO for Ford?

Idea in Brief

If you're launching a new business, creating a new product, or developing a new technology, the principles of intelligent failure provide both logic and a safety net.

Decide what you're trying to do and what success would look like.

Be explicit about the assumptions you're making and have a plan for testing them throughout the project.

Design the initiative in small chunks so that you learn fast, without spending too much money. Don't try to learn more than one significant thing at a time.

Create a culture that shares, forgives, and sometimes even celebrates failure.

Develop intuition and skill. Researchers say that what people think of as intuition is, at its heart, highly developed pattern recognition. Those who have never faced a negative outcome have a critical gap in the body of experience that intuition is based on. Many venture capitalists won't invest in a new enterprise if the founder has never undergone failure.

Microsoft's successful entrant in the game business, the Xbox 360, was developed by a team that had worked on 3DO's failed game console, the unsuccessful WebTV, Apple's problematic video card business, and Microsoft's own short-lived UltimateTV. Having been through so many disappointments, the team members were able to spot warning signs and make smart course corrections. For example, the earlier Xbox had used expensive chips from outside manufacturers, and it reportedly lost about \$4 billion from 2001 to 2005. The Xbox 360 team chose different manufacturers, worked in close partnership with them to develop the chips, and retained intellectual property rights to the chips, allowing the system to generate profits very early on.

Putting Intelligent Failure to Work

Obviously, not all failures are useful, and even some that we could learn from should be avoided at all costs. But if you accept that failures will sometimes occur in uncertain environments, it makes sense to plan for, manage, and learn from them—and in many cases to consider them experiments rather than failures. Here are seven principles that can help your organization leverage learning from failure.

PRINCIPLE 1

Decide what success and failure would look like before you launch an initiative.

It never ceases to amaze me how often people working on the same project have entirely different views

Many venture capitalists won't invest in a new enterprise if the founder has never undergone failure.

of what would constitute success. In one case I studied, an organization that made environmental remediation equipment was hoping to introduce a new product line. The marketing group thought the equipment's selling point was that it met a tough new regulatory standard. The engineering group thought the point was cost-effectiveness—and to keep costs down, it was designing out the very features the marketing group wanted to sell. This gap in understanding could easily have led to a failure of the unintelligent variety. But the company found out about it in time to get everyone on the same page and prevent what could have been a marketplace disaster.

PRINCIPLE 2

Convert assumptions into knowledge.

When you're tackling a fundamentally uncertain task, your initial assumptions are almost certain to be incorrect. Often the only way to arrive at better ones is to try things out. But you shouldn't start experimenting until you've made your assumptions explicit. Write them down and share them with your team. Then make sure that you and your team are open to revising them as new information comes in. The risk is that we all have a tendency to gravitate toward information that confirms what we already believe—it's called confirmation bias. A practical way to address this bias is to empower one of your team members to seek out information that suggests your course of action is flawed. You want to find confirming information early, before you've made



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extensive commitments and become resistant to changing your mind.

Organizations that don't record their assumptions tend to run into two big problems. First, assumptions become converted into facts in people's minds. During a meeting, a manager might venture a guess that a given market could generate \$5 million in sales—and before the meeting ends, the \$5 million is baked into next year's budget! This sort of leap causes all kinds of dysfunctional behavior when the guess, almost inevitably, turns out to be wrong. Second, such organizations don't learn as much as they could. They may right their course as they proceed, learning as they go, but if they're not rigorous about comparing results with expectations, the lessons won't be explicit and shared, and future projects won't benefit from them.

Having spelled out and revised your assumptions, you should then design the organizational equivalent of an experiment to test them. As with a scientific experiment, the idea is that whether or not the outcome is what you'd hoped for, at least you will have learned something.

PRINCIPLE 3

Be quick about it—fail fast.

Quick, decisive failures have a number of important benefits. First, they can save you from throwing additional resources at a losing proposition. Second, it's much easier to establish cause and effect when

actions and outcomes are close together in time. Third, the sooner you can rule out a given course of action, the faster you will move toward your goal. And finally, an early failure lessens the pressure to continue with the project regardless, because your investment in it is not large.

A practical way to help ensure that any failure happens quickly is to test elements of your project early on. This is the main reason that “agile software development” often produces better results than the more conventional sequential process of systems design. In an agile environment, small chunks of code are written and shared in a quick, iterative fashion with other programmers and users before the team moves on. This is in sharp contrast to the approach in which analysts spend months documenting user requirements before submitting those requirements to programmers, who only then begin coding. By the time a problem is discovered, a project could have been heading in the wrong direction for years.

Speed may require changing how you allocate resources. Instead of going for maximum NPV over a project's lifetime, for example, you may want to break the financial evaluation into smaller chunks in terms of both money and time. You may also want to invest in more-flexible assets and people until you have learned enough to confidently build a significant operation.

And the human benefits of failing fast should not be overlooked. If people feel that a project's failure

We Won't Punish Failure

Here are one UK-based global retailer's formalized rules for when failure is acceptable.

- The effort involves genuine uncertainty.
- The outcome will be decisive, because we planned carefully.
- It's riskier to do nothing—or to conduct further analysis—than to act and fail.
- The cost is small.
- The major underlying assumptions are documented in writing.
- There is a plan to test the assumptions.
- The risks of failing are understood and, to the extent possible, mitigated.
- The cost is contained.
- Commitments are scaled according to our increasing understanding.
- We've defined what success would look like—and the opportunity is significant.



FOCUS ON FAILURE

POSTER
WPA Federal
Art Project,
circa 1936



will doom them to months of waiting for another project, or to losing their jobs, then failure is demoralizing. But if lots is going on and the conclusion of one effort means that they'll immediately get put on another (possibly more interesting) project, then endings can be positive. At the technical consultancy Sagentia, for example, employees are quick to move from project to project. The finance director, Neil Elton, told me, "They'll proactively send around e-mails with a mini CV, saying, 'I was going to be busy, now I'm not. Can you use my skills?'" This attitude is symptomatic of an organization that knows how to experiment intelligently.

PRINCIPLE 4

Contain the downside risk—fail cheaply.

This is an important corollary to failing fast. Initiatives should be designed to make the consequences of failure modest. Sometimes it's valuable to test a small-scale prototype before making a significant investment. When the Japanese cosmetics firm Kao was considering going into the manufacture of floppy disks, a big question was whether or not customers would buy Kao-branded disks. So the company went to another manufacturer and bought disks that met its quality standards, put the Kao label on them, and offered them to customers. The response was positive, so the plan moved forward. Had the response been negative, Kao could have stopped the project without incurring substantial costs.

This approach may require breaking ingrained habits. The chief innovation officer of a highly technical company I worked with observed that the company would typically get "some guy in a white lab coat" to do a technical feasibility study before deciding whether to enter a new product area. Such studies are not only expensive—upward of \$200,000—but also relatively unindicative of business feasibility. So the innovation officer started making mock-ups of potential new products and showing them to prospective customers. In many instances the company learned that nontechnical issues, such as form factor, usability, and fit with existing systems, would have prevented customers from adopting a product. The difference in cost between the approaches was an order of magnitude: A typical mock-up cost around \$20,000. The difference in speed was also considerable: a few weeks rather than nine to 12 months.

3M's reputation for being failure tolerant took a beating under former CEO Jim McNerney, a GE-

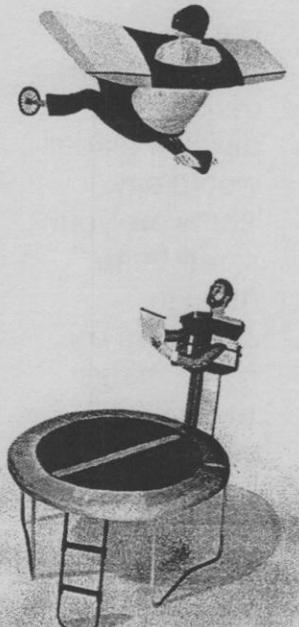
trained leader who sought to utilize Six Sigma quality practices throughout the company, even in its research labs. Although these worked wonders in 3M's factories, the emphasis on generating predictable results hampered employees' willingness to take risks on unproven ideas. When George Buckley took the reins as CEO, in 2005, part of his challenge was to restore the culture of risk taking. He discontinued the use of Six Sigma in the labs and spurred scientists and researchers to pursue new ideas—provided that the downside was small. During the recession, 3M's historical philosophy of "make a little, sell a little" when introducing a new product was successfully coupled with Buckley's emphasis on bottom-of-the-pyramid innovations—inexpensive items that could appeal to very broad markets.

PRINCIPLE 5

Limit the uncertainty.

There isn't much point to encouraging failure in an arena your organization is already familiar with. But experiencing it in an arena completely divorced from your current capabilities won't do you much good either: You probably won't be able to use what you find out, because you won't understand the context and you won't know how to connect what you've learned to your existing knowledge base.

Google, which is ordinarily very good at experimentation, went too far afield when it tried to launch a non-internet radio venture. The company wanted to automate the pricing of radio ads, as it had with internet ads. Radio stations would give Google a portion (ideally all) of their ad inventory, and Google would pit advertisers against one another to bid for the spots. Problems emerged, however, because stations were reluctant to give over control. Worse, the Google ads went for less than those sold directly by the



LEARNING FROM FAILURE FAILING BY DESIGN



During performance reviews one division leader would say, "Show me your scrap heap." All high achievers try some things that don't work out.

stations, and although Google argued that increased demand would eventually drive up the auction prices, stations were unwilling to take the chance. Media buyers, for their part, were reluctant to engage with Google, which refused to continue the conventional practices of negotiating prices ahead of time and bundling ads together. After shuttering the business, in 2009, CEO Eric Schmidt attributed its failure to the company's inability to measure an ad's performance on the radio—something it could do on the web by tracking views and clicks. The venture cost the company well over \$100 million. That's not a lot of money in Google's world; the more important point is that relatively little useful learning seems to have occurred. The chasm between Google's core business and the radio business proved just too great.

It's wise to minimize the number of uncertainties that need to be resolved at any particular decision point. One way to do this is through what Chris Zook, of Bain, calls adjacencies. For example, you can introduce an existing product in a new market: IKEA sells essentially the same furniture in many different countries. You can offer your customers a new but related product: Wells Fargo has had a lot of success cross-selling. Or you can build a new business on the foundation of an existing capability: Air Products and Chemicals has done this with its plant management capabilities. The point is to learn from failure (and leverage success) in areas that are fairly close to your established activities. Zook says that the number of major uncertainties should be exactly one. That's a little extreme. I suggest limiting major uncertainties to those that relate either to the market (pricing, acceptance, form factor, and so forth) or to technology and capability issues (standards, scal-

FOCUS ON FAILURE

FAILURE, INC.

FAIL Blog, a website devoted to pictures and videos of embarrassing **public failures**, launched in January 2008. Its "**epic fail**" meme took off, and the site was **sold within five months, went on to win two Webby awards** in 2009, and spawned a book.

ability, availability of talent, and so forth)—not taking on uncertainties in both dimensions at once.

Another way to experiment without going too far afield is to break a long-term project up into smaller pieces. Consider the commercialization of nanotechnology: Eventually we'll be able to construct objects at the level of individual molecules, which will be a truly revolutionary change. But that future is likely to be a long time coming. So for the time being, how are we using nanotechnology? Think wrinkle-free Dockers pants. Think cell phone displays that don't show fingerprints. Those more modest projects make a lot of sense: They apply brand-new technology to familiar products, which fosters learning.

PRINCIPLE 6

Build a culture that celebrates intelligent failure.

People often fear that their career prospects will be in trouble if something goes wrong on their watch. (And, of course, they're often right!) Senior managers need to create a climate that encourages intelligent risk taking and doesn't punish any failures that result. Some companies have found it useful to codify this principle. (See the sidebar "We Won't Punish Failure.")

This is an area where CEOs can show strong leadership. A.G. Lafley made fearlessness in the face of failure a core tenet of his time at Procter & Gamble. He said repeatedly that a very high success rate is a sign of incremental innovation, and that he was looking for breakthroughs instead. In his book *The Game-Changer*, published while he was still CEO, he lists and even celebrates his 11 most expensive product failures, focusing on what the company learned

How to Walk Away from a Project Intelligently

Even companies with a highly disciplined process for beginning new projects seldom have a good one for getting out. **A solid disengagement process includes these steps:**

- 1** Decide in advance on periodic checkpoints for determining whether to continue.
- 2** Evaluate the project's upside against the current estimated cost of continuing. If it no longer appears that the project will deliver the returns anticipated at the outset, it may be time to stop.
- 3** Compare the project with other candidate projects that need resources. If this one looks less attractive than they do, it may be time to stop.
- 4** Assess whether the project team may be falling prey to escalation pressures.
- 5** Involve an objective, informed outsider in the decision about whether to continue, instead of leaving it up to project team members.
- 6** If the decision is made to stop, spell out the reasons clearly.
- 7** Think through how capabilities and assets developed during the course of the project might be recouped.
- 8** Identify all who will be affected by the project's termination; draw up a plan to address disappointment or damage they might suffer.
- 9** Use a symbolic event—a wake, a play, a memorial—to give people closure.
- 10** Make sure that the people involved get a new, equally interesting opportunity.

from each. The reasons he gives for the failures range from "required significant consumer habit change" (an at-home dry-cleaning kit) to "small idea" (several new laundry detergents).

That kind of culture building should happen at all levels of the organization. One senior division head I worked with would say to his team members during their performance reviews, "Show me your scrap heap." The request perfectly conveys the idea that high achievers will, of necessity, try some things that don't work out.

PRINCIPLE 7

Codify and share what you learn.

An intelligent failure whose lessons are not shared is worth far less than one that teaches something to the group or, ideally, the whole organization. There are many ways to capture and transfer learning. Among the most popular are mini postmortems as a project proceeds, checkpoint reviews as key thresholds are reached, and after-action review meetings at the project's conclusion. In each case the point is to identify what the assumptions were going in, what happened, what that implies for those assumptions, and what should be done next. It is critical to avoid finger-pointing—restraint that is easier to exercise when the underlying ideas are labeled "assumptions" rather than "projections" or "data."

I recently facilitated a postmortem for a large organization struggling with an IT implementation that had gone dreadfully wrong. Before we convened, I interviewed key decision makers and developed a timeline showing when critical decisions had been made. We kicked off the meeting with some general observations about why IT systems often go awry; the message was "You are not alone." Next we discussed the core assumptions that had been in place when the project was authorized, some four years earlier; these came as a surprise to the newer members of the team. We then walked through five decisions that had made a big impact on the project's evolution, discussing the assumptions that were held at the time, what we would have done differently, and what had been learned. The day ended with two breakout sessions: one to determine what to do about the current situation, and one to crystallize lessons that could be valuable in other projects and help avoid similar problems in the future. To make sure the learning was transferred, we charged specific individuals with documenting and communicating those lessons.

LET'S COME back to the point I made at the outset: In an uncertain and volatile world, avoiding failure is not an option. If you accept this premise, the choice before you is simple: Continue to use practices that limit what you can gain from failures—or embrace the concept of intelligent failure, in which learning can create substantial value.

The example set by senior management is crucial. Leaders must be willing to talk about failures and what was learned from them. I've seen organizations use symbolic rituals to celebrate a failure that taught important lessons; this can create an environment in which failures are discussable. Making the ground rules for risk taking explicit, whether in a contract or by other means, can be useful as well. Telling stories about failures past can make people more comfortable talking about failures in progress. And having graceful ways to shut down initiatives and move on makes the inevitable failures much more palatable. Fumbling toward success by learning from failure will differentiate firms that can thrive during uncertainty from those that cannot. □

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Failure Chronicles



Roger McNamee is a cofounder of the technology investing firm Elevation Partners.

by Roger McNamee, Elevation Partners

We blew our opportunity to change the world.

Nearly 30 years of investing in technology companies has exposed me to more kinds of failure than I ever knew existed. For me, the most frustrating is when a company (or person) fails to reach full potential. eBay could have been 10 times as big and 100 times as important as it is today, but shortsighted business plans relegated the company to a very profitable niche.

I was part of a failure like that. In 1997, I realized that the internet bubble was going to end badly for technology investors. I decided to create a new kind of fund that might withstand a market collapse. I began the project, which became Silver Lake Partners, in collaboration with a close friend from the investment banking world. Like eBay, Silver Lake is a very successful firm. And like eBay, we blew our opportunity to change the world.

The idea behind Silver Lake was to create a new kind of private equity. Instead of a typical financial engineering strategy of using high leverage to squeeze cash out of mature companies, we focused on “midlife venture capital”—helping mature tech companies create new products that would transform their businesses. Our approach was based on two insights: Mature tech com-

panies had low valuations, and investors overestimated the cost and complexity of product transformations. At any other time, Silver Lake’s radical idea might have scared investors, but in the spring of 1999, institutional investors—state pension plans, in particular—were desperate to put money into the tech sector. It’s hard to imagine better circumstances in which to test a new investment strategy.

Silver Lake’s first 18 months were bumpy, thanks to the bursting bubble and a team that had never worked together before. Even so, the fund made trailblazing investments, including the buyout of Se-

gate, the market leader in the hard-drive business, and a large commitment to the online brokerage firm Datek. After our investment, Seagate and Datek embarked on transformational product strategies that led to exceptional financial returns. Their success made Silver Lake a major institution overnight.

As soon as the first fund was invested, however, Silver Lake abandoned its unique strategy in favor of financial engineering. Limited partners rewarded this reversion to the norm with huge commitments, making Silver Lake’s general partners fantastically rich. Sadly, the downside was the end of a pioneering investment strategy that, if widely adopted, might have enabled the United States to compete on a global scale more effectively.

Why did we let our vision die? Midlife venture capital turned out to be hard work. It also did not play to the strengths of some of Silver Lake’s partners. We could have sucked it up, like the Rolling Stones, and done the right thing. Instead, we pulled an Everly Brothers and had a big fight that resulted in my leaving the firm.

America has enormous creative energy, but its industries are dominated by lawyers and accountants, not product people. Thirty years of financial engineering and short-term profit optimization has impaired the ability of American companies to innovate. Silver Lake had a chance to change that. We were succeeding. Then we gave up. □

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Why did we let our vision die? Midlife venture capital turned out to be hard work.

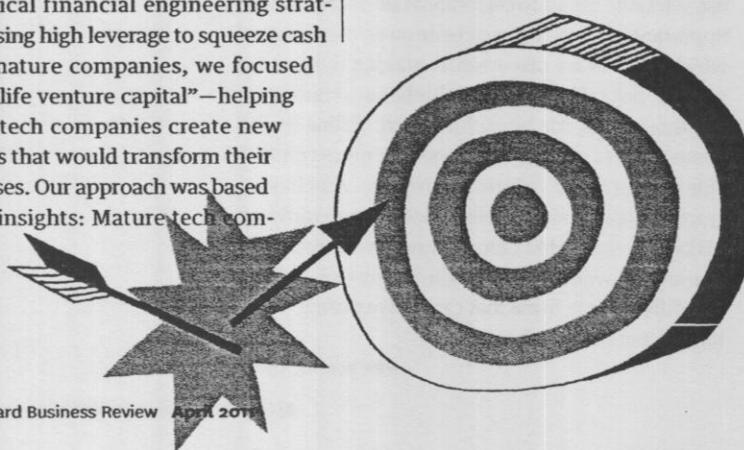
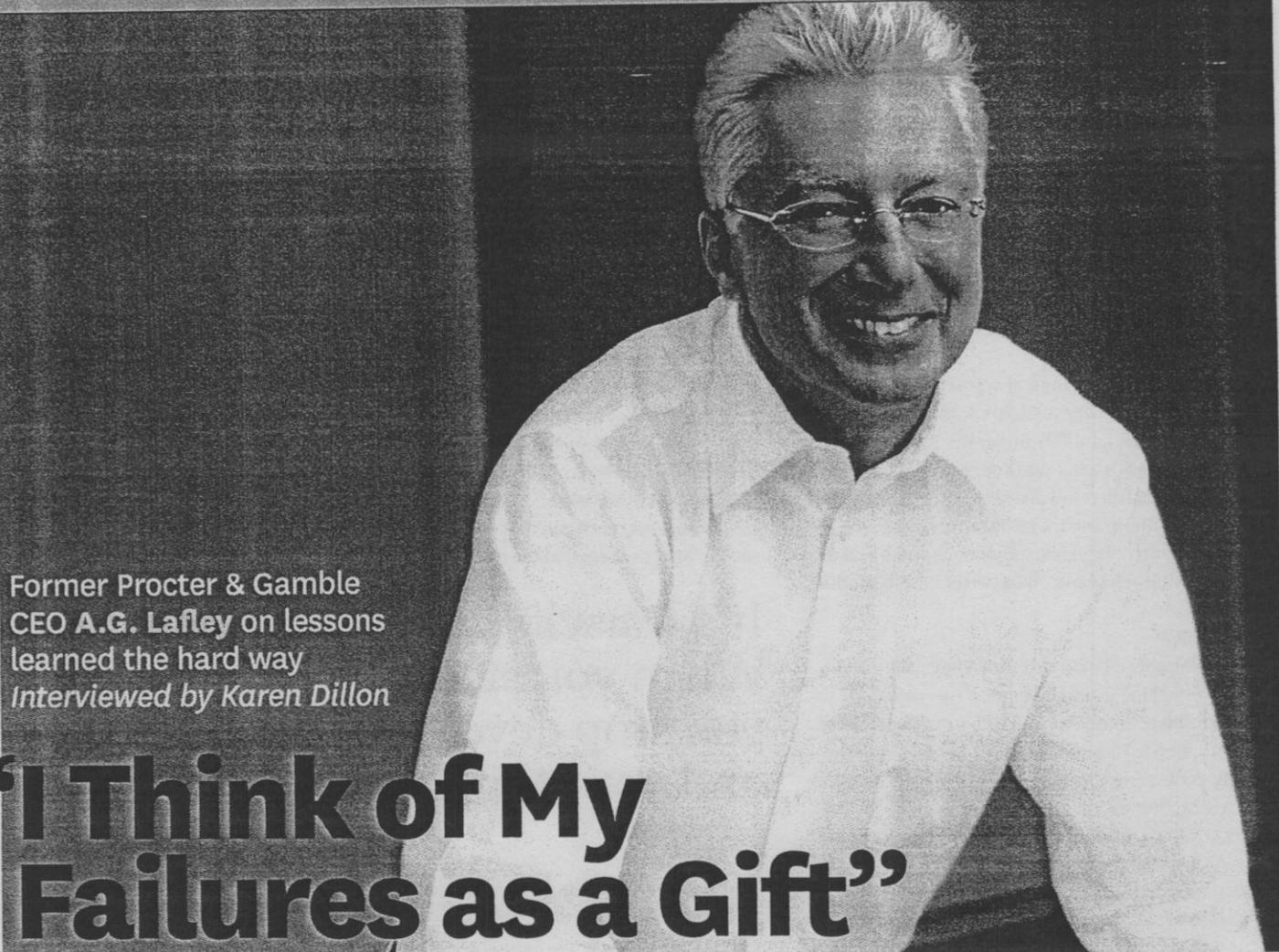


ILLUSTRATION: CHRISTIAN ROUX

Failure Learn from It



Former Procter & Gamble
CEO **A.G. Lafley** on lessons
learned the hard way
Interviewed by Karen Dillon

"I Think of My Failures as a Gift"

HBR: You're widely regarded as one of the most successful CEOs in recent history. But you had your share of mistakes, didn't you?

Lafley: Absolutely. A lot of mistakes and my fair share of failure. But you have to get past the disappointment and the blame and really understand what happened and why it happened. And then, more important, decide what you have learned and what you are going to do differently next time.

How did your failures over the years affect you as a leader?

They were all part of my growth and development. What's the single biggest reason that leaders stop developing and growing? They stop becoming adaptable; they stop becoming agile. It's Darwin's theory. When you stop learning, you stop devel-

oping and you stop growing. That's the end of a leader.

Can leaders learn as much from success?

No. My experience is that we learn much more from failure than we do from success. Look at great politicians and successful sports teams. Their biggest lessons come from their toughest losses. The same is true for any kind of leader. And it was certainly true for me.

Can you give me an example of learning from failure at P&G?

We learned much more from failed new brands and products like Dryel at-home dry cleaning and Fit Fruit & Vegetable Wash than we did from huge successes like Febreze and Swiffer.



A.G. Lafley is the former chairman and chief executive officer of Procter & Gamble.

This is one of my favorites: In the 1980s P&G tried to get into the bleach business. We had a differentiated and superior product—a color-safe low-temperature bleach. We created a brand called Vibrant. We went to test-market in Portland, Maine.

Why Maine?

We thought the test market was so far from Oakland, California, where Clorox was headquartered, that maybe we could fly under the radar there. So we went in with what we thought was a winning launch plan: full retail distribution, heavy sampling and couponing, and major TV advertising. All designed to drive high consumer awareness and trial of a new bleach brand and a better bleach product.

And then?

Do you know what Clorox did? They gave every household in Portland, Maine, a free gallon of Clorox bleach—delivered to the front door. Game, set, match to Clorox. We'd already bought all the advertising. We'd spent most of the launch money on sampling and couponing. And nobody in Portland, Maine, was going to need bleach for several months. I think they even gave consumers a \$1 off coupon for the next gallon. They basically sent us a message that said, "Don't ever think about entering the bleach category."

How did you rebound from that setback?

We certainly learned how to defend leading brand franchises. When Clorox tried to enter the laundry detergent business a few years later, we sent them a similarly clear and direct message—and they ultimately withdrew their entry. More important, I learned what worked and was salvageable from that bleach failure: P&G's low-temperature, color-safe technology. We modified the technology and put it into a laundry detergent, which we introduced as Tide with Bleach. At its peak, Tide with Bleach was a more than half-billion-dollar business.

Consumers still use both bleach additives and detergents with bleach. So it ended up being a win-win for consumers, retailers, and manufacturers. It created more category consumption, a better at-home cleaning experience, and a better value proposition for all concerned. But we learned that

head-on, World War I-like assaults on walled cities generally end with a lot of casualties.

How did you use failure as a tool?

Many CEOs—including me—use innovation and acquisition to grow organically and inorganically in a balanced and sustained way. Both innovation and acquisition are risky and have high failure rates: 80% plus for new product innovation in our industry; 70% plus for acquisition. So I had a team at P&G do a detailed analysis of all our acquisitions from 1970 to 2000. And the sobering story was that only 25% to 30% succeeded in that period. "Successful" meant "met or exceeded the investment case and

**It's Darwin's theory.
When you stop learning,
you stop developing
and you stop growing.**

going-in investment objectives." Partial success meant "exceeded the cost of capital." We studied the failures in detail. We pinpointed the problems and discovered patterns in our mistakes.

Did you discover why P&G failed at acquisitions so often?

Yes—not surprisingly, it's not rocket science. We found five fundamental root causes of failure: (1) The absence of a winning strategy for the combination. (2) Not integrating quickly or well. (3) Expecting synergies that don't materialize. (4) Cultures that aren't compatible. (5) Leadership that wouldn't play together in the same sandbox.

How did that analysis alter things?

Once we had identified the problems, we focused on what we had to change. How should we organize for each phase of the acquisition? What processes should we put in place? What interim measures would tell us whether we were on track or off track? It's just a disciplined process, and you put somebody in charge of each phase of the process.

Can you give me an example of using that process successfully?

When we acquired Gillette, in 2005, which was one of the 10 biggest acquisitions ever, we put a team and a process in place to avoid our past failures. We put Jim Kilts, Gillette's CEO, on P&G's board, and we put him and Clayt Daley, P&G's CFO, jointly in charge of the acquisition integration and value creation. We identified all the value creation elements. We identified the integration sequence and elements. We put a pretty senior manager in charge of every value creation initiative. Bob McDonald, the current CEO, was in charge of integrating global operations. Filippo Passerini was in charge of integrating the back room and IT; Rick Hughes was in charge of integrating all purchasing; and so on. We tracked progress for every value-creating initiative using a simple red, yellow, green process: "We're on track," "We're not on track." And we just drove every phase of the integration, every building block of value creation, to completion.

How do you measure success on that acquisition?

We ended up delivering more than 150% of the originally estimated cost synergies. So the cost synergies alone created enough value to make the Gillette acquisition a success. The revenue synergies, which continue to come in—for example, in oral care we combined the Crest and Oral-B brands and all of our oral care product innovation—all come on top of the cost synergies.

After you started using the new process, how did P&G's track record change?

Knowing what went wrong from 1970 to 2000, we were able to shift our acquisition success rate from below 30% to above 60% over the past 10 years. The whole idea of really studying, really going to school on failures, is so important. Because failures aren't the opposite of success. A lot of people think there's success or there's failure.

Failure is, in my view, all about learning. It's about learning what you can do better.

We were playing small ball instead of looking at the big picture. Color me naive on that one.

As a result of your new knowledge, was Gillette a perfect case study of incorporating an acquisition?
No, Gillette was not perfect. We conducted ongoing evaluations of every element of the Gillette acquisition. There were a lot of things we could have done differently and better. Especially on the people development and growth front. I personally spent a lot of time trying to ensure that the people on the leadership development list at Gillette got the right kinds of assignments, but we lost a few people we didn't want to lose—and we didn't get every Gillette player in the absolute right position to start out. We will capture those lessons—and apply them to the next one.

Did you ever make a mistake in what you didn't do—rather than in what you did do?

I had some big misses in my 10 years as CEO. I missed two potentially transformational acquisitions: one of a leading global beauty and personal care brand and one of a health care Rx to OTC switch [from a prescription to an over-the-counter brand]. In the first, I had the majority partner on board but couldn't close with the minority partners and lost the deal. In the second, I had a promising discussion with the CEO of the health care division, who was very open to swapping his Rx to OTC product rights for a P&G prescription drug in late-stage development. The CEOs were aligned; the CFOs were working together to get the valuations right for each company and to pin down the terms of the deal. It would have been a terrific deal for P&G.

Why?

When I came into the job, in 2000, we were de facto in the health care business. We were in the prescription drug business, the over-the-counter brand business, and the branded nonregulated health care business. I liked consumer health care, but I was skeptical of the prescription drug business. It isn't a consumer-driven business—doctors write prescriptions, health insurers pay most of the cost. It isn't really a branded business. On top of that, prescription drugs typically took 10 to 15 years to develop—at huge expense—and the lifetime of a prescription drug was limited to, at most, the length of the patent or 14 years. Prescription drugs weren't really in P&G's competitive sweet spot. They didn't match up well with P&G's core strengths.

So I thought we needed to migrate or sell out of the prescription drug business and invest more in

over-the-counter nonregulated consumer brands. A conversation about this was going on with management and with the board when this opportunity came up and we learned that a major drug was going to be switched. Our idea was to trade one of our prescription drugs in the final phase of clinical trials for the drug they were going to switch to OTC. In proposing that switch, I was trying to get some level of commitment from the board and the management team for the strategy I wanted to pursue, which was ultimately to exit the pharmaceutical business. [P&G eventually sold its pharmaceutical business to Warner Chilcott in 2009.]

What went wrong?

At the last minute, the heads of our health care business, the head of R&D, and a prominent board member from the health care industry all surfaced opposition to the deal. And as I thought about it, it was perfectly rational behavior on their part. The leaders of the P&G health care business wanted to keep the assets and businesses that they had—they didn't want to give up one of their promising prescription drugs. The head of R&D had put a lot of time, money, and personal effort into developing the drug we were going to swap. And the prominent board member believed that we had promising prescription drugs in development and that we should see that development through to the end.

So you abandoned the deal?

Yes. And it ended up being a huge mistake. The switch was eventually done by the parent health care company and it turned out to be the third biggest switch from prescription to over-the-counter ever, after Tylenol and Prilosec. So that was just a huge disappointment.

What lesson did you take from that failure?

That the deal really wasn't about the rational business case, it wasn't about strategy, and it wasn't about the economics and financials. Those were all buttoned up and, frankly, pretty attractive. It was about managing the human motivators and human behaviors and the different personalities. I just didn't see this alliance forming between the leaders of the business, the leader of R&D, and one of my more influential directors. This is a case where politics was stronger than economics. A case where the long-term strategic merits really didn't matter; the shorter-term interests of individuals carried

the day. We got trapped in a debate about whether P&G's prescription drug or the OTC switch was going to be a bigger and more profitable business—and not whether the prescription drug business was a good strategic fit for P&G. Or even a better strategic fit than other health care and personal care businesses we could have put our cash and talent against. We were playing small ball instead of looking at the big picture. Color me naive on that one.

What did you do differently after that?

After that, I tried with any major decision to think not only about the strategy, economics, and financials and the business case, but also about who was going to be influential in the decision and how I could manage that individual and not ever be caught off guard again.

What advice would you offer other CEOs about learning from failure?

First, some of the most important and insightful learning is far more likely to come from failures than from successes. Second, the learning has to be institutionalized to endure. Otherwise you keep making the same mistakes over and over, and you don't learn from them. That's why we did in-depth analysis of innovation failures and in-depth analysis of acquisition failures. We were forcing ourselves to come to grips with reality and to report to both management and the board annually on the failure rates of these two critical growth drivers. It doesn't do any good for me to learn something personally if the institution doesn't learn the same lessons. You create institutional learning. You create institutional memory.

It's not enough to take responsibility for your failures. It's important to create a culture that turns failures into learning and leads to continual improvement. If the leader of the company doesn't do that, it's very difficult to get the culture right. It's crucial to creating a culture of courage and openness to change and continued improvement.

The topic of failure is very important, and it gets more lip service than good practice. I think I learned more from my failures than from my successes in all my years as a CEO. I think of my failures as a gift. Unless you view them that way, you won't learn from failure, you won't get better—and the company won't get better. □

HBR Reprint R1104F

How to Avoid Catastrophe

Failures happen. But if you pay attention to near misses, you can predict and prevent crises.

by Catherine H. Tinsley, Robin L. Dillon, and Peter M. Madsen

MOST PEOPLE think of “near misses” as harrowing close calls that could have been a lot worse—when a firefighter escapes a burning building moments before it collapses, or when a tornado miraculously veers away from a town in its path. Events like these are rare narrow escapes that leave us shaken and looking for lessons.

But there’s another class of near misses, ones that are much more common and pernicious. These are the often unremarked small failures that permeate day-to-day business but cause no immediate harm. People are hardwired to misinterpret or ignore the warnings embedded in these failures, and so they often go unexamined or, perversely, are seen as signs that systems are resilient and things are going well. Yet these seemingly innocuous events are often harbingers; if conditions shift slightly, or if luck does not intervene, a crisis erupts.

Consider the BP Gulf oil rig disaster. As a case study in the anatomy of near misses and the consequences of misreading them, it’s close to perfect. In April 2010, a gas blowout occurred during the cementing of the *Deepwater Horizon* well. The blowout ignited, killing 11 people, sinking the rig, and triggering a massive underwater spill that would take months to contain. Numerous poor decisions and

dangerous conditions contributed to the disaster: Drillers had used too few centralizers to position the pipe, the lubricating “drilling mud” was removed too early, managers had misinterpreted vital test results that would have confirmed that hydrocarbons were seeping from the well. In addition, BP relied on an older version of a complex fail-safe device called a blowout preventer that had a notoriously spotty track record.

Why did Transocean (the rig’s owner), BP executives, rig managers, and the drilling crew overlook the warning signs, even though the well had been plagued by technical problems all along (crew members called it “the well from hell”)? We believe that the stakeholders were lulled into complacency by a catalog of previous near misses in the industry—successful outcomes in which luck played a key role in averting disaster. Increasing numbers of ultra-deep wells were being drilled, but significant oil spills or fatalities were extremely rare. And many Gulf of Mexico wells had suffered minor blowouts during cementing (dozens of them in the past two decades); however, in each case chance factors—favorable wind direction, no one welding near the leak at the time, for instance—helped prevent an explosion. Each near miss, rather than raise alarms

and prompt investigations, was taken as an indication that existing methods and safety procedures worked.

For the past seven years, we have studied near misses in dozens of companies across industries from telecommunications to automobiles, at NASA, and in lab simulations. Our research reveals a pattern: Multiple near misses preceded (and foreshadowed) every disaster and business crisis we studied, and most of the misses were ignored or misread. Our work also shows that cognitive biases conspire to blind managers to the near misses. Two in particular cloud our judgment. The first is “normalization of deviance,” the tendency over time to accept anomalies—particularly risky ones—as normal. Think of the growing comfort a worker might feel with using a ladder with a broken rung; the more times he climbs the dangerous ladder without incident, the safer he feels it is. For an organization, such normalization can be catastrophic. Columbia University sociologist Diane Vaughan coined the phrase in her book *The Challenger Launch Decision* to describe the organizational behaviors that allowed a glaring mechanical anomaly on the space shuttle to gradually be viewed as a normal flight risk—dooming its crew. The second cognitive error is the so-called outcome bias. When people observe successful outcomes, they tend to focus on the results more than on the (often unseen) complex processes that led to them.

Recognizing and learning from near misses isn’t simply a matter of paying attention; it actually runs contrary to human nature. In this article, we examine near misses and reveal how companies can detect and learn from them. By seeing them for what they are—*instructive failures*—managers can apply their lessons to improve operations and, potentially, ward off catastrophe.

Roots of Crises

Consider this revealing experiment: We asked business students, NASA personnel, and space-industry contractors to evaluate a fictional project manager, Chris, who was supervising the launch of an unmanned spacecraft and had made a series of decisions, including skipping the investigation of a potential design flaw and forgoing a peer review, because of time pressure. Each participant was given one of three scenarios: The spacecraft launched without issue and was able to transmit data (success outcome); shortly after launch, the spacecraft had a

FOCUS ON FAILURE



“Every strike brings me closer to the next home run.”

BABE RUTH
BASEBALL PLAYER

problem caused by the design flaw, but because of the way the sun happened to be aligned with the vehicle it was still able to transmit data (near-miss outcome); or the craft had a problem caused by the flaw and, because of the sun’s chance alignment, it failed to transmit data and was lost (failure outcome).

How did Chris fare? Participants were just as likely to praise his decision making, leadership abilities, and the overall mission in the success case as in the near-miss case—though the latter plainly succeeded only because of blind luck. When people observe a successful outcome, their natural tendency is to assume that the process that led to it was fundamentally sound, even when it demonstrably wasn’t; hence the common phrase “you can’t argue with success.” In fact, you can—and should.

Organizational disasters, studies show, rarely have a single cause. Rather, they are initiated by the unexpected interaction of multiple small, often seemingly unimportant, human errors, technological failures, or bad business decisions. These latent errors combine with enabling conditions to produce a significant failure. A latent error on an oil rig might be a cementing procedure that allows gas to escape; enabling conditions might be a windless day and a welder working near the leak. Together, the latent error and enabling conditions ignite a deadly firestorm. Near misses arise from the same preconditions, but in the absence of enabling conditions, they produce only small failures and thus go undetected or are ignored.

Latent errors often exist for long periods of time before they combine with enabling conditions to produce a significant failure. Whether an enabling condition transforms a near miss into a crisis generally depends on chance; thus, it makes little sense to try to predict or control enabling conditions. Instead, companies should focus on identifying and fixing la-

Idea in Brief

Most business failures, such as engineering disasters, product malfunctions, and PR crises, **are preceded by near misses**—close calls that, had it not been for chance, would have been worse.

Managers often misinterpret these warning signs because they are blinded by cognitive biases. They take the near misses as indications that systems are working well—or they don't notice them at all.

Seven strategies can help managers recognize and learn from near misses. Managers should: (1) be on alert when time or cost pressures are high; (2) watch for deviations from the norm; (3) uncover the deviations' root causes; (4) hold themselves accountable for near

misses; (5) envision worst-case scenarios; (6) look for near misses masquerading as successes; and (7) reward individuals for exposing near misses.

tent errors before circumstances allow them to create a crisis.

Oil rig explosions offer a dramatic case in point, but latent errors and enabling conditions in business often combine to produce less spectacular but still costly crises—corporate failures that attention to latent errors could have prevented. Let's look at three.

Bad Apple. Take Apple's experience following its launch of the iPhone 4, in June 2010. Almost immediately, customers began complaining about dropped calls and poor signal strength. Apple's initial response was to blame users for holding the phone the wrong way, thus covering the external antenna, and to advise them to "avoid gripping [the phone] in the lower left corner." When questioned about the problem by a user on a web forum, CEO Steve Jobs fired back an e-mail describing the dropped calls as a "non issue." Many customers found Apple's posture arrogant and insulting and made their displeasure known through social and mainstream media. Several filed class action lawsuits, including a suit that alleged "fraud by concealment, negligence, intentional misrepresentation and defective design." The reputation crisis reached a crescendo in mid-July, when *Consumer Reports* declined to recommend the iPhone 4 (it had recommended all previous versions). Ultimately Apple backpedaled, acknowledging software errors and offering owners software updates and iPhone cases to address the antenna problem.

The latent errors underlying the crisis had long been present. As Jobs demonstrated during a press

conference, virtually all smartphones experience a drop in signal strength when users touch the external antenna. This flaw had existed in earlier iPhones, as well as in competitors' phones, for years. The phones' signal strength problem was also well known. Other latent errors emerged as the crisis gained momentum, notably an evasive PR strategy that invited a backlash.

That consumers had endured the performance issues for years without significant comment was not a sign of a successful strategy but of an ongoing near miss. When coupled with the right enabling conditions—*Consumer Reports'* withering and widely quoted review and the expanding reach of social media—a crisis erupted. If Apple had recognized consumers' forbearance as an ongoing near miss and proactively fixed the phones' technical problems, it could have avoided the crisis. It didn't, we suspect, because of normalization bias, which made the antenna glitch seem increasingly acceptable; and because of outcome bias, which led managers to conclude that the lack of outcry about the phones' shortcomings reflected their own good strategy—rather than good luck.

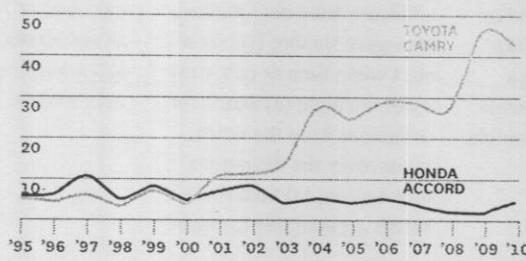
Speed Warning. On August 28, 2009, California Highway Patrol officer Mark Saylor and three family members died in a fiery crash after the gas pedal of the Lexus sedan they were driving got stuck, accelerating the car to more than 120 miles per hour. A 911 call from the speeding car captured the horrifying moments before the crash and was replayed widely in the news and social media.

Consumers' enduring the iPhone's problems for years without comment was a sign not of a solid strategy but of an ongoing near miss.

Toyota Pedal Problems

Errors in process or product design are often ignored, even when the warning signs clearly call for action. The more times small failures occur without disaster, the more complacent managers become.

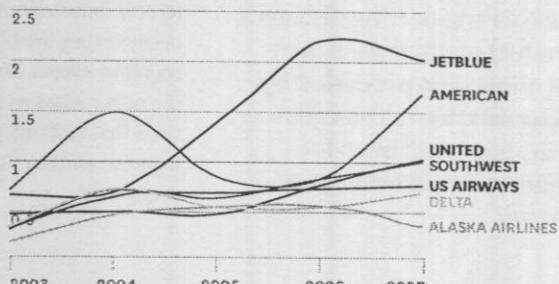
PERCENTAGE OF CUSTOMER COMPLAINTS HAVING TO DO WITH SPEED CONTROL



SOURCE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

JetBlue Tarmac Trouble

WEATHER DELAYS OF TWO HOURS OR MORE PER 1,000 FLIGHTS



SOURCE DEPARTMENT OF TRANSPORTATION'S BUREAU OF TRANSPORTATION STATISTICS

Up to this point, Toyota, which makes Lexus, had downplayed the more than 2,000 complaints of unintended acceleration among its cars it had received since 2001. The Saylor tragedy forced the company to seriously investigate the problem. Ultimately, Toyota recalled more than 6 million vehicles in late 2009 and early 2010 and temporarily halted production and sales of eight models, sustaining an estimated \$2 billion loss in North American sales alone and immeasurable harm to its reputation.

Complaints about vehicle acceleration and speed control are common for all automakers, and in most cases, according to the National Highway Traffic Safety Administration, the problems are caused by driver error, not a vehicle defect. However, beginning in 2001, about the time that Toyota introduced a new accelerator design, complaints of acceleration problems in Toyotas increased sharply, whereas such complaints remained relatively constant for other automakers (see the exhibit "Toyota Pedal Problems"). Toyota could have averted the crisis if it had noted this deviation and acknowledged the thousands of complaints for what they were—near misses. Here, too, normalization of deviance and outcome bias, along with other factors, conspired to obscure the grave implications of the near misses. Only when an enabling condition occurred—the Saylor family tragedy and the ensuing media storm—did the latent error trigger a crisis.

Jet Black and Blue. Since it began operating, in 2000, JetBlue Airways has taken an aggressive approach to bad weather, canceling proportionately fewer flights than other airlines and directing its pilots to pull away from gates as soon as possible in severe weather so as to be near the front of the line when runways were cleared for takeoff—even if that meant loaded planes would sit for some time on the tarmac. For several years, this policy seemed to work. On-tarmac delays were not arduously long, and cus-

tomers were by and large accepting of them. Nonetheless, it was a risky strategy, exposing the airline to the danger of stranding passengers for extended periods if conditions abruptly worsened.

The wake-up call came on February 14, 2007. A massive ice storm at New York's John F. Kennedy International Airport caused widespread disruption—but no carrier was harder hit than JetBlue, whose assertive pilots now found themselves stuck on the tarmac (literally, in some cases, because of frozen wheels) and with no open gates to return to. Distressed passengers on several planes were trapped for up to 11 hours in overheated, foul-smelling cabins with little food or water. The media served up angry first-person accounts of the ordeal, and a chastened David Neeleman, JetBlue's CEO, acknowledged on CNBC, "We did a horrible job, actually, of getting our customers off those airplanes." The airline reported canceling more than 250 of its 505 flights that day—a much higher proportion than any other airline. It lost millions of dollars and squandered priceless consumer loyalty.

For JetBlue, each of the thousands of flights that took off before the competition during previous weather delays was a near miss. As the airline continued to get away with the risky strategy, managers who had expressed concern early on about the way the airline handled flight delays became complacent, even as long delays mounted. Indeed, the proportion of JetBlue weather-based delays of two hours or more roughly tripled between 2003 and 2007, whereas such delays remained fairly steady at other major U.S. airlines (see the exhibit "JetBlue Tarmac Trouble").

Rather than perceiving that a dramatic increase in delays represented a dramatic increase in risk, JetBlue managers saw only successfully launched flights. It took an enabling condition—the ferocious ice storm—to turn the latent error into a crisis.

Recognizing and Preventing Near Misses

Our research suggests seven strategies that can help organizations recognize near misses and root out the latent errors behind them. We have developed many of these strategies in collaboration with NASA—an organization that was initially slow to recognize the relevance of near misses but is now developing enterprise-wide programs to identify, learn from, and prevent them.

1 Heed High Pressure. The greater the pressure to meet performance goals such as tight schedules, cost, or production targets, the more likely managers are to discount near-miss signals or misread them as signs of sound decision making. BP's managers knew the company was incurring overrun costs of \$1 million a day in rig lease and contractor fees, which surely contributed to their failure to recognize warning signs.

The high-pressure effect also contributed to the *Columbia* space shuttle disaster, in which insulation foam falling from the external fuel tank damaged the shuttle's wing during liftoff, causing the shuttle to break apart as it reentered the atmosphere. Managers had been aware of the foam issue since the start of the shuttle program and were concerned about it early on, but as dozens of flights proceeded without serious mishap, they began to classify foam strikes as maintenance issues—rather than as near misses. This classic case of normalization of deviance was exacerbated by the enormous political pressure the agency was under at the time to complete the International Space Station's main core. Delays on the shuttle, managers knew, would slow down the space station project.

Despite renewed concern about foam strikes caused by a particularly dramatic recent near miss, and with an investigation under way, the *Columbia* took off. According to the Columbia Accident Investigation Board, "The pressure of maintaining the flight schedule created a management atmosphere that increasingly accepted less-than-specification performance of various components and systems."

When people make decisions under pressure, psychological research shows, they tend to rely on heuristics, or rules of thumb, and thus are more easily influenced by biases. In high-pressure work environments, managers should expect people to be more easily swayed by outcome bias, more likely to normalize deviance, and more apt to believe that their decisions are sound. Organizations should

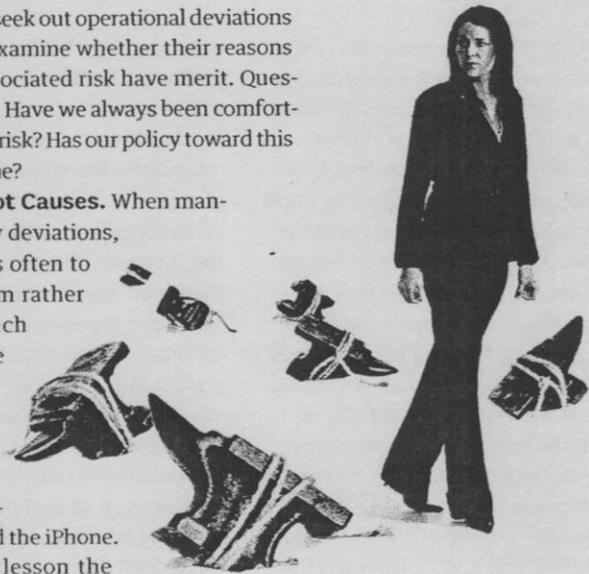
encourage, or even require, employees to examine their decisions during pressure-filled periods and ask, "If I had more time and resources, would I make the same decision?"

2 Learn from Deviations. As the Toyota and JetBlue crises suggest, managers' response when some aspect of operations skews from the norm is often to recalibrate what they consider acceptable risk. Our research shows that in such cases, decision makers may clearly understand the statistical risk represented by the deviation, but grow increasingly less concerned about it.

We've seen this effect clearly in a laboratory setting. Turning again to the space program for insight, we asked study participants to assume operational control of a Mars rover in a simulated mission. Each morning they received a weather report and had to decide whether or not to drive onward. On the second day, they learned that there was a 95% chance of a severe sandstorm, which had a 40% chance of causing catastrophic wheel failure. Half the participants were told that the rover had successfully driven through sandstorms in the past (that is, it had emerged unscathed in several prior near misses); the other half had no information about the rover's luck in past storms. When the time came to choose whether or not to risk the drive, three quarters of the near-miss group opted to continue driving; only 13% of the other group did. Both groups knew, and indeed stated that they knew, that the risk of failure was 40%—but the near-miss group was much more comfortable with that level of risk.

Managers should seek out operational deviations from the norm and examine whether their reasons for tolerating the associated risk have merit. Questions to ask might be: Have we always been comfortable with this level of risk? Has our policy toward this risk changed over time?

3 Uncover Root Causes. When managers identify deviations, their reflex is often to correct the symptom rather than its cause. Such was Apple's response when it at first suggested that customers address the antenna problem by changing the way they held the iPhone. NASA learned this lesson the



hard way as well, during its 1998 Mars Climate Orbiter mission. As the spacecraft headed toward Mars it drifted slightly off course four times; each time, managers made small trajectory adjustments, but they didn't investigate the cause of the drifting. As the \$200 million spacecraft approached Mars, instead of entering into orbit, it disintegrated in the atmosphere. Only then did NASA uncover the latent error—programmers had used English rather than metric units in their software coding. The course corrections addressed the symptom of the problem but not the underlying cause. Their apparent success lulled decision makers into thinking that the issue had been adequately resolved.

The health care industry has made great strides in learning from near misses and offers a model for others. Providers are increasingly encouraged to report mistakes and near misses so that the lessons can be teased out and applied. An article in *Today's Hospitalist*, for example, describes a near miss at Delnor-Community Hospital, in Geneva, Illinois. Two patients sharing a hospital room had similar last names and were prescribed drugs with similar-sounding names—Cytotec and Cytoxan. Confused

by the similarities, a nurse nearly administered one of the drugs to the wrong patient. Luckily, she caught her mistake in time and filed a report detailing the close call. The hospital immediately separated the patients and created a policy to prevent patients with similar names from sharing rooms in the future.

4 Demand Accountability. Even when people are aware of near misses, they tend to downgrade their importance. One way to limit this potentially dangerous effect is to require managers to justify their assessments of near misses.

Remember Chris, the fictional manager in our study who neglected some due diligence in his supervision of a space mission? Participants gave him equally good marks for the success scenario and the near-miss scenario. Chris's raters didn't seem to see that the near miss was in fact a near disaster. In a continuation of that study, we told a separate group of managers and contractors that they would have to justify their assessment of Chris to upper management. Knowing they'd have to explain their rating to the bosses, those evaluating the near-miss scenario judged Chris's performance just as harshly as did those who had learned the mission had failed—recognizing, it seems, that rather than managing well, he'd simply dodged a bullet.

5 Consider Worst-Case Scenarios. Unless expressly advised to do so, people tend not to think through the possible negative consequences of near misses. Apple managers, for example, were aware of the iPhone's antenna problems but probably hadn't imagined how bad a consumer backlash could get. If they had considered a worst-case scenario, they might have headed off the crisis, our research suggests.

In one study, we told participants to suppose that an impending hurricane had a 30% chance of hitting their house and asked them if they would evacuate. Just as in our Mars rover study, people who were told that they'd escaped disaster in previous near misses were more likely to take a chance (in this case, opting to stay home). However, when we told participants to suppose that, although their house had survived previous hurricanes, a neighbor's house had been hit by a tree during one, they saw things differently; this group was far more likely to evacuate. Examining events closely helps people distinguish between near misses and successes, and they'll often adjust their decision making accordingly.

Little Near Misses and Small-Scale Failures

We've used dramatic cases such as oil spills and shuttle disasters to illustrate how near misses can foreshadow huge calamities.

But near misses are relevant to managers at all levels in their day-to-day work, as they can also presage lesser but still consequential problems. Research on workplace safety, for example, estimates that for every 1,000 near misses, one accident results in a serious injury or fatality, at least 10 smaller accidents cause minor injuries, and 30 cause property damage but no injury. Identifying near misses and addressing the latent errors that give rise to them can head off the even the more mundane problems that distract organizations and sap their resources.

Imagine an associate who misses deadlines and is chronically late for

client meetings but is otherwise a high performer. Each tardy project and late arrival is a near miss; but by addressing the symptoms of the problem—covering for the employee in a variety of ways—his manager is able to prevent clients from defecting. By doing this, however, she permits a small but significant erosion of client satisfaction, team cohesiveness, and organizational performance. And eventually, a client may jump ship—an outcome that could have been avoided by attending to the near misses. Your organization needn't face a threat as serious as an oil spill to benefit from exposing near misses of all types and addressing their root causes.

FOCUS ON FAILURE

Managers in Walmart's business-continuity office clearly understand this. For several years prior to Hurricane Katrina, the office had carefully evaluated previous hurricane near misses of its stores and infrastructure and, based on them, planned for a direct hit to a metro area where it had a large presence. In the days before Katrina made landfall in Louisiana, the company expanded the staff of its emergency command center from the usual six to 10 people to more than 50, and stockpiled food, water, and emergency supplies in its local warehouses. Having learned from prior near misses, Walmart famously outperformed local and federal officials in responding to the disaster. Said Jefferson Parish sheriff Harry Lee, "If the American government had responded like Walmart has responded, we wouldn't be in this crisis."

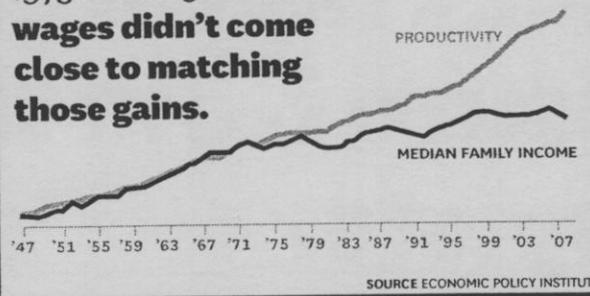
6 Evaluate Projects at Every Stage. When things go badly, managers commonly conduct postmortems to determine causes and prevent recurrences. When they go well, however, few do formal reviews of the success to capture its lessons. Because near misses can look like successes, they often escape scrutiny.

The chief knowledge officer at NASA's Goddard Space Flight Center, Edward Rogers, instituted a "pause and learn" process in which teams discuss at each project milestone what they have learned. They not only cover mishaps but also expressly examine perceived successes and the design decisions considered along the way. By critically examining projects while they're under way, teams avoid outcome bias and are more likely to see near misses for what they are. These sessions are followed by knowledge-sharing workshops involving a broader group of teams. Other NASA centers, including the Jet Propulsion Laboratory, which manages NASA's Mars program, are beginning similar experiments. According to Rogers, most projects that have used the pause-and-learn process have uncovered near misses—typically, design flaws that had gone undetected. "Almost every mishap at NASA can be traced to some series of small signals that went unnoticed at the critical moment," he says.

7 Reward Owning Up. Seeing and attending to near misses requires organizational alertness, but no amount of attention will avert failure if people aren't motivated to expose near misses—or, worse, are discouraged from doing so. In many organizations, employees have reason to keep quiet about failures, and in that type of environment

WAGES

U.S. productivity grew at a healthy clip from 1973 to 2009. **Median wages didn't come close to matching those gains.**



SOURCE: ECONOMIC POLICY INSTITUTE

they're likely to keep suspicions about near misses to themselves.

Political scientists Martin Landau and Donald Chisholm described one such case that, though it took place on the deck of a warship, is relevant to any organization. An enlisted seaman on an aircraft carrier discovered during a combat exercise that he'd lost a tool on the deck. He knew that an errant tool could cause a catastrophe if it were sucked into a jet engine, and he was also aware that admitting the mistake could bring a halt to the exercise—and potential punishment. As long as the tool was unaccounted for, each successful takeoff and landing would be a near miss, a lucky outcome. He reported the mistake, the exercise was stopped, and all aircraft aloft were redirected to bases on land, at a significant cost.

Rather than being punished for his error, the seaman was commended by his commanding officer in a formal ceremony for his bravery in reporting it. Leaders in any organization should publicly reward staff for uncovering near misses—including their own.

TWO FORCES conspire to make learning from near misses difficult: Cognitive biases make them hard to see, and, even when they are visible, leaders tend not to grasp their significance. Thus, organizations often fail to expose and correct latent errors even when the cost of doing so is small—and so they miss opportunities for organizational improvement before disaster strikes. This tendency is itself a type of organizational failure—a failure to learn from "cheap" data. Surfacing near misses and correcting root causes is one the soundest investments an organization can make. □

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Failure Chronicles



Wayne Pacelle is the president and CEO of the Humane Society of the United States and author of *The Bond: Our Kinship with Animals, Our Call to Defend Them* (William Morrow, 2011).

by Wayne Pacelle, Humane Society

I hadn't factored in pressure from the lobbyists.

In October 2001, the Humane Society of the United States scored a big victory for animal welfare and food safety. We persuaded a majority in both chambers of Congress to include in the current farm bill a ban on the slaughter of "downer" cows—animals too sick or injured to walk—for human consumption. I'd led the charge on this campaign, and it was a proud moment for me.

Weeks later, however, a conference committee charged with reconciling the House and Senate versions of the bill gutted our provision, despite the fact that the two contained nearly identical language. A handful of lawmakers sympathetic to the cattle industry did their handiwork behind closed doors and got the best of us. I had badly underestimated their power and failed to win them over, even though they were the ones we needed most.

In 2003, we tried again, and I was confident we had the votes to win in the House. But agriculture lobbyists mounted a fierce campaign against us, and we lost, 199 to 203. We'd have won by flipping just three "no" votes to our side. It was especially painful that two of the votes against us had come from devoted Humane Society allies who happened to represent rural constituencies. I'd assumed they understood the issue, but I hadn't factored in the pressure they'd feel from farm lobbyists. I'd worked hard but still left too much to chance.

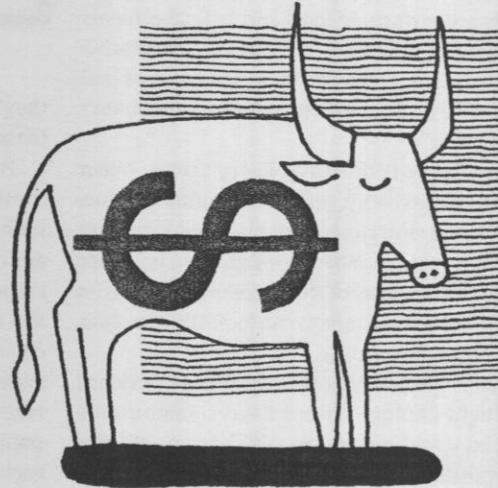
Political sentiment seemed to change six months later, when BSE, or mad cow

disease, was found in a downer cow in Washington state. Almost overnight, 50 countries closed their markets to U.S. beef, and many Americans stopped buying the beef, too. Eventually, Ann Veneman, the U.S. secretary of agriculture, was forced to issue a dramatic announcement banning the slaughter of downer cows.

But still it wasn't over. Unbeknownst to the Humane Society, the cattle industry and the USDA worked quietly in the months and years ahead to weaken implementation of the ban, allowing some of these animals into the food supply again. It took one of our undercover investigations in 2008 to discover that workers at a meatpacking plant were tormenting downer cows to get them to move into the slaughter area. Again the nation was shocked, and 143 million pounds of beef were recalled. Finally, President Obama himself announced a ban, and said there'd be no backtracking on it.

This was success, at last. But it took eight years of near successes followed by unexpected failures, and it came with important lessons.

First, close the deal. Don't declare "mission accomplished" too early. The slap-down from the conference committee taught me that you have to know who wields the power.



**Close the deal.
Don't declare "mission
accomplished" too
early.**

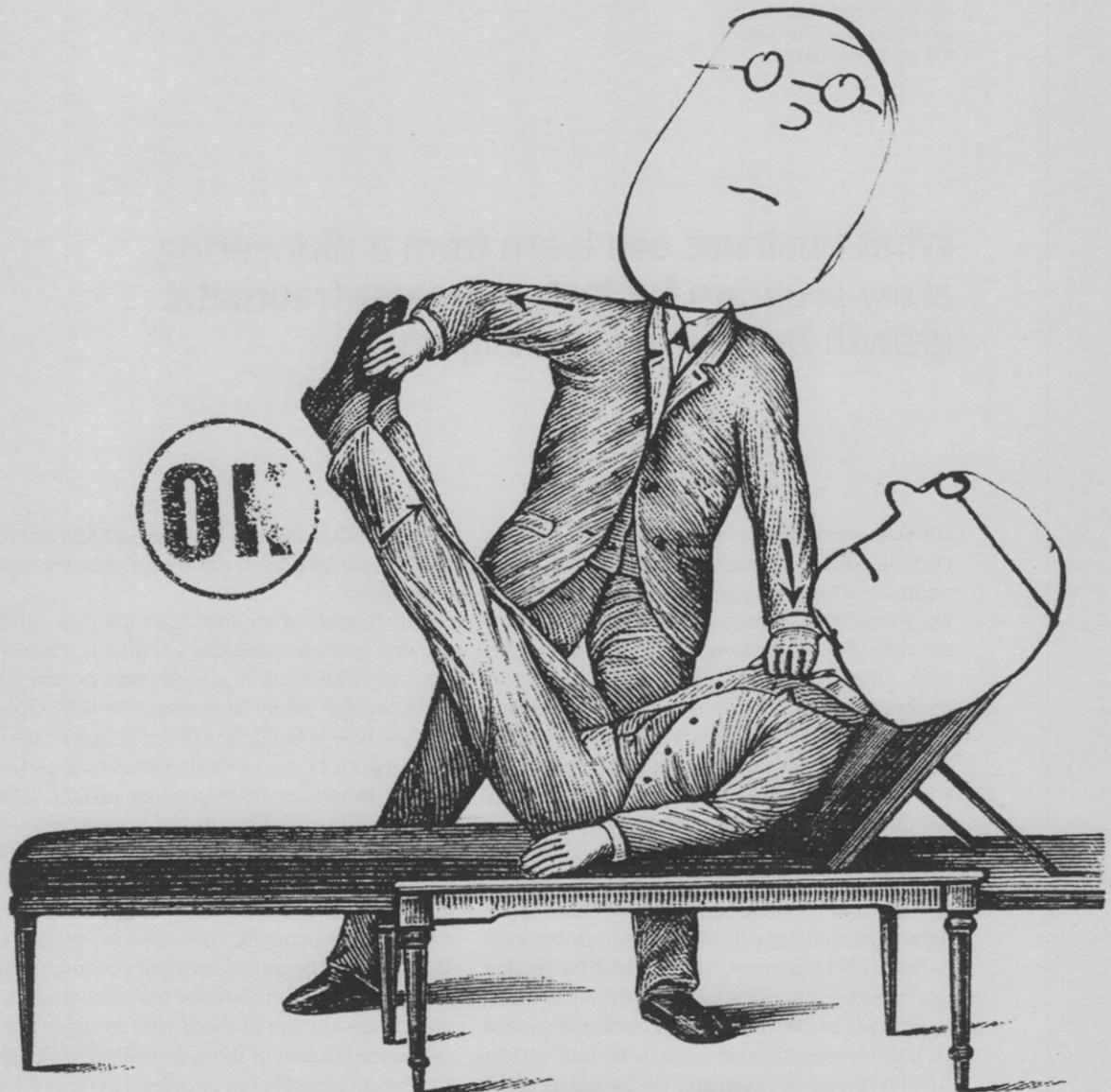
Second, don't assume. Just because a directive has been issued doesn't mean it will be dutifully followed. Trust, but verify. On controversial issues, when so much is at stake, vigilance is required.

Third, court adversaries and allies, and use self-interest as a motivator. I've learned to reach out to farm industry lobbyists and representatives of rural districts. I frame the arguments in terms that resonate with them. When you win by overpowering your opponents, they may try to find ways to subvert your goal. Lasting victory comes when you find common ground. □

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ILLUSTRATION: CHRISTIAN ROUX

Failure Recover from It



Building Resilience



Martin E.P. Seligman is the Zellerbach Family Professor of Psychology and director of the Positive Psychology Center at the University of Pennsylvania. His latest book is *Flourish: A Visionary New Understanding of Happiness and Well-being* (Free Press, 2011), from which this article is adapted.

What business can learn from a pioneering army program for fostering post-traumatic growth by Martin E.P. Seligman

DOUGLAS AND WALTER, two University of Pennsylvania MBA graduates, were laid off by their Wall Street companies 18 months ago. Both went into a tailspin: They were sad, listless, indecisive, and anxious about the future. For Douglas, the mood was transient. After two weeks he told himself, "It's not you; it's the economy going through a bad patch. I'm good at what I do, and there will be a market for my skills." He updated his résumé and sent it to a dozen New York firms, all of which rejected him. He then tried six companies in his Ohio hometown and eventually landed a position. Walter, by contrast, spiraled into hopelessness: "I got fired because I can't perform under pressure," he thought. "I'm not cut out for finance. The economy will take years to recover." Even as the market improved, he didn't look for another job; he ended up moving back in with his parents.

Douglas and Walter (actually composites based on interviewees) stand at opposite ends of the continuum of reactions to failure. The Douglasses of the world bounce back after a brief period of malaise; within a year they've grown because of the experience. The Walters go from sadness to depression to a paralyzing fear of the future. Yet failure is a nearly inevitable part of work; and along with dashed romance, it is one of life's most common traumas. People like Walter are almost certain to find their careers stymied, and companies full of such employees are doomed in hard times. It is people like Douglas who rise to the top, and whom organizations must recruit and retain in order to succeed. But how can you tell

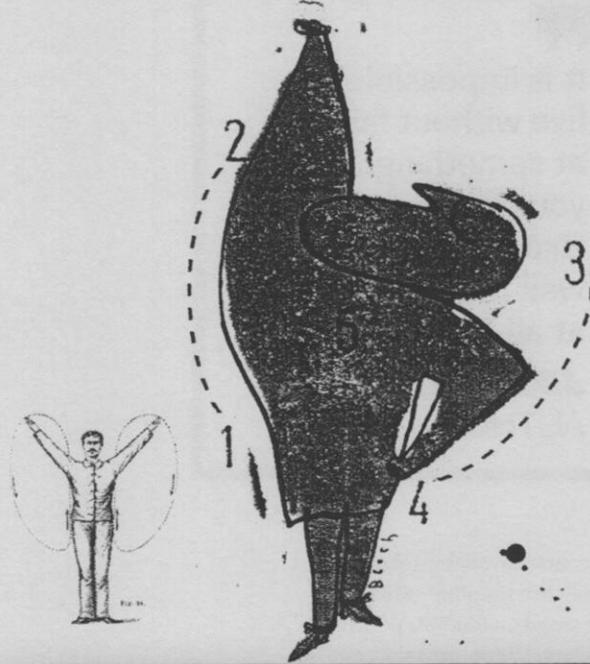
who is a Walter and who is a Douglas? And can Walters become Douglasses? Can resilience be measured and taught?

Thirty years of scientific research has put the answers to these questions within our reach. We have learned not only how to distinguish those who will grow after failure from those who will collapse, but also how to build the skills of people in the latter category. I have worked with colleagues from around the world to develop a program for teaching resilience. It is now being tested in an organization of 1.1 million people where trauma is more common and more severe than in any corporate setting: the U.S. Army. Its members may struggle with depression and post-traumatic stress disorder (PTSD), but thousands of them also experience post-traumatic growth. Our goal is to employ resilience training to reduce the number of those who struggle and increase the number of those who grow. We believe that businesspeople can draw lessons from this approach, particularly in times of failure and stagnation. Working with both individual soldiers (employees) and drill sergeants (managers), we are helping to create an army of Douglasses who can turn their most difficult experiences into catalysts for improved performance.

Optimism Is the Key

Although I'm now called the father of positive psychology, I came to it the long, hard way, through many years of research on failure and helplessness.

In the late 1960s I was part of the team that discovered "learned helplessness." We found that dogs, rats, mice, and even cockroaches that experienced mildly painful shock over which they had no control would eventually just accept it, with no attempt to escape. It was next shown that human beings do the same thing. In an experiment published in 1975 by Donald Hiroto and me and replicated many times since, subjects are randomly divided into three groups. Those in the first are exposed to an annoying loud noise that they can stop by pushing a button in front of them. Those in the second hear the same noise but can't turn it off, though they try hard.



What Are Your Strengths?

The Values in Action signature strengths survey measures 24 positive character traits, among them curiosity, creativity, bravery, persistence, integrity, fairness, leadership, and self-regulation. Participants rank statements on a scale from "very much like me" to "very much unlike me" to determine the areas in which they shine. Here is a sampling:

I find the world a very interesting place.

I always identify the reasons for my actions.

I never quit a task before it is done.

Being able to come up with new and different ideas is one of my strong points.

I have taken frequent stands in the face of strong opposition.

I am always willing to take risks to establish a relationship.

I always admit when I am wrong.

In a group, I try to make sure everyone feels included.

I always look on the bright side.

I want to fully participate in life, not just view it from the sidelines.



You can take the survey free at authentic happiness.org.

Idea in Brief

Failure is one of life's most common traumas, yet people's responses to it vary widely. Some bounce back after a brief period of malaise; others descend into depression and a paralyzing fear of the future.

Thirty years of research suggests that resilience can be measured and taught—and the U.S. Army is putting that idea to the test with a program called Comprehensive Soldier Fitness. The aim of CSF is to make soldiers as fit psychologically as they are physically.

A key component of CSF is “master resilience training” for drill sergeants—a form of management training that teaches leaders how to embrace resilience and then pass it on, by building mental toughness, signature strengths, and strong relationships.

FOCUS ON FAILURE

It is impossible to live without failing at something, unless you live so cautiously that you might as well not have lived at all.”

J.K. ROWLING
AUTHOR

program in which teachers learn techniques for becoming more optimistic in their own lives and how to teach those techniques to their students. We've found that it reduces depression and anxiety in the children under their care. (Another way we teach positive psychology is through the master of applied positive psychology, or MAPP, degree program, now in its sixth year at Penn.)

In November 2008, when the legendary General George W. Casey, Jr., the army chief of staff and former commander of the multinational force in Iraq, asked me what positive psychology had to say about soldiers' problems, I offered a simple answer: How human beings react to extreme adversity is normally distributed. On one end are the people who fall apart into PTSD, depression, and even suicide. In the middle are most people, who at first react with symptoms of depression and anxiety but within a month or so are, by physical and psychological measures, back where they were before the trauma. That is resilience. On the other end are people who show post-traumatic growth. They, too, first experience depression and anxiety, often exhibiting full-blown PTSD, but within a year they are better off than they were before the trauma. These are the people of whom Friedrich Nietzsche said, “That which does not kill us makes us stronger.”

I told General Casey that the army could shift its distribution toward the growth end by teaching psychological skills to stop the downward spiral that often follows failure. He ordered the organization to measure resilience and teach positive psychology to create a force as fit psychologically as it is physically. This \$145 million initiative, under the direction of Brigadier General Rhonda Cornum, is called Comprehensive Soldier Fitness (CSF) and consists of three components: a test for psychological fit-

ness, self-improvement courses available following the test, and “master resilience training” (MRT) for drill sergeants. These are based on PERMA: positive emotion, engagement, relationships, meaning, and accomplishment—the building blocks of resilience and growth.

Testing for Psychological Fitness

A team led by the University of Michigan professor Christopher Peterson, author of the Values in Action signature strengths survey, created the test, called the Global Assessment Tool (GAT). It is a 20-minute questionnaire that focuses on strengths rather than weaknesses and is designed to measure four things: emotional, family, social, and spiritual fitness. All four have been credited with reducing depression and anxiety. According to research, they are the keys to PERMA.

Although individual scores are confidential, the GAT results allow test takers to choose appropriate

basic or advanced courses for building resilience. The GAT also provides a common vocabulary for describing soldiers' assets. The data generated will allow the army to gauge the psychosocial fitness both of particular units and of the entire organization, highlighting positives and negatives. At this writing, more than 900,000 soldiers have taken the test. The army will compare psychological profiles with performance and medical results over time; the resulting database will enable us to answer questions like these: What specific strengths protect against PTSD, depression, anxiety, and suicide? Does a strong sense of meaning result in better performance? Are people who score high in positive emotion promoted more quickly? Can optimism spread from a leader to his troops?

Online Courses

The second component of CSF is optional online courses in each of the four fitnesses and one mandatory course on post-traumatic growth. The implications for corporate managers are more obvious for some modules than for others, but I'll briefly explain them all.

The emotional fitness module, created by Barbara Fredrickson, a professor of emotions and psychophysiology at the University of North Carolina, and her colleague Sara Algoe, teaches soldiers how to amplify positive emotions and how to recognize when negative ones, such as sadness and anger, are out of proportion to the reality of the threat they face.

Family fitness, too, affects work performance, and cell phones, e-mail, Facebook, and Skype allow even soldiers on combat duty, or expats on assignment, to remain intimately involved with their families. A course created by John and Julie Gottman, eminent psychologists specializing in marriage, focuses on building a variety of relationship skills—including fostering trust, constructively managing conflict, creating shared meaning, and recovering from betrayal.

The social fitness module, developed by John Cacioppo, a professor of psychology at the University of Chicago and an expert on loneliness, teaches

empathy to soldiers by explaining mirror neurons in the brain. When you see another person in pain, your brain activity is similar but not identical to what it is when you yourself are in pain. The module then asks soldiers to practice identifying emotions in others, with an emphasis on racial and cultural diversity. This is at the heart of developing emotional intelligence—and diversity in the U.S. Army is a way of life, not just a political slogan.

The spiritual fitness module, created by Kenneth Pargament, a professor of psychology at Bowling Green State University, and Colonel Patrick Sweeney, a professor of behavioral sciences and leadership at West Point, takes soldiers through the process of building a "spiritual core" with self-awareness, a sense of agency, self-regulation, self-motivation, and social awareness. "Spiritual" in CSF refers not to religion but to belonging to and serving something larger than the self.

The mandatory module, on post-traumatic growth, is highly relevant for business executives facing failure. Created by Richard Tedeschi, a professor of psychology at the University of North Carolina at Charlotte, and the Harvard psychologist Richard McNally, it begins with the ancient wisdom that personal transformation comes from a renewed appreciation of being alive, enhanced personal strength, acting on new possibilities, improved relationships, or spiritual deepening. The module interactively teaches soldiers about five elements known to contribute to post-traumatic growth:

1. Understanding the response to trauma (read "failure"), which includes shattered beliefs about the self, others, and the future. This is a normal response, not a symptom of PTSD or a character defect.
2. Reducing anxiety through techniques for controlling intrusive thoughts and images.
3. Engaging in constructive self-disclosure. Bottling up trauma can lead to a worsening of physical and psychological symptoms, so soldiers are encouraged to tell their stories.
4. Creating a narrative in which the trauma is seen as a fork in the road that enhances the appreciation of paradox—loss and gain, grief and gratitude, vulnerability and strength. A manager might compare this to what the leadership studies pioneer Warren Bennis called "crucibles of leadership." The narrative specifies what personal strengths were called upon, how some relationships improved, how spiritual life strengthened, how life itself was better appreciated, or what new doors opened.



The response to trauma includes shattered beliefs about the self, others, and the future.

FOCUS ON FAILURE

5. Articulating life principles. These encompass new ways to be altruistic, crafting a new identity, and taking seriously the idea of the Greek hero who returns from Hades to tell the world an important truth about how to live.

Master Resilience Training

The third and most important component of Comprehensive Soldier Fitness is the master resilience training for drill sergeants and other leaders, given at the University of Pennsylvania; at Victory University, in Memphis, Tennessee; at Fort Jackson, South Carolina; and by mobile teams working with troops in Germany and Korea. MRT can be seen as management training—teaching leaders how to embrace resilience and then pass on the knowledge. The content of MRT divides into three parts—building mental toughness, building signature strengths, and building strong relationships. All three are patterned after the Penn Resiliency Program and use plenary lectures, breakout sessions that include role playing, work sheets, and small-group discussion.

Building mental toughness. This segment of MRT is similar in theme to the online emotional fitness course for individual soldiers. It starts with Albert Ellis's ABCD model: C (emotional consequences) stem not directly from A (adversity) but from B (one's beliefs about adversity). The sergeants work through a series of A's (falling out of a three-mile run, for example) and learn to separate B's—heat-of-the-moment thoughts about the situation ("I'm a failure")—from C's, the emotions generated by those thoughts (such as feeling down for the rest of the day and thus performing poorly in the next training exercise). They then learn D—how to quickly and effectively dispel unrealistic beliefs about adversity.

Next we focus on thinking traps, such as overgeneralizing or judging a person's worth or ability on the basis of a single action. We illustrate this as follows: "A soldier in your unit struggles to keep up during physical training and is dragging the rest of the day. His uniform looks sloppy, and he makes a couple of mistakes during artillery practice. It might be natural to think that he lacks the stuff of a soldier. But what effect does that have on both the thinker and the other soldier?" We also discuss "icebergs"—deeply held beliefs such as "Asking for help is a sign of weakness"—and teach a technique for identifying and eliminating those that cause out-of-kilter emotional reactions: Does the iceberg remain meaning-

THE 13-MONTH CALENDAR

Around the time of the Crash of 1929, HBR got behind a movement to shift to a 13-month calendar. The variation in number of days, the theory went, **caused business reporting discrepancies**. Objections that a new calendar would change most of our **birthdays**, holidays, and anniversaries was **dismissed** in a feature story as **sentimental**.

ful? Is it accurate in the given situation? Is it overly rigid? Is it useful?

Finally, we deal with how to minimize catastrophic thinking by considering worst-case, best-case, and most likely outcomes. For example, a sergeant receives a negative performance evaluation from his commanding officer. He thinks, "I won't be recommended for promotion, and I don't have what it takes to stay in the army." That's the worst case. Now let's put it in perspective. What's the best case? "The negative report was a mistake." And what's the most likely case? "I will receive a corrective action plan from my counselor, and I will follow it. I'll be frustrated, and my squad leader will be disappointed."

Building signature strengths. The second part of the training begins with a test similar to the GAT-Peterson's Values in Action signature strengths survey, which is taken online and produces a ranked list of the test taker's top 24 character strengths. (See the sidebar "What Are Your Strengths?") Small groups discuss these questions: What did you learn about yourself from the survey? Which strengths have you developed through your military service? How do your strengths contribute to your completing a mission and reaching your goals? What are the shadow sides of your strengths, and how can you minimize them? Then the sergeants are put on teams and told to tackle a mission using the team members' character-strength profiles. Finally, the sergeants write their own "strengths in challenges" stories. One sergeant described how he used his strengths

Four Ways To Respond

In master resilience training we explain and demonstrate the four styles of responding: *active constructive* (authentic, enthusiastic support), *passive constructive* (laconic support), *passive destructive* (ignoring the event), and *active destructive* (pointing out negative aspects of the event).

Here's an example:
Private Johnson tells Private Gonzales, "Hey, I just got a promotion."

Active constructive

"That's great. What are your new duties? When do you start? What did the captain say about why you deserved it?"

Passive constructive

"That's nice."

Passive destructive

"I got a funny e-mail from my son. Listen to this..."

Active destructive

"You know there's no extra pay, and it will eat up a lot of your R&R time."

Enhancing mental toughness, highlighting and honing strengths, and fostering strong relationships are core competencies for any successful manager.

of love, wisdom, and gratitude to help a soldier who was acting out and stirring up conflict. The sergeant discovered that the soldier felt consumed by anger at his wife, and the anger spilled over to his unit. The sergeant used his wisdom to help the soldier understand the wife's perspective and worked with him to write a letter in which the soldier described the gratitude he felt because his wife had handled so much on her own during his three deployments.

Building strong relationships. The third part of MRT focuses on practical tools for positive communication. We draw on the work of Shelly Gable, a psychology professor at UC Santa Barbara, which shows that when an individual responds actively and constructively (as opposed to passively and destructively) to someone who is sharing a positive experience, love and friendship increase. (See the sidebar "Four Ways to Respond.") The sergeants complete a work sheet about how they typically respond and identify factors that may get in the way of active and constructive responses (such as being tired or overly focused on themselves). Next we teach the work of the Stanford psychology professor Carol Dweck on effective praise. When, for example, a sergeant mentions specifics (as opposed to saying something general like "Good job!"), his soldiers know that their leader was paying attention and that the praise is authentic. We also teach assertive communication, distinguishing it from passive or aggressive communication. What is the language, voice tone, body language, and pace of each of the three styles, and what messages do they convey?

Enhancing mental toughness, highlighting and honing strengths, and fostering strong relationships are core competencies for any successful manager. Leadership development programs often touch on these skills, but the MRT program brings them together in systematic form to ensure that even in the face of terrible failures—those that cost lives—army sergeants know how to help the men and women under their command flourish rather than flounder. Managers can change the culture of their organiza-

tions to focus on the positive instead of the negative and, in doing so, turn pessimistic, helpless Walters into optimistic, can-do Douglasses. Frankly, we were nervous that these hard-boiled soldiers would find resilience training "girly" or "touchy-feely" or "psychobabble." They did not; in fact, they gave the course an average rating of 4.9 out of 5.0. A large number of them say it's the best course they've ever had in the army.

We believe that MRT will build a better army. Our hypothesis is being tested in a large-scale study under the command of Lieutenant Colonel Sharon McBride and Captain Paul Lester. As the program rolls out, they are comparing the performance of soldiers who have been taught resilience by their sergeants with that of soldiers who haven't. When they are finished, we will know conclusively whether resilience training and positive psychology can make adults in a large organization more effective, as they have done for younger people in schools. □

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"I'm meeting with the board. Get me the quarterly profit figures and my blankie."

Failure Chronicles



Peter Guber is the chairman and CEO of Mandalay Entertainment and a co-owner of the Golden State Warriors basketball team. He has produced or executive produced such films as *Rain Man*, *Batman*, *The Color Purple*, and *Flashdance*.

by Peter Guber, Mandalay Entertainment

Muhammad Ali taught me: Be active in your own rescue.

Failure has been my handmaiden on the road to success. I make movies and I own sports teams; those are two things you can't do without a significant amount of failure. And public failure at that. Not every movie you make will succeed; every sports team eventually loses. If you're not willing to confront failure, you'll become risk-averse. And if you're risk-averse, you're doomed to fail and get stuck there. I was fortunate to learn this early in my career.

In the 1970s, as studio chief of Columbia Pictures, I began developing a film with Muhammad Ali, called *The Greatest*. I worked tirelessly with Ali and his production team to make it a success, but it failed to be the kind of box office hit that befitted one of the greatest athletes of all time. It was a high-profile failure—and I felt terrible. Everyone told me never to do another sports movie. I wanted to run and hide.

Sometime later, I acquired David Remnick's book *King of the World*, another Ali story. I was worried that after the previous flop, he would refuse to support this new film. But when I approached him, Ali told me a story. He talked about a fight he was in where he was knocked down—"flat on my butt," he said. "And I thought, OK. What's next?"

He got up and won the fight. When you don't get up, he realized, there's no way you can win. In fact, getting knocked down is part of being in the business. It's inevitable. But once you know you can get up,

Getting knocked down is part of being in this business.

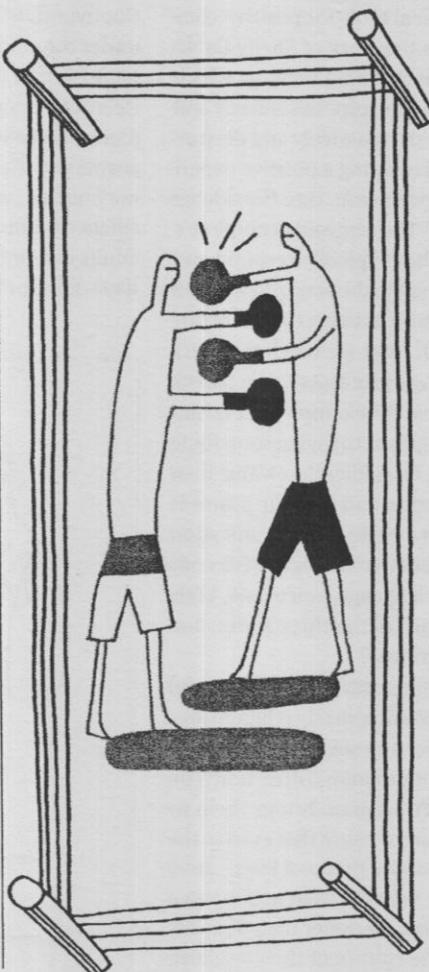
no matter what, you become stronger and resilient.

Muhammad Ali taught me two things with that story: First, being afraid of failure—of getting knocked down—doesn't get you anywhere. Running and hiding is not the answer. You have to be active in your own rescue.

The second thing was the power of a purposeful story. The story you tell yourself when you think you're down for the count—the story that gets you back on your feet—that's what counts the most.

Since then, I've had great successes, but I've also been knocked down plenty. I've had hockey teams that couldn't score, and I've invested in ventures that failed, costing me dearly. When our *Bonfire of the Vanities* was shown on airplanes, people still tried to walk out. But I never have the urge to run and hide. I remember what Ali told me, and I use the power of that story to help myself stay active in my own rescue.

Failure is an inevitable cul-de-sac on the road to success. Keep taking risks—and always get back up. Or you'll never see how great your success can be. □



Failure Recover from It

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The Globe

How China Reset Its Global Acquisition Agenda

The first cross-border takeovers by Chinese companies ended in failure. That hasn't prevented them from trying again—with a whole new approach. *by Peter J. Williamson and Anand P. Raman*

China Inc. sometimes seems unstoppable. The perception is understandable; no other nation has come close to matching the economic strides China has made since the late 1970s. The changes in the country have been so rapid and dazzling, however, that they often blind observers to the fact China has had its share of failure, too.

The cross-border mergers-and-acquisitions spree that Chinese companies went on in the past decade bears ample testimony to that. In 2000, shortly before China acceded to the World Trade Organization, its government realized that local companies would need to be globally competitive to survive and announced a *zou chuqu* (which

loosely translates as "swarm out") policy that permitted local companies to make acquisitions abroad for the first time. Numerous state-owned enterprises, as well as private corporations, jumped at the opportunity. The value of Chinese M&A shot from \$1.6 billion in 2003 to \$18.2 billion by 2006, triggering worldwide unease about the China takeover threat.

Yet it's worth looking back at that first wave of takeovers. Many of those mergers—which included TCL's acquisition of France's Thomson Electronics, SAIC's takeover of South Korea's Ssangyong Motor Company, Ping An's investment in the Belgian-Dutch financial services group Fortis, Ningbo Bird's strategic partnership with France's

Sagem, and the D'Long Group's purchase of America's Murray Inc.—ended in utter failure, with Chinese companies having to pull out of or sell off their acquisitions.

Unlike other developing nations, however, China wasn't paralyzed by failure, and it has quickly—and quietly—changed course to take another shot at its goals. The Chinese, especially the older generation, believe that failure is not about falling down but about refusing to get up. "If you get up one more time than you fall, you will make it through," runs an old Chinese saying. In short order, China's policy makers and executives have refashioned their M&A approach and altered both the kinds of targets they pursue and their rationale for global takeovers.

Instead of buying global brands, sales networks, or goodwill, Chinese companies now mainly try to acquire concrete assets, such as mineral deposits, or state-of-the-art technologies and R&D facilities. In addition, Chinese companies no longer use their overseas takeovers to gain market share abroad; they deploy them to strengthen their positions in the Chinese market.

It's too soon to say whether the new approach is working, but the initial results, which we will describe in the following pages, are encouraging. Wisdom comes from good judgment; good judgment comes from experience, and—say the Chinese—experience comes from all the times you use bad judgment. By failing spectacularly and early, China's takeover artists could well have discovered how to succeed in the future.

A Race off a Cliff

China's global M&A strategy has evolved rapidly over the past decade. In the 1990s, when the government swapped access to China's markets for technologies from abroad, it mostly allowed state-owned enterprises (SOEs) to buy small equity stakes in overseas energy companies and natural resource producers. Beijing preferred that other companies use a *yinjin lai* (or "pull in") strategy, entering into joint ventures, partnerships, and technology-licensing

deals with foreign companies. That approach changed in October 2000, 15 months before China signed the WTO agreement, partly because the government became convinced that Chinese companies would forever play second fiddle if they depended on technology transfers from multinational companies.

Over the next three years, Beijing dismantled several hurdles to cross-border investments that it had erected in the 1990s. In late 2004, Premier Wen Jiabao formally announced, "The Chinese government encourages more enterprises to go global," and the race to buy companies overseas began

lion in October 2004, beating out many bidders, including General Motors. Ssangyong was then struggling under the weight of its debt burden, but it had launched some smart sports utility and recreational vehicles. As South Korea's fourth-largest automaker, it had a 10% share of its home market as well as a growing export business. Buying Ssangyong, SAIC thought, would allow it to improve its automobile development capabilities and make headway in markets such as the United States.

After the deal an SAIC-Ssangyong joint management team drew up plans to swiftly expand manufacturing capacity in

In the five years that SAIC controlled Ssangyong, it invested \$618 million in the Korean auto company—and earned virtually nothing.

in earnest. The number of foreign acquisitions made by Chinese companies rose rapidly: They doubled from 40 in 2003 to 82 in 2006 and reached a peak of 298 in 2008.

However, many takeovers, especially those executed by China's private sector groups, ended quickly and badly. Some acquirers had to sell off their investments, some scaled back their ambitions radically, and some even went broke. To understand why things went wrong, we studied three big headline-grabbing acquisitions of the time—one by an SOE, one by a private company, and one by a joint venture. Together they provide a comprehensive picture of Chinese acquirers' mistakes.

The SAIC-Ssangyong Motor Company saga. Shanghai Automotive Industry Corporation's short-lived attempt to run the South Korean automaker Ssangyong demonstrated that Chinese companies weren't ready to deal with changes in the global marketplace.

One of China's biggest and oldest automobile manufacturers, SAIC picked up a 49% equity stake in Ssangyong for \$500 mil-

lion and launch five new models worldwide. However, things did not go as planned. Rising gasoline prices in 2006 and stringent new emissions standards in Europe and North America sent SUV sales tumbling. During this crisis, SAIC's relations with Ssangyong's powerful trade unions grew strained, culminating in a seven-week strike, and because of cultural reasons, Chinese and Korean executives couldn't agree on how to improve performance. Once the global recession started in December 2007, automobile demand collapsed. Sales of SUVs were particularly hard hit, and Ssangyong's sales fell by 53% in December 2008 compared with the previous December.

SAIC initially supported its subsidiary, buying \$4.5 million worth of Ssangyong's vehicles in late 2008 to sell in the Chinese market. When the situation worsened, however, SAIC unveiled a restructuring plan that included an overhaul of work practices to improve productivity and a 36% reduction in the workforce. Those were its conditions for pumping \$200 million more into the Ko-

China Inc.'s Buying Binge

After the government declared its support for overseas takeovers, China's corporations rushed abroad. The value of foreign acquisitions rose dramatically after 2004, before slowing down during the global recession. In 2010, however, Chinese companies hit the takeover trail again.



rean company. Ssangyong's unions refused to endorse the plan, protested, and initiated legal action against SAIC for allegedly transferring to China SUV designs and technologies developed with South Korean government funding—a charge SAIC denies.

Left with no alternative, Ssangyong filed for bankruptcy protection in January 2009. That spring, angry workers went on strike again, barricading themselves inside the automaker's plant near Seoul for 77 days. Even as Ssangyong struggled, SAIC wrote off most of its original investment, blamed the losses for a 26% drop in its first-half profits for 2009, and in mid-July 2010 diluted its holdings to just 3.79%. In the five years that SAIC controlled Ssangyong, it invested \$618 million in the company—and earned virtually nothing.

The D'Long Group–Murray disaster. The first overseas takeovers by China's private sector companies also went badly. One of the first to push into North America was the \$4 billion D'Long Group, a new-style conglomerate with businesses ranging from tomato paste to automobile parts. In 2000 it entered the lawn mower and garden equipment business by acquiring Murray Inc., in a deal backed by GE Capital, which provided \$400 million in financing.

Murray, based in Brentwood, Tennessee, was then one of the leading brands of outdoor power equipment in the West. Its profits had been falling steadily because of price-based competition from overseas (read: China). After the acquisition, D'Long integrated its Chinese manufacturing facilities with Murray's, identified lower-cost sources of components, and restructured the organization to reduce overhead.

Soon after the integration began, the American company suffered from a series of quality issues and product recalls. In 2004, for instance, it had to recall nearly 100,000 lawn tractors because their fuel tanks were prone to developing large cracks. These problems dented the brand, made it difficult for Murray to raise money, and caused sales to slide.

Meanwhile, after the Chinese government hiked interest rates and reduced money supply to cool down the overheated economy, D'Long found itself running out of resources. With its options becoming limited, the group raised capital by pledging the shares of its listed companies as collateral for loans, making rights issues, and providing guarantees for loans. To keep the cycle going, it illegally started using funds from its trusts and finance companies to prop up its share prices.

In 2004 the house of D'Long collapsed, after the China Banking Regulatory Commission named it among the country's highest-risk companies and banks refused to extend it any more loans. Murray Inc. filed for bankruptcy in November 2004. Its operations were shut down, and Britain's Briggs & Stratton bought its brands.

The TCL-Thomson debacle. If one deal epitomized the inability of Chinese companies to assimilate foreign corporations, it would be TCL's acquisition of France's Thomson. China's largest maker of color televisions and second-largest maker of mobile telephones, TCL started promoting its brand internationally in 2000. Emboldened by its early successes, in January 2004 it struck a \$560 million deal to merge its TV and DVD operations with those of con-

sumer electronics giant Thomson. The new company, TCL-Thomson Electronics (TTE), in which TCL held a 67% equity stake, went into operation that July.

By 2006, it was clear that TCL had bitten off more than it could chew. TCL hadn't examined Thomson's balance sheet carefully before investing in the venture. It had refused to hire M&A experts to perform due diligence, and when a Boston Consulting Group analysis suggested that too much risk was involved, TCL's chairperson, Li Dongsheng, ignored the "pessimistic" report.

TCL just hadn't realized that the Thomson brand in Europe and Thomson's RCA brand in America were both old and tired. In fact, the French manufacturer's TV and DVD operations had lost more than \$100 million in 2003, which is why the company had been looking for an investor. The deal was a complex one, which didn't help. For instance, TCL had to negotiate separate contracts to access those parts of the business that weren't transferred to TTE, such as the sales division and critical intellectual property.

Above all, TCL lacked the capabilities to assimilate Thomson's people. The shortage of Chinese managers with international experience and expertise in global marketing proved to be a major constraint. The new company was dysfunctional because people came from different cultures and had different routines. When TCL imposed its practices on the venture, culture clashes erupted. For example, Chinese executives were shocked to find that if they tried to schedule meetings on weekends—a regular occurrence in China—their French counterparts would turn off their phones and be

China's M&A Mistakes

unavailable. TCL also had been expanding so rapidly that it didn't have the bandwidth to cope with Thomson.

Because of its troubles in Europe, TCL suffered a combined loss of RMB 5.07 billion (\$680 million) in 2005 and 2006. In May 2007, TCL declared the European operations insolvent and overhauled them by doing away with Thomson's business model and distribution channels—and even the brand. It closed five of its seven European centers and terminated a large number of employees. The grand alliance between TCL and Thomson had taken just three years to unravel.

As these cases and others show, the first wave of Chinese acquirers bought foreign companies mainly to grow their global sales. Their logic seemed impeccable: Take low-cost Chinese manufacturing capacity and connect it to the global brands and distribution relationships of a Western company hampered by high costs. What sounded like a dream marriage of Chinese manufacturing with American or European marketing proved to be a nightmare, however, because of the errors committed by the acquirers. (See the box "China's M&A Mistakes.")

Beijing Gets Cold Feet

By 2007 the Chinese government was concerned about the problems its companies were facing overseas. The last straw was probably the troubles that Lenovo—the poster child for Chinese M&A after its acquisition of IBM's PC division for \$1.75 billion in December 2004—ran into with its global push. Although the merger made the Chinese company the world's third-largest PC maker, after HP and Dell, a year later it slipped to fourth place behind Taiwan's Acer. As Lenovo struggled with integration issues, the exodus of technical employees, and substandard service, its market share and profitability slid further. For instance, its net profits from July through September 2008 fell to \$23.4 million—a 78% decline year-on-year.

Word then went out from Beijing that only SOEs and private companies with adequate managerial capabilities and merger

1 Pursuing inexpensive deals and unprofitable businesses. Such targets usually require large investments of time and money to turn around.

2 Focusing on the financials and ignoring intangibles such as systems, people, processes, and brand values while evaluating targets.

3 Skipping key steps in the M&A process.

4 Picking up companies whose value consisted mostly of brands, systems, people, and culture, which are difficult to integrate across borders.

Failing to figure out in advance how to use acquisitions' products and services in the Chinese market.

Trying to handle knotty integration issues without the right capabilities or people.

physical assets that didn't run the risk of having their value decimated by inflation looked more appealing. The stock market crash also made overseas company valuations attractive. The government and its agencies, like the State-Owned Assets Supervision and Administration Commission, keen to ensure that Chinese companies became globally competitive before they allowed the renminbi to appreciate, began to rethink their policies on M&A.

The Revamped Approach

An analysis of half a dozen recent takeovers by Chinese companies suggests that a new three-pronged strategy is helping China Inc. make its global acquisitions perform better.

A shift to hard assets. Instead of purchasing brands and distribution relationships, Chinese companies are increasingly buying tangible assets such as mineral deposits and oil reserves. Performing due diligence on hard assets is relatively straightforward; they can be objectively assessed by engineers and don't require evaluations of variables such as corporate culture or brand essence. Integration is simpler because companies with tangible assets have proven supply chains, and the acquirers can leave their operations more or less alone. Besides, there's a strong demand in China for these companies' output.

By 2009 more than 70% of Chinese deals involved either energy or natural resources. Among them: Yanzhou Coal's \$2.8 billion takeover of Australia's Felix Resources, and Sinopec's \$7.2 billion acquisition of the Swiss-registered oil and gas company Addax.

A quest for high tech. The Chinese are also targeting organizations that can deliver emerging and new technologies and possess offshore R&D facilities. Their value lies in their intellectual property, knowledge, and research and design processes. Although integrating those assets is a bit more difficult, it's less complicated and risky than assimilating an entire organization.

Patents and blueprints can be beamed to China, where an engineer can easily in-

tegration skills should attempt takeovers. The government also signaled that as far as possible, Chinese companies should pursue profitable targets. A line had been drawn—and no one would be allowed to cross it. When the unknown Sichuan Tengzhong Heavy Industrial Machinery wanted to acquire General Motors' Hummer division in June 2009, the National Development and Reform Commission refused to endorse the bid, even though China's Ministry of Commerce didn't think it was a bad idea. The deal fell through—one of the first takeover attempts that the Chinese government publicly shot down.

However, with China's foreign exchange reserves crossing \$2 trillion in 2009, diversification beyond U.S. Treasury bonds into

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terpret them. R&D centers have relatively small staffs, although they do need a lot of motivation. Given the acquirers' willingness to invest in R&D and the prospect of adapting and selling their innovations to the Chinese market, most researchers are excited about takeovers by Chinese companies. Interfaces with the Chinese organization are simple: Foreign engineers come up with ideas for new products and processes, and the Chinese use their skills to scale up the inventions and drive down their manufacturing costs.

One company attempting this kind of takeover is Xi'an Aircraft Industry Corporation (XAC), a subsidiary of the state-owned Aviation Industry Corporation of China (AVIC). AVIC's first several attempts to buy aircraft manufacturers met with failure, so it was a surprise to industry experts when, in October 2009, XAC announced that it had reached an agreement to buy 91.25% of Austria's Fischer Advanced Composite Components. FACC is one of the leading suppliers of the composites used in everything from airplane wings to engine nacelles and cabins. However, it had invested heavily in supporting the new generations of the Boeing Dreamliner and Airbus A350 XWB, and when those programs stumbled, FACC found itself struggling with losses and depleted cash reserves.

The Chinese company agreed to invest \$60 million in FACC as part of an undisclosed purchase price estimated to be near \$135 million. FACC's management thus secured the company's financial future, obtained capital for expansion, and got access to the booming Chinese market through AVIC. In turn, XAC gained leading-edge composite materials technology and a large pool of engineers that its parent, AVIC, could use in China's aircraft programs, including the development of the ARJ21 regional jet and the C919, which will compete with the Airbus A320 and Boeing 737.

Meng Xiangkai, XAC's vice chairman, doesn't wish to change FACC into a Chinese company in Europe. He wants to retain the management culture that underpins FACC's success in high-tech R&D.

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The pursuit of growth at home. In a reversal of strategy, some Chinese companies are no longer using takeovers to gain market share abroad. Instead, their goal is to strengthen their positions at home. This fits in with the Chinese government's desire to boost domestic consumption in the aftermath of the global recession.

After its \$1.8 billion acquisition of Volvo in 2010, Geely announced that its first goal would be to integrate Volvo's technology and design know-how into three new manufacturing facilities—in Shanghai, Chengdu, and Daqing—to serve the Chinese market. The plan is to ramp up Volvo's sales in China from 24,000 to 300,000 cars a year—and nearly double Volvo's worldwide sales.

The new strategy has distinct advantages over the old approach. One, the Chinese market is a good environment in which to test and understand an acquired company's assets and capabilities. Two, rather than trying to wrest share from entrenched rivals abroad, the acquirer can reap a deal's benefits quickly in the fast-growing local market. Three, integrating new technologies, products, and know-how is easier at

Rather than trying to wrest share from entrenched rivals abroad, acquirers are using cross-border deals to reap benefits quickly in the Chinese market.

home, where the parent's executives know the terrain well. Finally, since the deal provides the employees of the acquired company an opportunity to apply their skills to the world's most promising market, it helps them see the takeover in a positive light.

Another company that has deployed this approach successfully is China National Chemical Corporation (ChemChina), which took over a French manufacturer of animal nutrition additives, Adisseo, in January 2006. The world's second-largest producer of methionine, a key additive used in the poultry industry, Adisseo had a global market share of 29%, but it had failed to make any headway in China's rapidly growing poultry sector and couldn't expand on its own because of a weak balance sheet that bore the scars of the severe acute respiratory syndrome (SARS) outbreak in 2003.

By buying the French company for \$480 million, ChemChina obtained methionine production technologies that were then nonexistent in China. As one of the country's largest chemical producers, it already had the distribution channels and ground organization needed to rapidly ramp up sales. ChemChina's chairperson, Ren Jianxin, aptly calls the M&A strategy "going out" and "bringing in." He sold the idea to Adisseo's top management, which recommended the ChemChina bid to shareholders mainly because it would open the door to the Chinese market.

So far, no one has been disappointed. Given the responsibility of growing the methionine business in China, Adisseo's managers and engineers have made ChemChina the country's largest supplier of poultry additives.

In keeping with the partnership approach to M&A that other emerging giants

have used, Chinese companies are increasingly leaving incumbent managements in place. (See "Don't Integrate Your Acquisitions, Partner with Them," by Prashant Kale, Harbir Singh, and Anand P. Raman, HBR December 2009.) Some even task the acquired teams with running the Chinese operations as well. After ChemChina acquired Adisseo and Rhodia's silicone unit, it made their CEOs responsible for those businesses both globally and in China.

Once they grow profits in the booming Chinese market, it's easy for acquirers to set off that elusive postmerger cycle of growth. Wanxiang, China's \$10 billion automotive components powerhouse, is deploying this two-step plan. After buying more than a dozen companies in the developed world and integrating their technologies and know-how into its Chinese operations, Wanxiang is now aiming to build global market share by investing in several overseas subsidiaries.

KNOWING WHEN to walk away from a deal is usually the hallmark of M&A sophistication. At least some Chinese acquirers are finally doing it. For instance, Bright Food, a leading food company based in Shanghai, wasted more than a year trying to buy Sucrogen before losing out to Singapore's Wilmar last July. In December 2010 it came close to acquiring GNC, the American health products retailer, but just a month later Bright Food dropped out of the negotiations, apparently because the price was too high. Ten years ago, Chinese companies would have insisted on clinching a deal at any price. That they no longer do so is perhaps the brightest sign that China Inc. is learning from its M&A mistakes. □

China's New M&A Approach

Buying physical assets such as oil fields and natural resources rather than intangible ones such as brands.

Looking for companies or organizations that possess state-of-the-art technologies and global R&D facilities.

Using overseas takeovers to strengthen the company's position in the Chinese market rather than in foreign markets.

Failure Chronicles



Whitney Johnson is a founding partner of Clayton M. Christensen's investment firm, Rose Park Advisors.

by Whitney Johnson, Rose Park Advisors

I lost the friendship, along with a painful amount of money.

I love hearing about—and investing in—other people's dreams. Unfortunately, my first foray into funding a fledgling dream became a living nightmare.

Several years ago, a friend came to me with her idea of starting a magazine. I thought she had a strong concept for an underrepresented topic in the women's lifestyle space—so much so that in addition to investing cash, I persuaded my husband to act as chief operating officer for the start-up.

As we negotiated the shareholder structure, I was fair to a fault. An entrepreneur friend had just watched his equity stake go through massive dilution when his venture backers increased the valuation of his company. With his experience fresh in my mind, I resolved not to become like those investors. So, notwithstanding my significantly larger contribution of cash (in both equity and unsecured loans) and my husband's contribution of effort, we agreed to be minority shareholders with limited rights. If the business worked, we had less upside. If it failed, we stood to lose far more. In retrospect, this was naive.

As we moved from idea to execution, I asked another friend to take a key role in the project. She told me repeatedly: You need to better articulate the business plan, especially the decision-making process. But I refused to listen. Pointing to the importance of discovery-driven planning, I told her that we would "figure it out." Because my husband and I were the providers



of working capital, I had the luxury of being cavalier.

We got off to a great start: The magazine was written up in the *New York Times*, and after just a few months, circulation reached 100,000. But the success was short-lived. In neglecting to craft a detailed business plan, we had failed not only to chart a path to profitability but also to put in place the processes that would allow us to make tough decisions. Who had the final say on the strategic direction? Cover art? Budget? Print runs? Hiring? We were at loggerheads with our partner quite often, but thanks to

Investing in an entrepreneur is a lot like falling in love. Only later do flaws become apparent.

the management and deal structure I had freely agreed to, my husband and I had little say in the critical decisions.

Because we hadn't hammered out exactly how we would operate, infighting distracted us, cash became a concern, and the business imploded. My husband and I lost the friendship, along with a painful amount of money.

Investing in an entrepreneur is a lot like falling in love. At first, we just see the best; only later do flaws and failings become apparent. No one's perfect, of course. But sometimes our partners' weaknesses in combination with our own constitute a deadly cocktail.

It would be disingenuous to say I have no regrets. This failure was dearly bought. It was a severe blow to both my ego and my bottom line. But the lessons I learned about setting boundaries and establishing rules of engagement were invaluable. I now invest more effectively in stocks and start-ups, as well as in people and their dreams.

Failure was worth every cent. □

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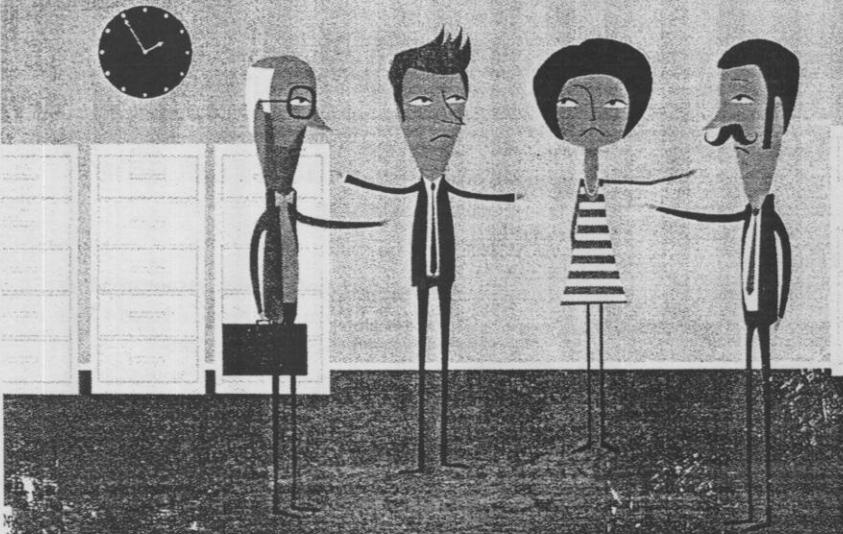
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MANAGING YOURSELF

Can You Handle Failure?



Inappropriate responses to failure can derail your career. Figure out what “type” you are and use these strategies to change your bad habits. *by Ben Dattner and Robert Hogan*

In his brilliant 1950 film, *Rashomon*, the Japanese director Akira Kurosawa depicts the story of a rape and murder four times, from the perspectives of four characters. The message is clear: Different people can see the same events in dramatically different ways.

In the workplace this phenomenon is particularly evident when it comes to underperformance and failure. An outcome that an employee regards as satisfactory may be seen by his boss as

entirely unacceptable. When a project is an unequivocal flop, colleagues disagree over the reasons why. These reactions, and their effect on workplace relationships, often become more problematic than the original event. As a result, how people respond to negative feedback is of great importance to managers and organizations and is a major determinant of career success.

Consider the case of a pharmaceutical company seeking FDA approval for a new use of an existing drug. (Some

details have been changed to protect client confidentiality.) Wendy, a talented researcher, was put in charge of the large-scale data analysis required to file an application. She considered several approaches and recommended the one she thought best balanced the need for accuracy and comprehensiveness with the imperative to complete the work quickly and on budget. Her boss, George—the company’s head statistician—agreed with the plan, and together they presented it to the vice president of medical affairs, Don. Although Don would have liked a more thorough approach, he recognized that it would be more expensive, and he signed off on the recommendation.

After months of work the analysis failed to demonstrate the efficacy of the drug for the new use, and the application to the FDA had to be scrapped. Reactions varied. Don blamed the statistics department, and especially George, for recommending the approach it had taken. George did not think that he and his team were at fault, and he was angry with Don for allowing financial pressures to influence their choice in the first place. The two men struggled to work together. Wendy, meanwhile, felt she had personally fallen short and began having trouble focusing on her other assignments.

How could three people have such different views of the same situation?

A Matter of Type

Personality psychology provides a research-based behavioral science framework for identifying and analyzing

Recognize Your Type



The 11 personalities below have dysfunctional reactions to blame.

These types represent roughly 70% of the U.S. population.

BLAMES OTHERS

EXTRAPUNITIVE

EXCITABLE: "VOLATILE GUARDIAN"
Overreacts to minor mistakes

Determines failure prematurely

CAUTIOUS: "SENSITIVE RETIRER"
Expect failure to occur

Is too defensive to learn from feedback

SKEPTICAL: "WARY WATCHER"
Believes he will be unfairly blamed

Sees only criticism in constructive advice

LEISURELY: "RATIONALIZING BLAMER"
Looks for and offers up excuses

Often blames whoever assigned the task

BLAMES ONESELF

INTROPUNITIVE

DILIGENT: "MICROMANAGER"
Criticizes himself for even minor errors
Is so concerned about failure that he may suffer "analysis paralysis"

DUTIFUL: "MARTYR"
Accepts more blame than she deserves in order to preserve work relationships
Blames herself so harshly that others typically refrain from criticizing her

DENIES BLAME

IMPUNITIVE

BOLD: "BIG PERSON ON CAMPUS"
Becomes angry or hurt when blamed

Ingratiates herself with her superiors in the hope of avoiding blame

MISCHIEVOUS: "HIGH-WIRE WALKER"
Denies his role in failure; may deny that failure has even occurred

Distorts information to avoid blame

RESERVED: "INDIFFERENT DAYDREAMER"
Ignores potentially helpful feedback

Seems not to care about failure or blame

COLORFUL: "THESPIAN"
Expect forgiveness for any and all failures

Would rather be blamed than ignored

IMAGINATIVE: "ASSERTIVE DAYDREAMER"
Offers complex explanations for failures

Seems anxious about being blamed in the future but indifferent in the present

how people respond to failure and assign blame. Using data on several hundred thousand managers from every industry sector, we have identified 11 personality types likely to have dysfunctional reactions to failure. For example, there is the Skeptical type, who is very smart about people and office politics but overly sensitive to criticism and always on the lookout for betrayal; the Bold type, who thinks in grandiose terms, is frequently in error but never in doubt, and refuses to acknowledge his mistakes, which then snowball; and the Diligent type, who is hardworking and detail oriented, with very high standards for herself and others, but also a micromanaging control freak who infantilizes and alienates subordinates. These types represent roughly 70% of the U.S. population. (See the sidebar "Recognize Your Type.")

The 11 types can be divided into the three broad categories proposed by the psychologist Saul Rosenzweig in the 1930s, which were based on a test that he had developed to assess anger and frustration. Some people are *extrapunitive*—prone to unfairly blaming others. Some are *impunitive*: They either deny that failure has occurred or deny their own role in it. And some are *intropunitive*, often judging themselves too harshly and imagining failures where none exist.

In our pharmaceutical example, Don, an Excitable type, exemplifies extrapunitive tendencies. He takes the statistics team to task instead of accepting any personal responsibility or attributing the failure to the drug itself. Extrapunitive responses are all too common in the business world. Seemingly every time executives testify before Congress—whether it's Tony Hayward, then BP's CEO, disavowing blame for the oil spill, or Richard Fuld, then Lehman Brothers' CEO, disavowing blame for the financial crisis—they point fingers at any organization except their own. Interestingly, long before they found themselves in the hot seat, both Hayward and Fuld were faulted for other instances of mismanaging blame. (HBR tried to



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reach Hayward and Fuld to give them the opportunity to respond but received no reply.)

The chief statistician, George, a Bold type, was impunitive, denying that he and his team had anything to do with the bad outcome. One well-known executive who has been accused of this sort of behavior is Carly Fiorina, a past CEO of Hewlett-Packard. Disgruntled former subordinates have described her as a self-promoting attention seeker who ignored integration challenges and day-to-day operations following HP's 2002 merger with Compaq and took no responsibility when the combined company failed to live up to its potential. When the HP board suggested that she delegate greater authority to her team and more power to the heads of key business units, she refused and was subsequently dismissed. (When HBR contacted Fiorina's chief of staff about this article, she declined to comment.)

Though less common than extrapunitive and impunitive personality types, people with intropunitive tendencies can also be problematic. The researcher Wendy, a Diligent type, exhibited this behavior by taking on excessive blame. This may have been due in part to her gender: Because of their socialization and other cultural influences, women are more likely than men to be intropunitive.

The underlying theme of our research is that many managers perceive and react to failure inappropriately and therefore have trouble learning from it—leading to more failures down the road. Many of us have at some point assigned (or avoided) blame in a self-serving way, only to suffer negative fallout; on the flip side, we may take self-criticism too far, resulting in paralysis and stagnation. To foster and thrive in a productive work environment, we need to recognize and overcome these tendencies.

How to Change Your Stripes

Fortunately, managers at all levels of organizations, and at any stage of their careers, can fix their flawed responses

to failure. Here are some key steps you should take:

Cultivate self-awareness. First, it's important to determine whether you fall into one of the three categories. Several personality tests can help you assess your interaction style. Although the Myers-Briggs Type Indicator is probably the best known, others have more empirical support. One well-established model we've found particularly helpful is the Big Five, which measures openness to experience, conscientiousness, extroversion, agreeableness, and neuroticism, along with subfactors of these dimensions. It does a good job of illuminating how you deal with failure in yourself and others. For example, you may find that you score high on the *achievement-striving* subfactor of the conscientiousness dimension, indicating that you may become easily distressed if you don't meet ambitious goals. Or you might score high on the *anger* subfactor of neuroticism, suggesting a tendency to disproportionately fault others for minor errors and to exaggerate their gravity. (To assess yourself on the five dimensions and their subfactors, you can take the IPIP-NEO test, available free at personal.psu.edu/j5j/IPIP/iipineo120.htm.)

Another useful exercise is to reflect on challenging events or jobs in your career, considering how you handled them and what you could have done better. You might ask trusted colleagues, mentors, or coaches to evaluate your reactions to and explanations for failures. Pay close attention to the subtleties of how people respond to you in common workplace situations, and ask for formal or informal 360-degree feedback; you may be surprised at what you discover.

For example, one media industry CEO we've worked with, an Excitable type, saw no problem with his habit of forcefully and publicly pointing out subordinates' minor errors. During an executive-coaching process he learned that his employees perceived him as extrapunitive. He realized that they had a more hierarchical worldview than he did and that he

had underestimated how criticism from him—the boss—might affect them. He also came to accept that small mistakes should be treated differently from big ones, and that feedback on them should be balanced with encouragement.

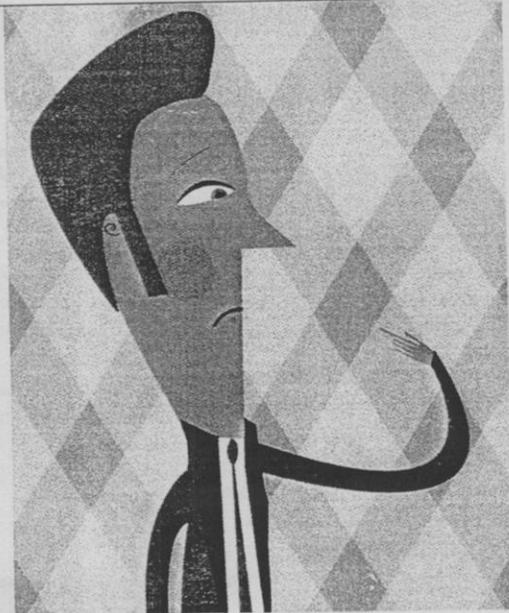
Self-awareness is also helpful for people in the other two categories. If you find that others often see failure where you don't or if you have a hard time pinpointing times when you've failed, you might be impunitive (or at least risk coming across that way). At the other extreme, if you're constantly anxious about failing or if colleagues often reassure you that things aren't as bad as you think, you may be intropunitive.

Although not everyone has the time, inclination, or resources to get the kind of coaching or counseling necessary to surface and address deep psychological issues with respect to failure and blame, everyone can undertake and benefit from this sort of reflection.

Cultivate political awareness. Even if you've analyzed your behavior and think that you act appropriately with respect to blame, your colleagues might disagree. As the media industry CEO learned, you must know your audience and recognize that each situation is different. Behavior that was appropriate in the past might be perceived as extrapunitive, impunitive, or intropunitive in a new role or company. Whereas self-awareness helps you understand what messages you're sending, political awareness helps you understand what messages others are receiving. It requires that you know how your organization defines, explains, assigns responsibility for, and attempts to remedy failure.

Take the case of a COO who had recently joined a health care nonprofit. As part of a large-scale change effort, he was asked to lead a task force that would identify inefficient processes and make recommendations for improvements. Other members of the executive team were assigned to lead other groups. Because he was very busy with his day-to-

When a failure has occurred, don't respond impulsively. It's not always possible to right the wrong, but it's almost always possible to make things worse.



day work, the COO and his task force fell behind. When the CEO held a meeting to discuss the various groups' progress and share their findings, the COO, a Reserved type, simply described his team's activities, making no mention of their missed deadlines and failure to deliver any results. This made the CEO angry; he perceived the COO's behavior as impunitive and felt that it set a bad example for the other task forces. Fortunately, the CEO was not a blaming type. After the meeting he privately told the COO that although falling behind schedule might have been unavoidable, he had to take responsibility for the delay. The COO realized that the nonprofit's culture was different from the cultures he'd experienced at other companies. In his previous jobs, leaders were expected to hide their shortcomings, not acknowledge them as a means of showing their commitment to improving. The COO had to learn how to criticize himself, appropriately and publicly, in order to succeed in his new job.

Political awareness involves finding the right way to approach failure within your specific organization, department, and role. An intropunitive person might be effective at a small, highly collegial company but have to change his ways at a larger, more competitive one, where rivals might take advantage. An extrapuni-

tive boss who only slightly softened her criticisms when independently running a sales department might have to tone them down further when coleading a cross-divisional team.

Embrace new strategies. Once you're aware of your bad habits, you can move toward more-open, adaptive responses. The strategies needed can work for any of the dysfunctional types. The first is to *listen and communicate*. It sounds obvious, but most of us forget to gather enough feedback or sufficiently explain our actions and intentions. Especially when it comes to credit and blame, never assume that you know what others are thinking or that they understand where you are coming from.

The second is to *reflect on both the situation and the people*. At the end of each project or performance cycle, think about things that might have pushed you or others into extrapunitive, impunitive, or intropunitive reactions. How did you respond? How did your colleagues? Was everyone on the same page? If not, why? What effect did situational and interpersonal factors have on the outcome?

The third strategy is to *think before you act*. When a failure seems to have occurred, don't respond immediately or impulsively. It's not always possible to right the wrong, but it's almost always possible to make

things worse by overreacting in a highly charged situation. If you become extrapunitive, others may become impunitive. If you become intropunitive, others may pile on. Take the time to consider several possible interpretations of the event and to imagine various ways you might respond.

The fourth strategy is to *search for a lesson*. Mistakes happen. Sometimes a colleague or group of colleagues is at fault. Sometimes the responsibility lies with you. Sometimes no one is to blame. Look for nuance and context and then create and test hypotheses about why the failure happened, to prevent it from happening again.

When the talented chief technology officer of an internet company, a Skeptical type, discovered that his department's high turnover rate was caused by what employees described as an extrapunitive leadership style, he resolved to use these strategies. Previously he would excoriate his team if projects ran late or did not achieve their goals, refusing to listen to any explanations. The problem, he now learned, wasn't that his employees lacked competence; it was that they didn't always understand his instructions and were afraid to request clarification. So his first step was to check in with them to make sure everyone knew what he wanted. If results were unsatisfactory nonetheless, his initial response was still to criticize—but now he also spent time analyzing how the people and the situation had contributed to what went wrong. He started taking "deep dives" into failed projects, assigning blame only after careful consideration. Because of this approach, staff members began to share more information with him, which helped everyone identify weaknesses and oversights that had affected results. They also grew more comfortable telling him about minor problems earlier, making the problems less likely to cascade. Morale and productivity improved, and turnover decreased.

Let's look at how these strategies can benefit the other types. An executive who learns that he is coming across as impunitive, as the COO at the health care



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Case Study: High-Tech Industry

High-tech companies operate in a complex supply chain environment where fragile inventory, complicated products, rapid product life cycles, and narrow margins put constant pressure on market share and financial performance.

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of all sizes keep the pipeline lean and flowing with a full suite of transportation, logistics, and customs brokerage services.

In the wake of the recent economic downturn, a survey of high-tech companies found that increased visibility into their supply chain and greater customer responsiveness are their top initiatives. UPS is a central source to help high-tech manufacturers drive post-sales efficiencies, improve business performance, and increase customer satisfaction.

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With more visibility and control over global inventory and critical service orders, companies in industries such as high-tech can respond faster and more efficiently to customer needs. When a parts request is entered, the system gives companies access to real-time inventory data to locate the ideal warehouse to fulfill the request and then selects the best routing to meet deadlines.

This system provides visibility into the total delivery process, enabling users to see when the order is placed, picked up, on flight to a destination, delivered, and more. An automated e-mail or fax feature keeps customers informed of shipping milestones and can provide notification of changes to flight schedules for commercial airlines carrying their parts. In addition, "Closest Warehouse" functionality allows companies to identify the warehouse closest to the final destination for single or multiple parts orders. An "Inventory Inquiry"

feature determines on-hand, reserved, and available inventory quantities by global warehouse location. Once orders are complete, companies can print documents such as labels and bills of lading in multiple languages, including Japanese and Chinese, making OMS a truly global solution.

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Case Study

A complex project for the space station must come in on time and on budget—but the push for speed might be its undoing. *by Tom Cross*



The Experts



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A Rush To Failure?

There is absolutely no reason why the contractors shouldn't be able to give us rapid product development and flawless products—speed and quality both,” David MacDonagle said as he tried to light a cigarette. The warm wind, portending rain, kept blowing out his matches. Finally he gave up and slipped the cigarette back in his pocket.

MacDonagle, the head of the Canadian Aeronautics Administration, was nervous. Everyone at CAA headquarters was nervous. Very shortly, the project that many of them had devoted the past four years to would have its first real-world test, 350 kilometers above the earth. Feeling cooped up in the executive offices and oppressed by the presence of the media, MacDonagle had gone outside to breathe some air—actually, some tobacco smoke—and had invited the sharp young program manager Samantha Van Sant to join him.

Van Sant, a former Canadian army major, had a lot of skin in the project too. Since 2006 she'd been managing the two contractors the CAA had commissioned to build the \$1.2 billion set of giant robotic arms known as Retractable Extended-

Arms Compatible Holder, or REACH, for the International Space Station.

“So how do you deal with nerves?” MacDonagle asked.

“I usually go out for a run,” Van Sant said, looking down the road that led from CAA headquarters through the cornfields, on which she'd logged many miles.

They turned to look back at the agency's buildings, which despite their grandeur looked small in the empty Quebec landscape. The sight reminded Van Sant of one of MacDonagle's catchphrases: “We are a small spacefaring nation....”

Canada was indeed a small player in space compared with the U.S., Russia, Europe, and Japan. Always at risk of being marginalized, the CAA had done everything possible to get the REACH contractors, Hollenbeck Aircraft and Eskina Software Systems, to complete the first phase of the project in time to get it to the space station this year, when the orbiting lab would officially be complete. And, amazingly, they had made the deadline—and come in on budget. REACH was now attached to the station, though there was still much more to come, including an even

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more sophisticated set of “hands” that would fit on the ends of the robotic arms for extremely delicate work. The additions were to continue for two more years.

The contractors had been great about speed; the problem was quality. Glitches with the software, motors, and circuits had kept turning up. The fact was, not a single test in four years had gone flawlessly. “Yeah, yeah, we can fix that,” the contractors’ reps always said, dismissing the CAA’s concerns. “Hey, this is life in the fast lane,” a rep told Van Sant after one of REACH’s arms had failed to retract on command. “Remember, we told you that the compressed schedule would increase the risk.”

The contract that she managed called for parallel development, meaning that the project’s phases—R&D, prototyping, testing, production, and quality control—overlapped, with each one beginning while the previous one was as much as 50% incomplete. That was sacrilege in some aerospace circles. But owing to the space station’s construction deadline and the ever-present threat of cuts to the CAA’s budget, the agency was aiming to do a decade’s worth of work in six years. Computer simulations had to take the place of some real-world testing. Component quality control was less thorough. Because of all the unknowns in the project, the CAA had agreed to a cost-plus-fixed-fee contract, under which the contractors were paid a specified amount over their costs for labor, materials, and overhead.

MacDonagle’s insistence on a rapid approach to development had been one of the main reasons Van Sant had been hired as a program manager. During her years in the army, she had established a bulletproof reputation for being aggressive and goal oriented. She and MacDonagle saw eye-to-eye. She knew speed was critical.

“We’d better go, I guess,” MacDonagle said. “The media hounds are waiting. I told them I’d do quickie interviews once I got back. I know what they’ll ask me: Is REACH going to work this time?” As they headed toward the building, the rain started. He looked at Van Sant. “So is it?”

“I know what the media hounds will ask me: Is REACH going to work this time?” MacDonagle said.

Trouble in the Air

Red marker in hand, MacDonagle held forth before a group of reporters, asking whether they were aware that 50 years ago, the U.S. had blasted half a billion inch-long copper needles into orbit to reflect radio waves and thereby facilitate communications. Those needles were still floating around, and some had torn through one of the space station’s solar collectors. “The solar arrays are the big bird’s big red wings,” he said, turning to the whiteboard and drawing the collectors.

He drew a gash in one of them. “A hole here means less electricity,” he said, tapping the board. “Ever since the solar array got that hole from those flying needles, the space station has been operating on less power. Fixing it is tricky, because it’s very far from the modules where the astronauts work and because of the risk of electrocution. Once an array is in place, you can’t turn it off. It keeps generating power from sunlight. So if a spacewalker were to try to go out there and fix it, he’d be liable to get 100 volts of direct current through his body. That’s where REACH comes in.”

He took a moment to draw the Canadian creation, then stepped back to admire his sketch. The machine’s two long arms stretched out toward the solar array in a nurturing embrace.

“Fixing solar arrays isn’t what REACH was designed for,” MacDonagle said. “It’s meant to do the mundane work of replacing battery units on the exterior of the space station. But since REACH is up there, it’s being pressed into service for the repair. It will stitch together the solar array while the astronauts control it from the safety of their module.” He put the cap back on the marker and began fielding questions.

As Van Sant watched, someone tapped her on the arm. It was Alfred Siroy, the head of a CAA panel that had been trying to find out why there were so many quality is-

sues with equipment from the Hollenbeck-Eskina venture.

“How long before they deploy it?” he asked.

“Soon—later—I’m not sure,” she said.

Siroy always made Van Sant defensive. He’d made no secret of his disapproval of the way the REACH program was being managed, and of the parallel approach in particular. She knew that this viewpoint would figure in his forthcoming report. Fortunately, he was an overly meticulous writer, so the draft was taking forever. She asked him how the writing was going.

“Slow,” he said, shaking his head. “But we do have a title: ‘The Rush to Failure.’”

This gave her a start. “What failure?” she asked. “REACH is about to perform a critical repair task.”

He shot her a skeptical look. “Rapid ramp-up was a laudable goal,” he said. “But you have to give a contractor adequate time for QA. And you have to have a contract that gets the incentives right.”

He continued: “We did an analysis. Your compressed schedule forces Hollenbeck-Eskina to cut corners, resulting in prototypes that fail. Substituting computer simulations for rigorous ground testing is a recipe for disaster. There isn’t an electronic data management system that would allow the contractors and the CAA to access current test data for analysis. The prototypes aren’t equipped with the instruments that would provide adequate test data. And the contractors have no incentive to push back: The cost-plus contract puts all the risk on the CAA. The agency and the contractors have different goals and objectives.”

Van Sant couldn’t disagree about the contract; its weaknesses had become increasingly evident to her. But if speed was the priority, they were unavoidable. “The contract language is ancient history,” she said dismissively.

“You can rewrite history,” Siroy said. “Any contract can be altered as long as both sides agree—you know that.”

Suddenly, Van Sant saw, one of the staff members who’d been monitoring the goings-on at the space station began



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ushering MacDonagle away from the reporters, who, smelling blood, tried to follow. MacDonagle caught her eye, and Van Sant didn't like the look she saw on his face. Something bad had happened.

She slipped inside the communications room, where journalists weren't allowed, just before the door was shut. Over the speakers she could hear the astronauts at the space station talking about the power switching unit and using the word "failure." She heard someone say, "We have to go to Plan B."

REACH was probably experiencing the same problem that had come up during its last on-ground test. A system failure notification had gone off, but the contractors had dismissed it as a "reporting error," meaning it hadn't reflected a true mechanical breakdown. Still, no one wanted to deploy REACH while red lights were flashing. There was too great a risk that the robotic arms would fail at a critical moment.

"What's Plan B?" Van Sant asked MacDonagle.

"I don't know," he said quietly, "but whatever it is, it won't involve anything that came from us. REACH is Canada's only contribution to the space station."

Support from on High

"We've got video!" someone shouted, and there on the screens were multiple images of a man in a space suit dangling at the end of a loading crane.

It was well past midnight, but the reporters were still at CAA headquarters. They gathered around the screens. MacDonagle and Van Sant had long since given up trying to avoid them and were mingling with them as the repair attempt unfolded high above West Africa.

Everyone watched in silence as the crane, jury-rigged for the purpose, carried a spacewalker toward the space station's torn solar array. REACH couldn't even be seen—it was docked somewhere else.

"Harris Webb," MacDonagle said ruefully as he watched the figure in the shiny suit. "It's so fitting." Years ago, MacDonagle and Webb had been pilots on the same shuttle

mission, and Webb, though much younger, had been chosen to lead it. A U.S. physician, mountaineer, author, pilot, and gourmet cook, as well as an astronaut, he was the ultimate go-to guy, brilliant and fearless—almost to the point of being foolhardy.

The reporters were excitedly discussing his stunt. Because REACH had failed, Webb was going out on the end of the crane to repair the array by hand. In one gloved hand he held what looked like an oversized hockey stick wrapped in insulation, so that he could stop himself from bumping into the arrays. In the other he carried several two-meter lengths of plastic cable that would be used to "stitch" the pliable solar array back together.

"Wow," a reporter gasped as Webb, reaching awkwardly, began threading one of the cables through the openings in the array.

"Cowboy," MacDonagle hissed under his breath. He put his hands on his head and looked at the ceiling.

Van Sant spotted Charlie Truss, one of the reps from Hollenbeck, sitting in a corner, his tie loose. He looked miserable. But she didn't feel pity for him—just annoyance. She went over to him.

"Whatever happens up there tonight," she said, "things are going to change down here. Our only way forward from this fiasco is to show that we've taken concrete steps to improve QA and finally get some positive results."

"I'm all for that," Truss said. "But anything you do to increase QA is going to slow things down. Once that happens, the costs start increasing and you become vulnerable to budget cuts. If we turn our existing contract into a traditional aerospace contract with all those sequential steps and inevitable delays, we might as well say good-bye to the improvements to REACH that are in the pipeline."

"If speed has to be sacrificed for a more reliable REACH, then so be it," Van Sant said. "The contract has major flaws. You're accountable for speed but not performance. We have to share the risk. We need a contract with performance-based

incentives and penalties so that we can balance speed, quality, and results. Our goal is reliable components and systems that perform—and that should be your goal, too. We need to work as a unified team willing to push back on each other to get results."

Behind her the reporters gasped. She rushed to a screen and was relieved to see only that Webb, as he had finished his repair, had accidentally let go of a set of pliers, which was now drifting off into space.

But then Webb did something incredible. He turned to his Earth audience and began making a statement defending the failed REACH. "Everyone's going to blame REACH, but they shouldn't," he said. "It's a great piece of technology. I want to commend David MacDonagle and the CAA for overcoming a lot of technical obstacles in a big hurry and getting REACH up here on time. It's going to be a vital part of our operations. One little power-unit problem doesn't mean anything. Complex machines fail—that's just the way it is. We'll fix it, just like we fixed the solar array. I understand that the CAA has a great upgrade coming in the next couple of months—a new set of robot hands that are so nimble they can peel a hard-boiled egg. I say, Get it ready and shoot it up here. We'll start using it right away. I've got a few eggs that need peeling."

Van Sant was stunned, and she could see that Truss was, too. Then, giving her a small smile, he asked: "What were you saying about the contract?"

 **Tom Cross** is a senior director in executive education at the University of Virginia's Darden School of Business, where he develops executive-learning programs for Department of Defense leaders. Previously he was a senior executive at such firms as KFC and Office Depot.

DShould Van Sant push for a renegotiated contract for REACH?
See commentaries on the next page.



Gary L. Moe is a director in McKinsey's Business Technology Office and is based in Silicon Valley.

WHENEVER YOU hear about large, complex, costly government-sponsored tech initiatives that fail to meet expectations, the blame almost always falls on the "hurry up" schedule. If only the public agency hadn't pushed the contractors so hard, if only the developers had been given more time to refine the design, if only a few more months or years had been built into the production schedule, the technology would have worked perfectly. But it's not true.

Government sponsors can give contractors all the time and money in the world to complete a detailed requirements analysis and perfect a project design, and the finished product still probably won't work flawlessly. So-called big-bang design, in which developers labor mightily to get every last detail correct, is incapable of yielding a fully functioning, error-free product, because human beings, no matter how brilliant they are, cannot foresee all the issues that might arise in a complex technology.

What's needed instead is an iterative development process, whereby you build a prototype or even a fully fledged product and then put it out there, test it, and learn from its weaknesses, most of which you couldn't have seen on the drawing board

Human beings, no matter how brilliant, cannot foresee all the issues that might arise in a complex project.

or in a 3-D simulation. In the next iteration, you enhance the product. Then you run another round and another and another until finally you have something that works. The more complex a technology is, the more iterative the development needs to be.

This is how products are developed in the nongovernment sector. Take the auto industry. Cars are so complex that a manufacturer will put a model through a number of builds and a lot of testing before starting full production. In software, this process is called *agile development*. Developers write code for a week, test it to find out how to improve it, and then write some more code.

An interactive approach also works best when it comes to organizational change. No matter how hard you work on designing a reorganization, you will get it only 60% right, so you have to keep working at it, and finally you'll get to 90% right. (It never gets any better than that.)

Iterative development can work both for big long-term projects and for big one-offs, which is what many components of the International Space Station are. You break the development into pieces and apply the build-test, build-test method to the parts.

So why do government organizations, especially those that are defense- or space-related, favor the big-bang approach? There are a number of reasons, some involving the way procurement is handled. But the root of the problem is that iterative development entails experimentation, and experimentation entails failure. Government agencies don't like failure because it ruins political careers. So they try to avoid experimentation. But usually what they end up with is an even bigger failure—and no clue about why it happened.

My advice for Samantha Van Sant, then, is to restructure the contract to break further development of REACH into small chunks and require the contractors to practice iterative improvement, instead of striving for full initial functionality. Cutting down on the functionality delivered in each phase might help too, since 80% of cost and schedule overruns are usually due to the last 10% to 20% of requested functionality.

WHAT WOULD YOU DO?

SOME ADVICE FROM THE HBR.ORG COMMUNITY

YES, RENEgotiate. This contract is rife with problems. The project's phases overlap, and real-world testing is minimal. Most important, the project failed. Webb saved the agency's reputation and tempered the storm in the short term with his surprise comments. Now the CAA has to rework the contract to produce a successful product, because without one it will lose all momentum in its space efforts.

Tom Geiser, managing partner,
Black Twig Communications

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ALFRED SIROY offers excellent outside expertise. Samantha Van Sant and Charlie Truss would do well to seek out his advice, as he's interested in seeing REACH thrive but through a different approach that would not sacrifice quality. Contract reviewing is essential—but getting the right people in the project is the key success factor for REACH.

Bogdan M. Negru, visiting lecturer,
Griffiths School of Management,
Emanuel University of Oradea

IT'S TIME TO renegotiate, but the contractor would never accept a pure flat-fee arrangement, given the potential exposure. A cost-plus structure, with kickers for quality and speed and penalties for delays and problems, would probably work best. The project's very ambitious scope might be worth revisiting, too. Focus first on getting the basic arms working and later perhaps on making the hands capable of peeling a banana, not an egg.

Tom Leung, senior vice president,
Marchex



Tom Quinly is president of Curtiss-Wright Controls, based in Charlotte, North Carolina, which develops products for aerospace, defense, and industrial markets.

IN THE world of cutting-edge product development, the struggle between speed and quality is over. Speed has won—decisively. In today's highly competitive global markets, getting innovations out quickly can mean the difference between success and failure. But it's also a given that the quality must be high. Quality has become table stakes.

A lot of research has been published on the holy grail of lightning-speed development. Concurrent engineering programs, agile teams, risk mitigation programs, spiral development, outsourcing, harmonizing tools, and advanced simulation and modeling tools all can help you attain it, but your own people, processes, and market demands will determine the right recipe. What works best for us is forming small, seasoned, highly talented teams; being clear about time-to-market expectations; making sure developers have the right set of tools; and keeping our technical teams engaged, customer focused, and happy.

Bureaucracy, however, is an innovation killer. It's inevitable that as a business grows, things that don't add value creep into processes. With each slipup there's a tendency to add another process check. In isolation, each makes perfect sense, but in the aggregate, innovation is choked, and the team can't move nimbly.

I recall an experience early in my career, when a major development project had gone poorly. At an executive review, I was prepared to explain what had happened, what we'd learned, and what we'd done to stop the bleeding. Our CEO looked around at the others in attendance and said that he was disappointed—not in the group that had failed (mine), but in the other groups, because they *hadn't* failed. They weren't being as aggressive as he expected. That story lives on in the lore of the company, and it says a lot about our culture.

It's not that we encourage failure—we use it as a tool. Complex development programs rarely (if ever) come out of the gate perfectly; something unanticipated often happens. A lot can be learned from

reviewing failures and looking at processes, expectations, people, and tools. Were our requirements too ambitious or ill defined? Did we not map the highest-risk areas and have well-designed mitigation plans? This relentless focus on learning improves predictability, reduces cycle time, and helps us get a high-quality offering to market ahead of the competition.

That's why I would advise Van Sant to give up the dinosaur perspective that speed means having to sacrifice quality.

The struggle between speed and quality is over. Speed has won—decisively.

She should engage the entire team in examining the failures and exploring ways to achieve quality without upsetting the schedule. If REACH has few qualified alternative partners, then disrupting a long-standing contract with a highly experienced and specialized partner would be counterproductive. If Hollenbeck-Eskina is the best option, I would avoid having to reopen the contract and potentially lose the partner's deep project knowledge. However, if Hollenbeck-Eskina was not totally engaged and forthcoming in helping understand and correct the failures, it may be time to involve other potential partners or to stand firm on a contract renegotiation. □

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