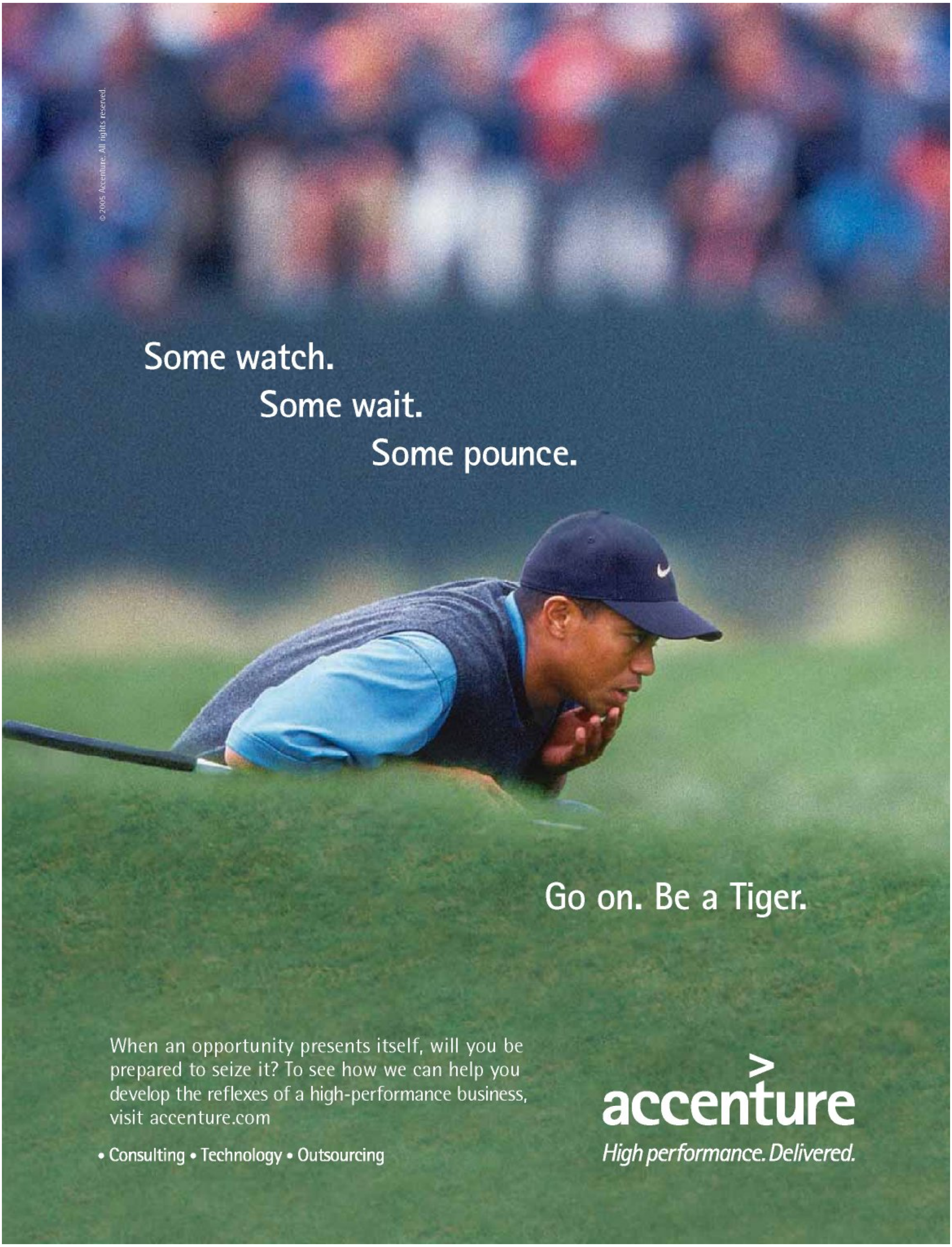
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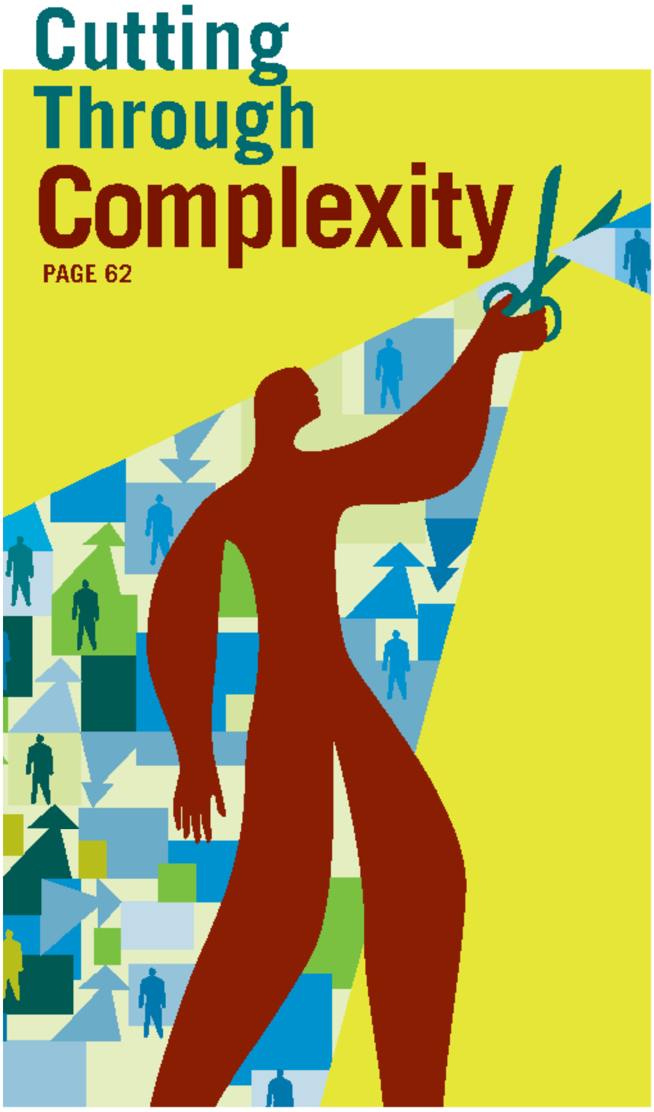

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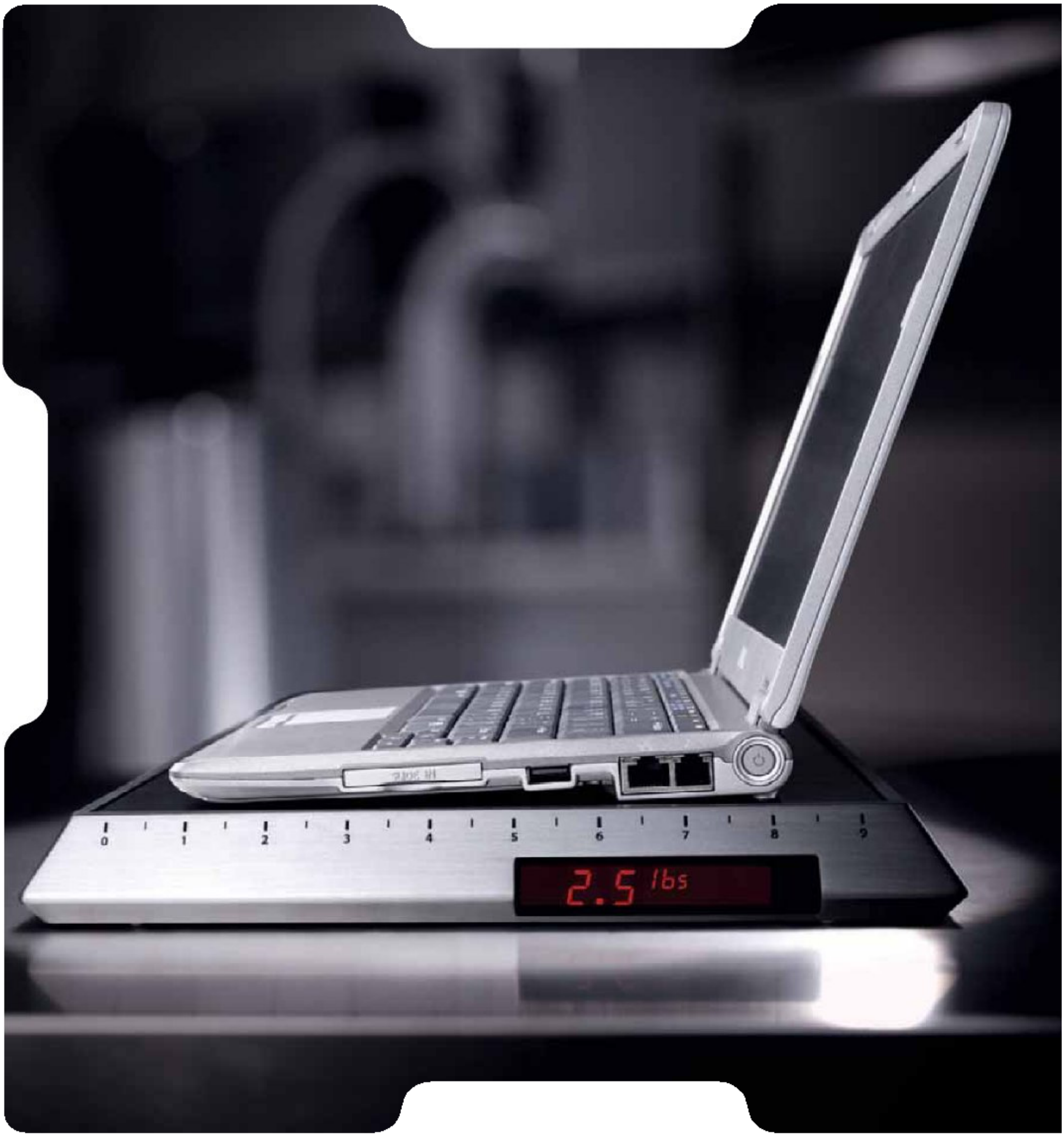

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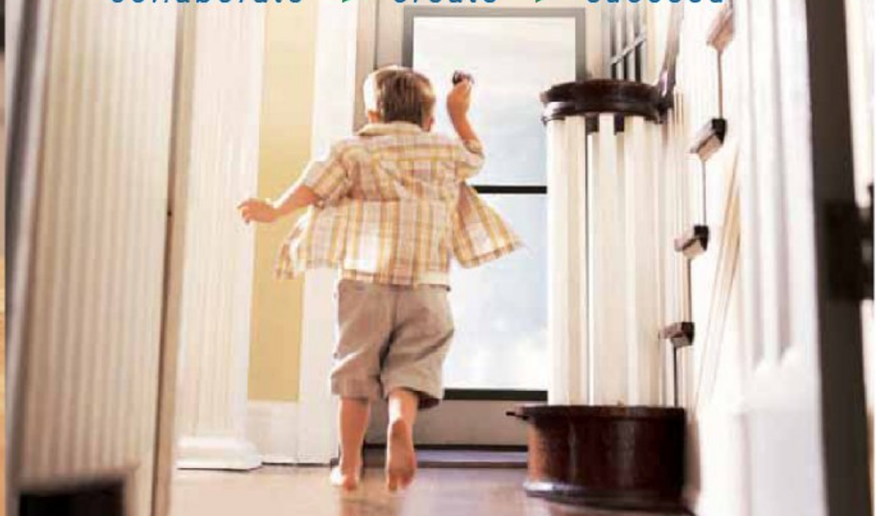

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Features

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62 **Innovation Versus Complexity: What Is Too Much of a Good Thing?**
Mark Gottfredson and Keith Aspinall

It's natural for businesses to add products or line extensions to keep customers happy and boost revenues. But the result is more complexity throughout a company's operations – and shrinking margins. To maximize profit potential, a company needs to identify its innovation fulcrum, the point at which an additional offering destroys more value than it creates.

74 **Leadership in Your Midst: Tapping the Hidden Strengths of Minority Executives**
Sylvia Ann Hewlett, Carolyn Buck Luce, and Cornel West

Minority professionals – particularly women of color – are called upon inordinately to lend their skills and guidance to activities outside the workplace. These invisible lives can be a source of competitive strength if companies can learn to recognize and further cultivate the cultural capital they represent.

84 **You Have More Capital than You Think**
Robert C. Merton

Much of your company's equity capital serves as a cushion against the risks associated with assets and activities that add no value. By using financial tools to hedge or eliminate these risks, you can focus all your equity on value creation.

100 **Hiring for Smarts**
Justin Menkes

Though it's long been deemed unfit for the corporate environment, the standard IQ test can be adapted for business use – and can help hiring managers identify candidates who have the intellectual horsepower to become true business stars.

112 **The Perfect Message at the Perfect Moment**
Kirthi Kalyanam and Monte Zweben

Most people don't want to hear from most companies most of the time. That's why it's critical that marketers pinpoint the occasions when customers might truly want to do business with their firms. A new computer-based model called "dialogue marketing" can help take advantage of those crucial moments.

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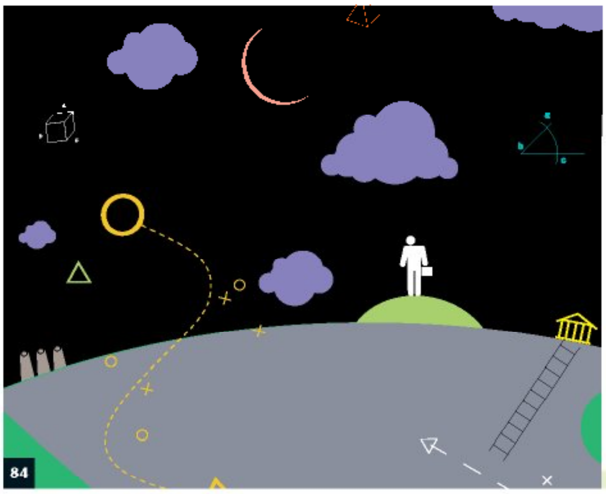

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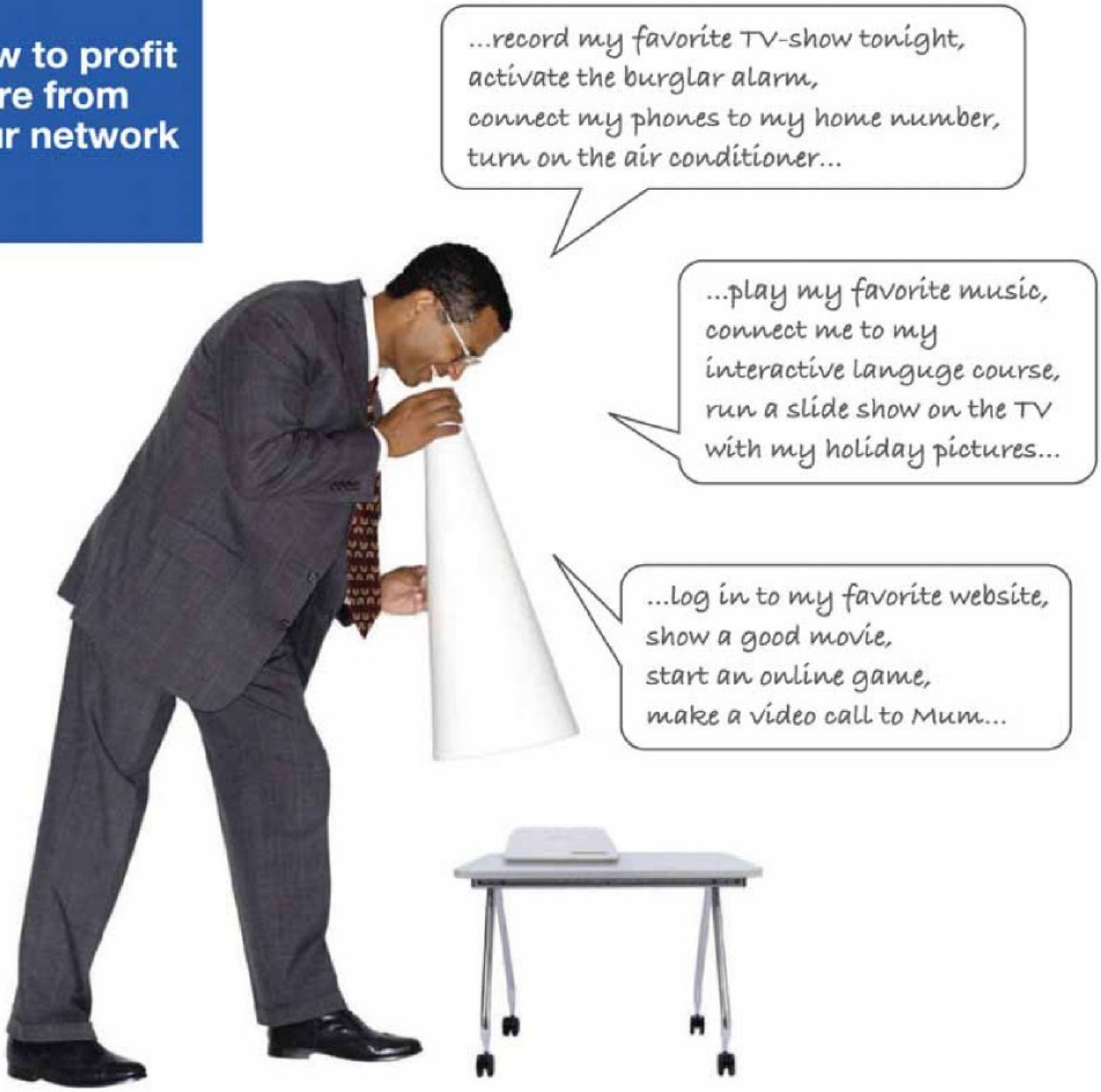

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Can You Be Too Creative?
Companies can become overwhelmed by too much choice, too much inventory, too much hassle. To identify the point where the costs of complexity exceed the benefits of innovation, go back to the beginning and recreate events, one by one, until you see where profits take a dive.

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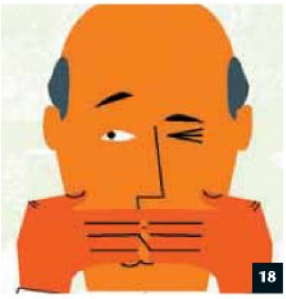
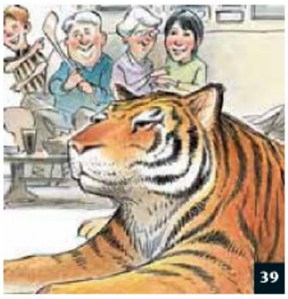
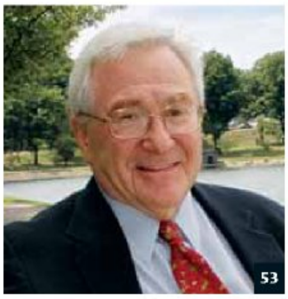
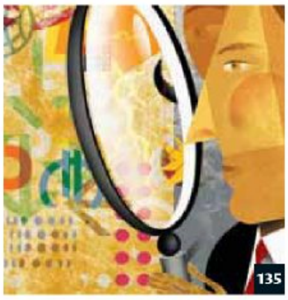
Riding the Celtic Tiger
Eileen Roche
An executive in Dublin has been offered a fantastic promotion at his company's headquarters–in California. Should he take the job and uproot his family? Or should he have faith that the Irish economy will stay strong?

53 **DIFFERENT VOICE**
Are You Working Too Hard?
A Conversation with Mind/Body Researcher Herbert Benson
Stress can spur you to do your best or wear down the body and the mind. You can harness the power of stress to avoid its dangers and to propel you and your team to a new level of performance.









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Major threats to a company's business often start as weak signals on the periphery of an industry. Use this new framework to sharpen your peripheral vision and to answer the question, "What don't we know that might matter?"

150 **BEST PRACTICE**
Defensive Marketing: How a Strong Incumbent Can Protect Its Position
John H. Roberts
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Managers forget that some employees are motivated less by money than by the satisfaction of solving tough problems.

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HBR now includes an index of authors' affiliations and organizations mentioned in articles.

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Can You Be Too Creative?

Alfred Chandler's monumental history of business, *Scale and Scope,* chronicles a century – roughly from 1870 to 1970 – during which industrial enterprises learned and exploited the benefits of being big. Those advantages included, first, economies of scale. Expansive corporations helped to create national and international markets, as opposed to local or regional ones. Large markets justified large factories. Those drove down costs, which allowed markets to expand further, which lowered costs more, in a virtuous cycle almost tritely familiar now but downright miraculous to those who first saw it.

Economies of scope are less visible but no less remarkable. These occur when one resource serves multiple uses. Because Unilever sends many consumer products through the same distribution system, it has an edge over a rival that has to maintain a similarly large system for fewer products. Sales and distribution, administration, research and development – these are among the functions where economies of scope are most pronounced.

Scale and scope have disadvantages, too. Companies addicted to mass production and mass markets may ignore new technologies, as integrated steel producers did with respect to the minimills that destroyed them, or dismiss small markets only to see them become huge, as Xerox did with personal computing. Nimble Lilliputians can tie them in knots.

When the problem is diseconomies of scope, companies tie themselves up. They become overwhelmed by too much choice, too much inventory, too much hassle. The costs of this complexity may be impossible to trace back to their cause – a new product that appears profitable might impose expensive burdens far removed from the source.

Companies afflicted by this kind of scope creep usually handle it piecemeal, trimming product lines here, simplifying processes there. That helps – but it is an attack on outputs, not inputs, and it can pour sand in a company's innovation engine. There's a more effective way, described this month in "Innovation Versus Complexity: What Is Too Much of a Good Thing?" According to authors Mark Gottfredson and Keith Aspinall, partners at Bain & Company, companies can identify the point at which product innovation maximizes both profits and revenues. They call this the innovation fulcrum. To find it, you wipe the slate clean and re-create the events that produced the problem. Imagine that your company offers just one product or service; then add another, and a third, and more, till you see where profit-killing complexity kicks in. It's a technique like that of an allergist who puts a patient on an innocuous diet, then introduces foods one at a time till the culprit allergen is found.

• • •

In March, we published "Off-Ramps and On-Ramps," by Sylvia Ann Hewlett and Carolyn Buck Luce, which described how the structure of work life makes it difficult for talented women to maintain or reenter professional careers. This month, Princeton's Cornel West joins Hewlett and Buck Luce with an article about another hidden brain drain: Their research shows that many female and minority executives have second, almost invisible, careers as community leaders, mentors to younger colleagues, and matriarchs or patriarchs of extended families. The skills they develop and the value they provide in these roles often go unrecognized, as do the demands the roles impose. But smart companies are learning that this hidden human capital is incredibly valuable.

An eye-opening article by Nobel Prize winner Robert Merton looks at capital of another sort, showing how companies can dramatically increase their ability to provide resources to value-adding activities – funding growth with equity they didn't know they had. Three other strong articles look at the marketplace, showing how to read the competitive landscape better, be in more constant contact with customers, and use marketing to defend against new rivals. Another, by consultant Justin Menkes, forcefully argues for the business value of sheer intelligence.

If it all seems too much, turn to Herbert Benson's "Are You Working Too Hard?" Benson, the founding president of Harvard Medical School's Mind/Body Medical Institute, has studied stress and performance for more than 30 years. Take a deep breath, and read his advice for businesspeople.

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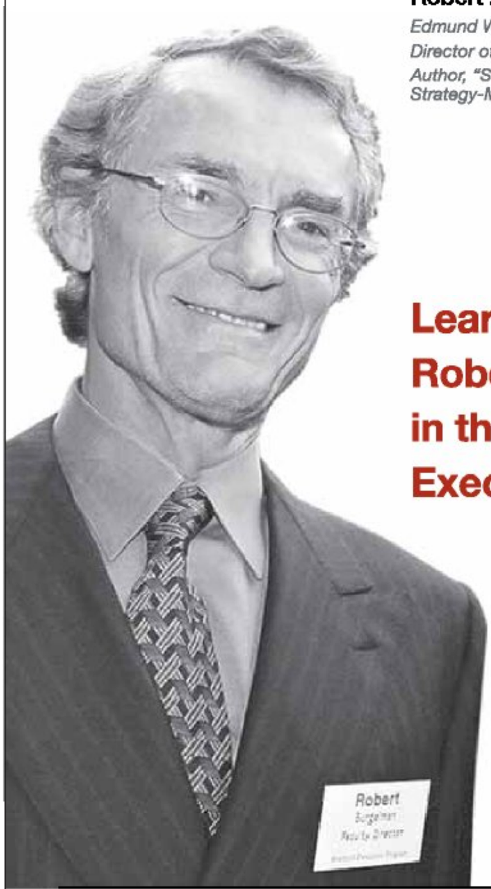

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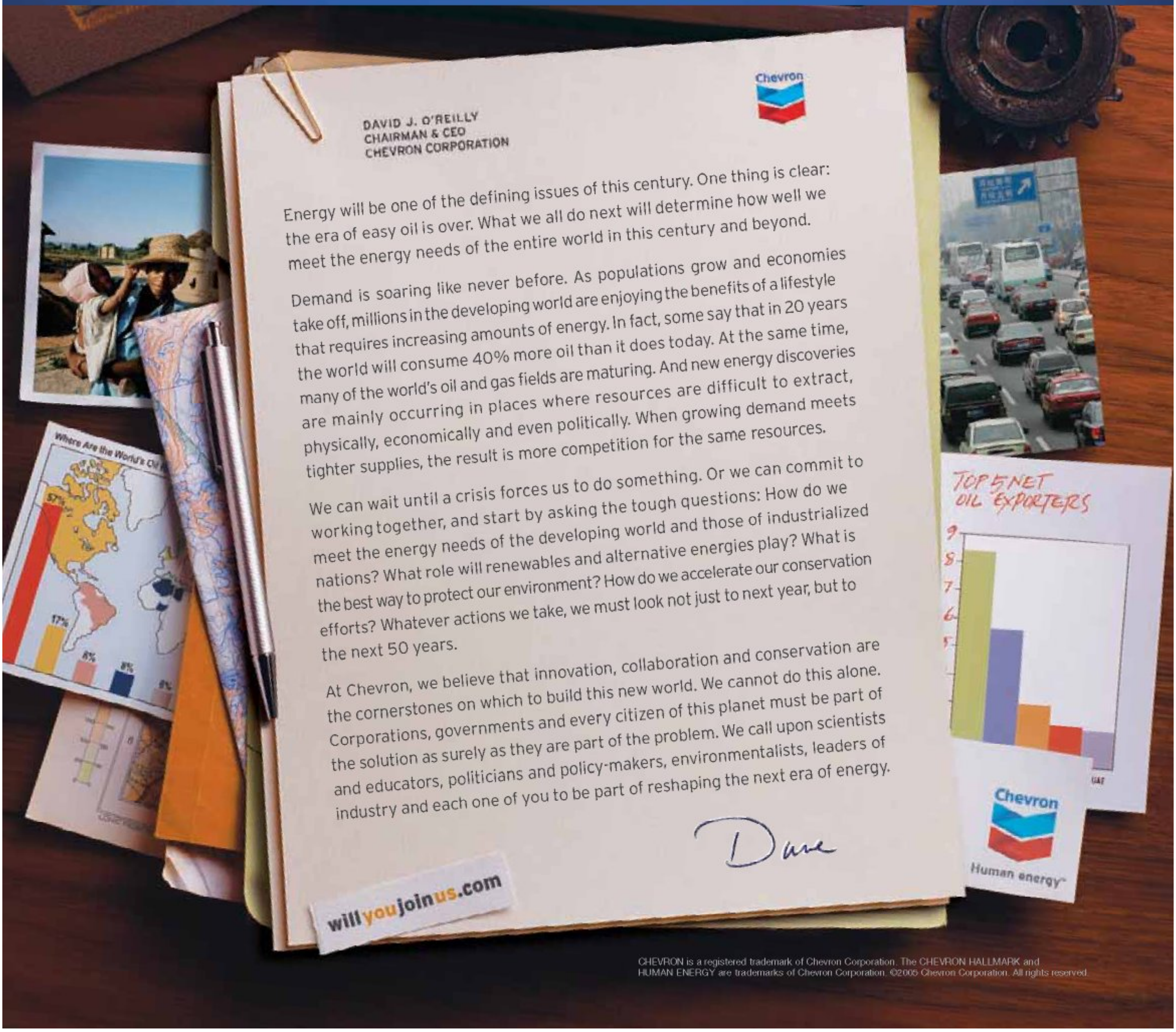

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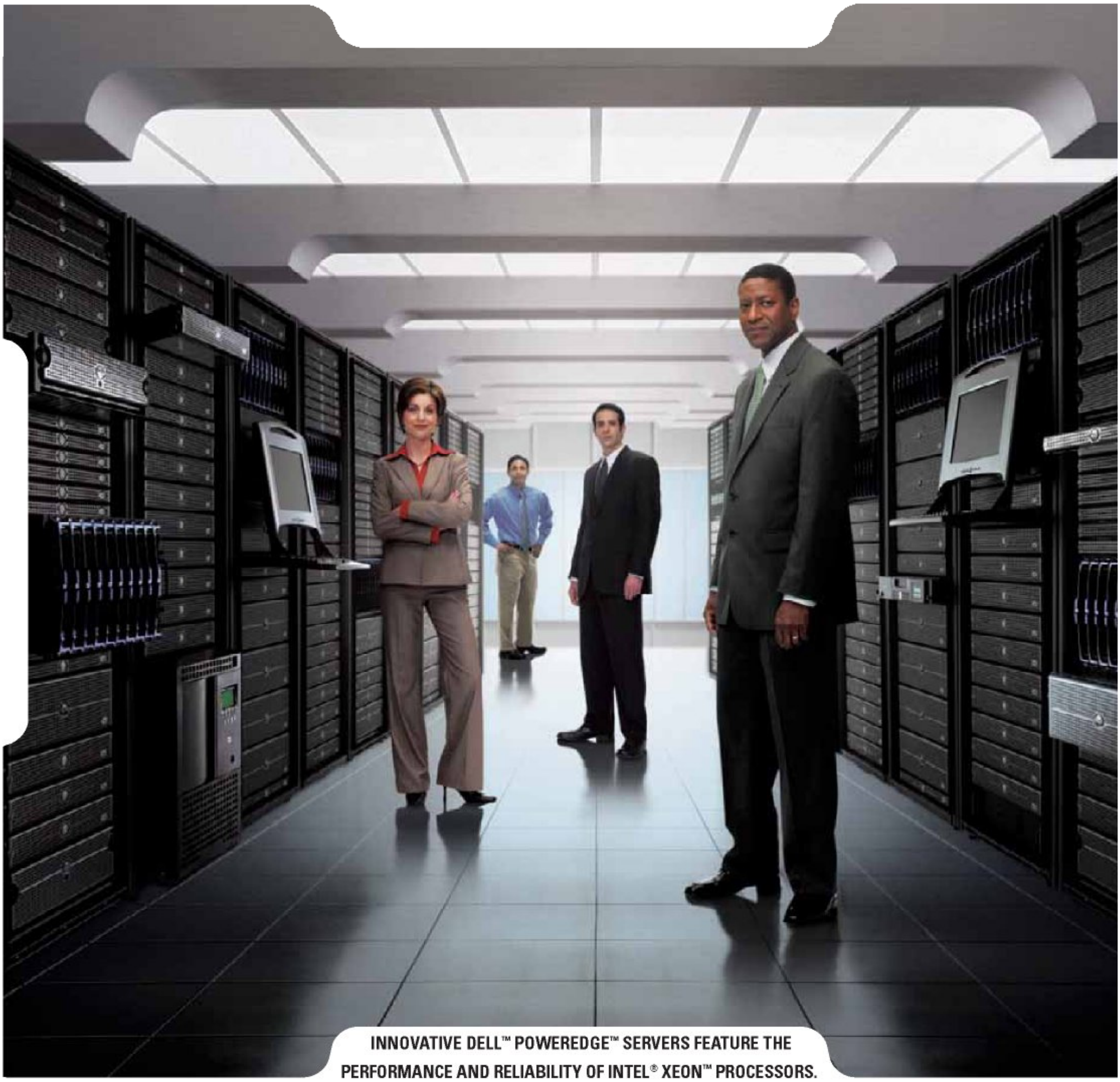

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forethought

A survey of ideas, trends, people, and practices on the business horizon

GRIST

Get Aggressive About Passivity

by JUDITH SAMUELSON AND MARY GENTILE

In *Conspiracy of Fools: A True Story*, Kurt Eichenwald relates how Enron's leaders engaged in massive book-cooking with little interference from the dozens of managers, lawyers, and advisers who had a pretty good idea of what was going on. Similarly, at Parmalat, employees not involved in the Italian dairy giant's fraud apparently were aware of it because they often joked about fictitious milk sales to Cuba long before those became a public scandal. Tolerance of organizational bad behavior has become so expected that, in 2002, *Time* magazine named Enron's Sherron Watkins, the FBI's Coleen Rowley, and WorldCom's Cynthia Cooper "Persons of the Year" for going public with stories of organizational failure. Why should simply speaking out about outrageous conduct be so difficult – and so rare?

Psychologists have studied the "bystander effect" and other theories of why people who are aware of wrongdoing fail to intervene. Passivity, it seems, is epidemic, cutting off oxygen to corporate consciences everywhere. Managers and executives generally have the right "values" – that is, they know what they should do when circumstances call on them to take a stand or make a hard choice. If managers acted on those values, and if they applied the same skills they draw on when making a tough sell or marshaling resources for a new business venture, then the misconduct might never escalate to the point where heroic whistleblowing is required.

But people usually don't act on their values, our research shows, because they don't consider such action to be part of their jobs. Businesspeople view moral and ethical dilemmas as exceptions—and human beings don't deal with exceptions terribly well. In extensive interviews with dozens of managers who had confronted ethical quandaries, we heard repeatedly how they considered such questions—even the classic ones case studies often address—to be "extraordinary" or an "intrusion." They talked about being derailed by these issues, not because they felt morally ambivalent but because dealing with these sorts of problems is simply not what they do.

Confronting such dilemmas, managers feel as though they are stepping out of their competent, action-oriented work identities to expose a more personal part of themselves. So they try to swiftly put the problem aside or behind them in order to get back to their "real" work. As a result, they choose paths that present the least friction—the fewest channels to go through and people to persuade, the easiest case to present. One manager described the experience of being forced to choose between standing up to his employer and taking advantage of a client: "In retrospect, the problem I faced really wasn't that overwhelming—that is, once I figured out what I wanted to do. But at first I just tried to get out of it or get beyond it as quickly as I could. In fact, I lied. I instinctively lied to get out of the situation, hoping it wouldn't happen again."

Such conflicts are greatest for employees who define their jobs narrowly: as simply closing the next deal or making the numbers. Managers who view their professional purpose in broad terms—delivering customer value, say, or building a sustainable enterprise—have an easier time with ethical questions, our research suggests. The broader scope encompasses more kinds of decisions, more types of concerns, and so ethical questions can become just another part of the landscape. As a result, those employees are less likely to lay low or obfuscate or even lie to avoid a tricky situation.

Most organizations want workers who don't just think the right thing but also do it. Managers have a responsibility to help employees over their mental hurdles. Leaders who act ethically themselves are necessary but not sufficient—they must also make clear that correctly resolving ethical and moral questions is part of everyone's job and that time spent doing so does, in fact, serve the business. And they should make it easier for employees to seek mentors who will guide them across difficult terrain and to build coalitions among like-minded colleagues willing to share the journey. Some companies are having success with programs in which people practice arguing ethical positions in front of respected leaders and peers.

Luigi Zingales, an entrepreneurship and finance professor at the University

EXECUTIVE TURNOVER

The Trouble with CFOs *by* KURT REISENBERG

If the CEO sits in the hot seat, the CFO's chair is positively smoking. According to analysis conducted by the CFO Executive Board, annual CFO turnover at the largest 162 global companies between 1995 and 2003 was 17%—even higher than for CEOs—and three out of four current *Fortune* 500 finance officers have been in their positions less than five years. And Sarbanes-Oxley is expected to accelerate that turnover, as more CFOs are dismissed for failing to prevent material controls weaknesses or else throw in the towel out of frustration. (The full study, *Improving CFO Personal Effectiveness*, is available at www.cfo.executiveboard.com.)

Yet while CFOs have less and less time to learn the ropes, boards and CEOs are hoisting more and more responsibility onto their backs. In recent years, many CFOs have been required to assume control of such corporate center functions as technology, procurement, and facilities. As a result, they spend much of their time on administrative challenges, with few opportunities to develop such skills as critiquing corporate strategy and improving operational performance.

For the ambitious CFO, that's a problem. Strategy and operational performance have a big impact on total shareholder return (TSR), which in turn has a big impact on the CFO's career prospects. Consequently, responsibilities that divert financial officers from TSR levers represent huge opportunity costs. These executives are racking up those costs at the majority of large companies: Of the CFOs we surveyed, only 24% rank spending time with general managers as one of their top three priorities, and only 22% interact with top operations executives every week.

So how can a CFO hold on to her job and improve her chances of winning the top slot if she wants it? A reallocation of time is in order. She should work closely with the CEO, of course, but also spend as many hours as possible with general managers and avoid new responsibilities that don't have a clear impact on the bottom line.

KURT REISENBERG (*kurtr@executiveboard.com*) *is the managing director of the CFO Executive Board.*

Reprint F0511B

of Chicago Graduate School of Business, has suggested making whistle-blowing more common by offering monetary incentives. But whistle-blowing isn't a desirable end; it is a last resort. When we reach that stage, it means we have failed, both as organizations and as people. Rather than lionizing the exception, let us make the contemplation of moral and ethical questions the stuff of everyday work.

JUDITH SAMUELSON (*judy.samuelson@aspeninst.org*) *is the executive director of the Business and Society Program of the Aspen Institute, a nonprofit organization headquartered in Washington, DC, that is devoted to improving leadership.* MARY GENTILE (*mcgentile@aol.com*) *is the research director of the institute's most recent leadership development initiative, Giving Voice to Values.* Reprint F0511A

"INFORMATION" GRAPHICS

Crap Circles

by GARDINER MORSE

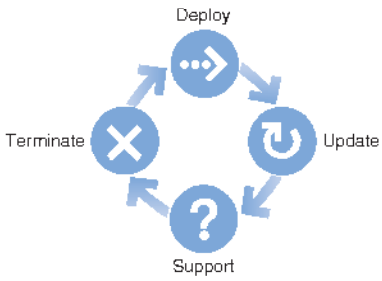
The most dubious business plan can look solid–even smart–if it's cast as a virtuous circle. "See, we invest our profits in innovation to create delightful products that customers buy–which generate profits that we invest in innovation!" Who could argue with that? Indeed, the merit of self-reinforcing systems seems so obvious that businesspeople instinctively describe their strategies as cyclical activities that magically fuel themselves. Meanwhile, audiences demand snappy-looking, easy-to-digest graphics that, almost by definition, strip away nuance. It's no surprise, then, that business communications are lousy with circle-and-arrow diagrams that range from the dumb to the deceptive.

Though you've seen a million of these, you've probably never thought much about them. That's because, like optical illusions, they play on your expectations and trick you into seeing something that isn't there: If one arrow leads to the next, then *of course* the steps follow. But once you start examining these ubiquitous diagrams, you'll be amazed by what you don't see.

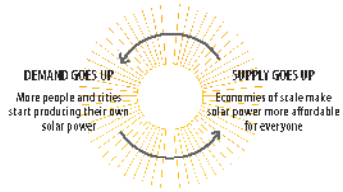
Consider these examples:

The circle below, from a global accounting firm's Web site, is used to illustrate the company's consulting services for owner-managed businesses. It shows the business life cycle "maturity phase" leading, inexplicably, into the "conception/start-up phase." This company's clients should ask whether they really want to be guided in circles. (To be fair, the shortcomings of this example and those that follow are exaggerated by lack of narration; someone with a laser pointer could probably explain what the diagrams *should* show, even if they don't.)

With the next design, a Boston-based software company helpfully illustrates the stages of its application management life cycle. Through some trick of causality, termination leads to deployment. This may be a good model from a consultancy's standpoint–when a client's projects end, they start again–but if you're paying the tab, you probably want the project to actually end when it's terminated.

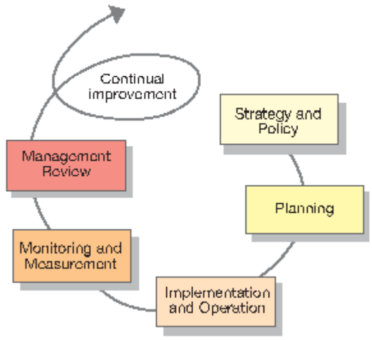


The friendly-looking sunburst that follows, captured from the Web site of a solar energy advocacy group, shows how to create an unlimited market for your product. Here, as the supply of solar energy increases, so does the demand–in an apparently endless cycle. If these folks are right, we're all in the wrong business.



And this one, from a Canadian enterprise-content-management company, is notable for its sleight of hand. Circles rotating in opposite directions (in which, among other oddities, "publish" gives rise to "search") link through arrows whose origins and destinations, on close inspection, are obscure or completely hidden. Maybe the intent of this diagram is to make prospects too dizzy to ask questions.

Kudos, though, to the author of the disarmingly honest graphic below, from a U.S. safety engineers group–a refreshing bit of out-of-the-circle thinking. He seems to have had an epiphany as he created the diagram, realizing that the development of safety processes doesn't always chase its tail–that "management review" needn't slavishly feed into "strategy and policy" in the service of "continual improvement."



By fighting the impulse to think in circles, he's set an example for everyone

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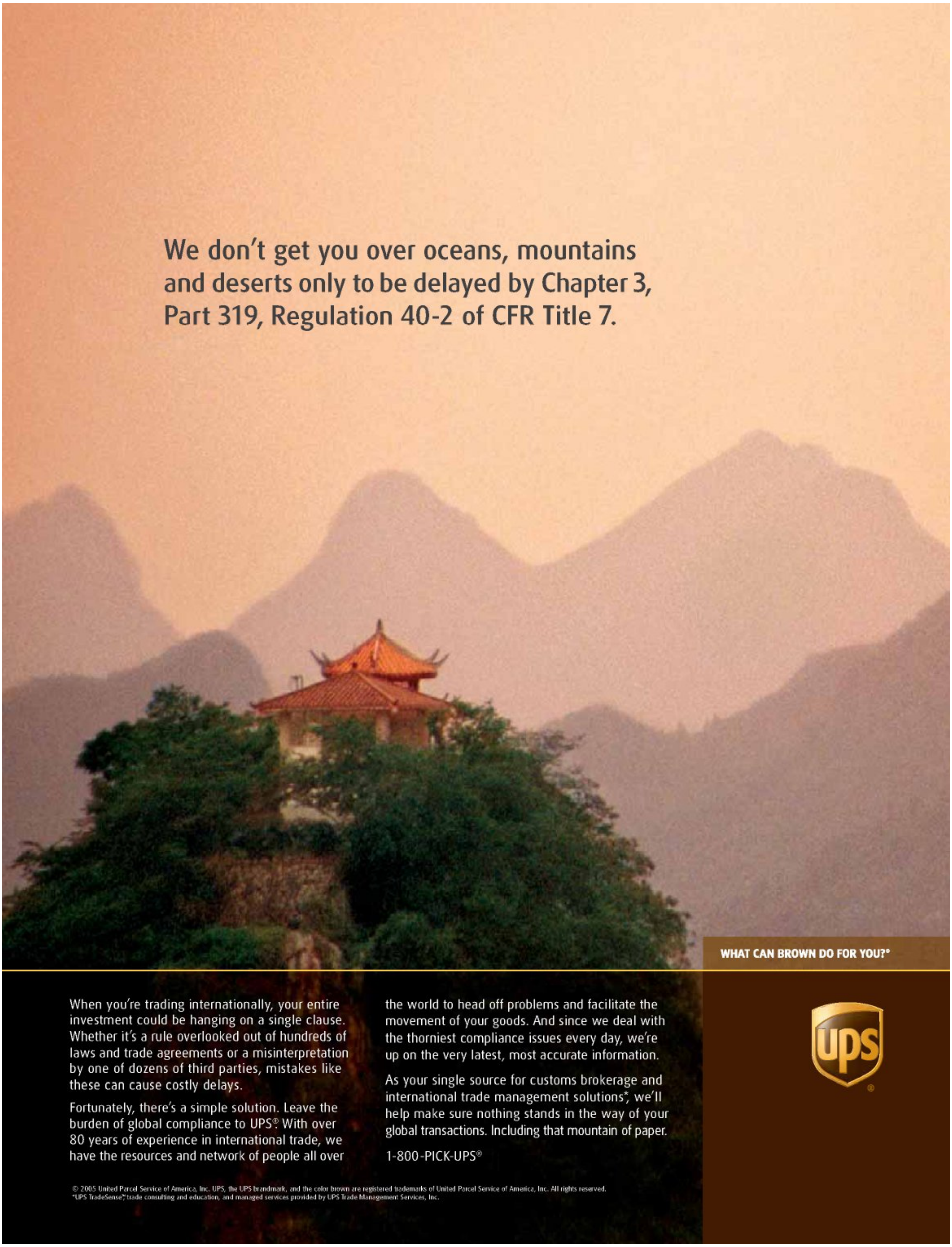
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who has uncritically accepted or, worse, actually constructed a crap circle – and that's most of us. The next time you find yourself preparing a circle for a presentation, ask yourself if the process you're describing really works the way you say it does. And the next time a presenter trots out a circle to make a point, find the bogus links and put him on the spot. We could all benefit from a little more linear thinking.

GARDINER MORSE (gmorse@hbsp.harvard.edu) is a senior editor at HBR.

Reprint F0511C

OPERATIONS

Leading from the Factory Floor

by JOERG GNAMM AND KLAUS NEUHAUS

For all the talk about lean manufacturing, it still seems to be the exception: Factory floors are cluttered, bottlenecks delay production, and the wrong products pile up in inventory while the right ones can't be found. Fixing a dysfunctional factory isn't easy, but consider this surprising case from Germany, where resistance to managerial innovations on the factory floor has traditionally been strongest.

Rather than close a poorly performing plant, materials manufacturer Isola Group gave workers a chance to start over, literally and symbolically. Inspired by the Japanese tool known as the five S's – for "sort," "store," "shine," "standardize," and "sustain" – plant managers asked the workers to clean out the factory and suggest ways to make it more efficient. First, out came 70 tons of excess "stuff" – 60 empty inventory racks, 100 cubic meters of unneeded packaging material, 150 pallets of empty drums – hauled away in 45 truckloads. Next, the workers came up with 800 ideas for improvement, most of which were ultimately implemented. Then employees used more than 150 cans of paint to give the place a face-lift.

Then managers took off their ties. Everyone donned the same uniform: factory coats and protection glasses. The head of site, production planner, and site controller turned their work space on the shop floor into a "project office" and continued to invite informal feedback; soon workers were dropping by to offer suggestions or report problems. The project office team also sponsored more formal sessions with workers on all shifts to discuss problems, analyze root causes, and rapidly identify solutions. Daily meetings on yield losses provided quick feedback on the workers' initiatives; every day, the project office team watched for glitches in the previous day's yield and devised countermeasures.

Finally, the team asked: "What is the current true performance level of the plant? And what is an achievable level?" Central controllers had in the past set arbitrary performance benchmarks, none of which made sense to the workforce. So the team selected new targets for productivity and yields – targets based on employees' own assessment of their capabilities – and developed and posted charts in common areas so everyone could track the plant's progress. The fact that management was listening to workers' ideas – and was quickly trying them out – helped boost morale and directly improved processes, reducing cycle times and virtually eliminating work-in-progress inventory. As the initiative gathered momentum, employees began volunteering to work overtime on improvements.

The results? After three months, the plant achieved a yield boost of 4%, from 91% to 95%, with each percentage point of improvement representing about $850,000 in annual material-cost savings. Additionally, EBITDA improved from roughly a 15% deficit to break-even. The plant is on track to deliver a 10% to 15% positive EBITDA by the year's end.

JOERG GNAMM (joerg.gnamm@bain.com), based in Munich, Germany, and KLAUS NEUHAUS (klaus.neuhaus@bain.com), based in Düsseldorf, Germany, are partners at Bain & Company. Both are leaders in the firm's European industrial practice.

Reprint F0511D

HOW THEY DID IT

Banana War Maneuvers

by MARCELO BUCHELI

Companies often resort to lobbyists and lawyers to fight unfair trade policies. But sometimes there are easier alternatives. Consider the case of Chiquita and Dole, organizations that faced restrictive new trade policies in the early 1990s that limited banana exports into Europe.

Following World War II, Chiquita became Europe's main banana provider, exporting to Germany (its principal Euro-

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Business class is different on **BRITISH AIRWAYS** pean market), as well as to Great Britain and other countries. While Germany permitted free inflow of Latin American bananas, Great Britain and France gave preference to bananas from their former colonies in Africa, the Caribbean, and the Pacific (the ACP countries).

Chiquita provided bananas from both places. But in 1986, confident of its dominance in the European banana market, the company sold its British subsidiary Fyffes, its main marketer of ACP bananas. Chiquita saw the fall of Communism in the late 1980s and the creation of the European Union in the early 1990s as great opportunities to increase sales. Anticipating a growing market, the company invested, with debt, in more production facilities in Latin America. By 1992, Chiquita's European market share was more than double Dole's (30% versus 12%), and Chiquita had 40% of the German market.

Then, in 1993, the newly formed EU unified its banana policy, restricting Latin American bananas – Chiquita's main export – in favor of ACP providers. This new policy didn't sit well with Chiquita, of course. The company launched an aggressive and costly lobbying campaign in Washington denouncing the EU policy. Under pressure from the United States, the World Trade Organization ruled that the policy was discriminatory and ordered that it be dismantled. But the Europeans were slow to comply, and so began the "banana war" – the worst transatlantic economic dispute since World War II.

With a limited ability to export ACP bananas, Chiquita lost a third of its European market share between 1992 and 1995. Determined to regain its position, Chiquita continued to fight the EU policy, increasing its debt as its hold in Europe kept slipping.

Dole, meanwhile, quietly executed an end run around the policy. By capitalizing on its existing ACP relationships and increasing its investments in ACP production facilities, Dole gained rapidly on Chiquita, expanding its European market share from 12% to 16% by 1995. The EU did eventually agree to reopen its markets to Latin American bananas, but too slowly, and with too many constraints, to be of much help to Chiquita. In 2001, stretched by its legal battles and dwindling market share, Chiquita filed for Chapter 11 protection. (The company reemerged from bankruptcy in 2002.)

Given the unpredictable politics that drive trade disputes, and the uncertain influence of arbitration institutions like the WTO, betting on a legal battle can be highly risky. It may be smarter to maneuver around a barrier than to try to tear it down.

MARCELO BUCHELI *(mbucheli@uiuc.edu) is an assistant professor in the Department of Business Administration at the University of Illinois at Urbana-Champaign. He's the author of* Bananas and Business *(New York University Press, 2005).*

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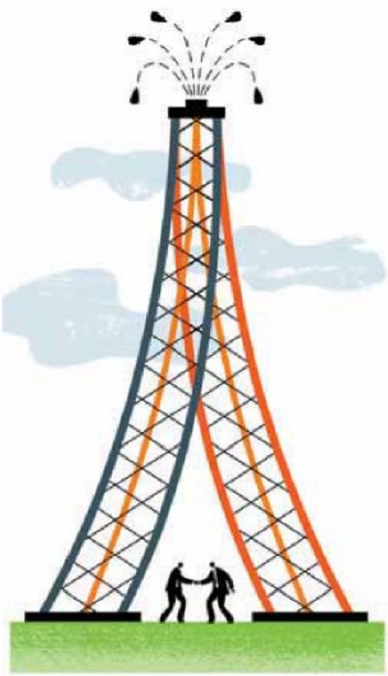
GOVERNANCE

Oil and Troubled Waters

by NICHOLAS BEALE

When a crisis forces outside directors to navigate major changes, investors and directors must adopt new roles. The largest such case to date provides some useful lessons.



The Royal Dutch/Shell Group was a 60/40 joint venture between Royal Dutch Petroleum and Shell Transport and Trading. It was run by a five-person committee of managing directors (CMD) reporting to a group called Conference, which consisted of all 21 board members and was headed up by the CMD's chairman. When Conference realized that the committee had been overstating oil reserves in SEC filings, it asked the CMD chairman and a managing director to resign, and the venture's 16 outside directors found themselves driving through major changes under intense pressure from investors and the press. Investors and directors worked together and separately to resolve organizational and governance issues.

I can offer six lessons, based on interviews with directors and investors involved in this process:

Organize for effective engagement. In April 2004, Royal Dutch/Shell formed a carefully balanced steering group that met 21 times over the next six months to address concerns about governance. The group comprised CEO Jeroen van der Veer and two Dutch and two British outside directors; it was chaired by John Kerr, a consummate diplomat. In parallel, investors created two committees to coordinate their views. The steering group met often with the investor committees and with other investors. Group members listened, took careful notes, and were as open as possible. The frequent constructive contact helped nurture relationships and build investor support.

Build agreement on the easier questions first. The most contentious issue was whether and how to unify the companies. The steering group deferred that question and focused instead on defining what the roles of the chairman, the CEO, and the other board members should be. As directors and investors worked through their concerns, they fostered trust and achieved greater clarity about each other's positions. That new collegiality laid the groundwork for a unanimous decision to unify.

Recognize the subtle dynamics of persuasion. Investors initially thought that they had to convince Shell. But they

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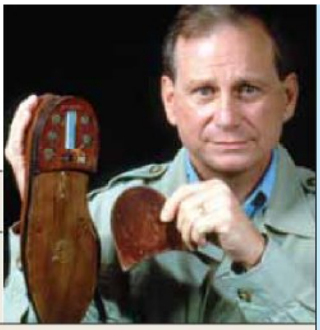
Conversation

H. KEITH MELTON ON CORPORATE ESPIONAGE

What? Me, Worry?



Most executives think they're security conscious – they change their passwords and shred important documents and so forth. But what rarely crosses their minds, says espionage expert H. Keith Melton, is that cloak-and-dagger types really *are* after their valuables. Just because you're not paranoid, he observes, doesn't mean they're not following you. Melton, the author of *Ultimate Spy*, advises U.S. intelligence agencies on espionage equipment and consults on security for private companies. HBR asked Melton how executives can best guard their secrets.

Who's spying on companies?

Businesses still spy on businesses, of course – they always have. It's not uncommon for companies to plant employees for intelligence gathering. But intelligence services around the world are also spying on companies, on a vast scale. Intelligence services, after all, exist to advance the national interest – and for many nations, that job includes spying on other countries' industries. So companies' secrets aren't just threatened by direct competitors. If your secret is worth enough, you can expect foreign governments to use all the tools at their disposal to get at it.

Aren't companies pretty attuned to security threats these days?

Oh, they have gates, video cameras, and guards in the lobby. But you'd be astonished by how easy companies sometimes make the spy's job. Here's a good one: I was doing a security evaluation for a U.S. company in the Middle East. I asked how people there disposed of classified documents. Well, I was told, the documents were put into blue plastic bags, separate from the regular trash, so they could be burned. So, I go to the office late one night to survey the place. I get off the elevator, and there, sitting in the hallway, are a bunch of blue and white plastic bags waiting for disposal. If I were a spy – say, an employee on the cleaning staff – half my work would already be done for me! By the way, when I asked who burns the stuff in the blue bags, no one knew.

But let's say I do burn my classified trash.

Imagine you're competing for an oil contract in another country. If you're up against a local national company and you're carrying proprietary information for your company and staying in a local hotel, you can *expect* that there will be aggressive efforts to gather your information. If you leave your laptop in your hotel room, expect that the hard drive will be copied.

In one foreign hotel, executives from a visiting company found a pinhole camera in the ceiling, directly over the table where one of them put his laptop. Intelligence agents were capturing his keystrokes as he logged on to his company network. The executives also found that the conventional-looking personal shredder provided in the business-class suite had a hidden scanner built into it. Before it shredded a document, it scanned it and then transmitted the signal along the room's AC wiring to a receiver in the hotel.

Then there are cell phones: Obviously, cell signals can be intercepted. But if I can get hold of your phone for 30 seconds, I can swap in a look-alike battery with a chip that will record your calls and transmit them to me. It can also clandestinely turn the phone on and act as a room microphone. Those batteries are illegal, incidentally, but not hard to get for most phones, from companies in Europe.

Short of hiring counterintelligence agents, what can executives do?

Don't leave your laptop or cell phone unattended. Period. Don't use the high-speed Internet service at your hotel. Go to your local company office if there is one. If there isn't, you'd be better off going to a random WiFi hot spot than using the service in a hotel that is frequented by major business travelers. And if you're headed overseas for a big negotiation and the company you're doing business with offers to arrange a nice suite for you at a specific hotel, don't even consider it. Book your own.

– GARDINER MORSE

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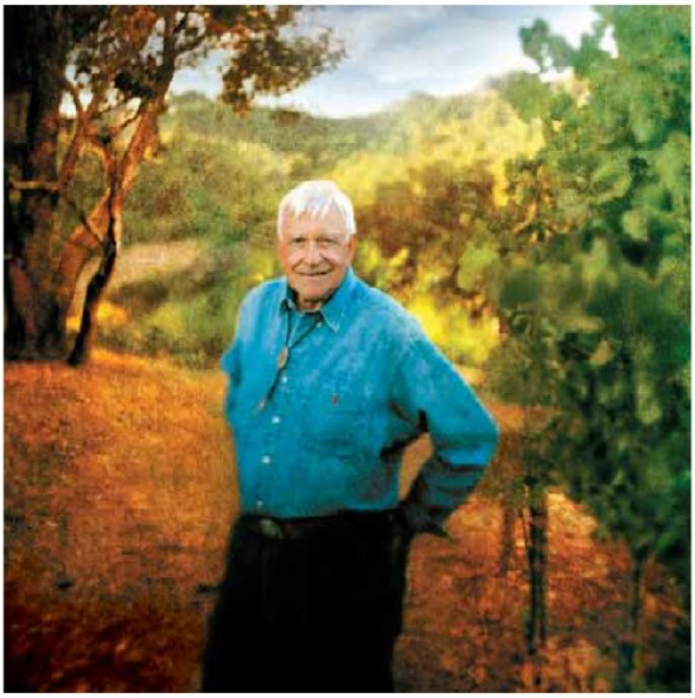
forethought



Jess Jackson — Alexander Mountain Estate, Alexander Valley

KENDALL-JACKSON

I learned a long time ago that it takes a thick skin to make world-class wines. As far back as I can remember, my parents and grandparents taught me the importance of tenacity, honesty and commitment. These are the same values I have passed along to my children. This pioneering heritage inspired me to be inventive and to challenge conventional thinking. As a result, my family was among the first to explore and develop many of California's world-class wine growing regions. My family's tenacious spirit has driven us to seek out high-risk locations that bring high rewards in grape excellence as well as a few occasional disasters when Mother Nature loses her patience with us. Most of our vineyards are located in high elevations along the coolest regions of the California coast. We have learned that these regions yield smaller grapes with more intense flavors due to their thicker skins. Because the fact is, most of the flavor of the grape comes from its skin. Many of you enjoy the taste of my wines, but you're not sure why. My goal is to help you understand with **A Taste of the Truth.**

Jess Jackson

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realized it was more a question of influencing a process in which some decision makers were rather more on board than others. The investor meetings with steering group members helped develop their views and also helped them persuade other colleagues.

Pay attention to the balance of investor noise. Most investors worked quietly behind the scenes with the steering group. But one committee's activities were often reported in the press, and one investor ran his own publicity campaign. Although any more noise might have been counterproductive, those voices, combined with a stormy annual general meeting in which major investors spoke adamantly, probably helped convince everyone that governance changes were essential.

Establish effective, defined checks and balances. When one person used to chair both the CMD and Conference, he was able to dominate the agenda and suppress real scrutiny. That changed once the chairman, the board, the chief executive, and the various committees were given clearly defined roles. Shell also concluded that 16 outside directors were too many–individuals didn't feel accountable enough, and meaningful debate was difficult–so it reduced the number to ten.

Don't ignore governance or relationship problems. Investors knew about some of these governance issues before the crisis occurred; they could have pushed for changes earlier. Even if they'd been unsuccessful, they could have factored those concerns into their investment decisions. Board members, for their part, must have been aware that relations between the two managing directors involved were strained, as were their relations with certain investors and analysts. Had these concerns been addressed, Shell might have been spared considerable embarrassment.

The storm has passed. Today, Royal Dutch Shell is a unified company valued at over $200 billion, with a modern board and proper checks and balances. Investors who worked with Van der Veer, Kerr (now deputy chairman), and their colleagues during the governance reform process say that the directors and the investors built up a healthy respect for each other and that the channels of communication remain open. "It was a good engagement and outcome," remarked one investor. Said another, "Sometimes you *do* get what you want."

NICHOLAS BEALE *(nicholas.beale@sciteb.com) is a director of Sciteb, a London-based consultancy, and the author of* Constructive Engagement: Directors and Investors in Action *(Gower Publishing, 2005).*

Reprint F0511F

BUSINESS TRAVEL

The Department of Mobility

by REX RUNZHEIMER

Employees are constantly in motion–making sales calls or taking service trips; visiting an international office for a few days or relocating there for a few years; soaring across oceans in the corporate jet or heading across town in the company car. Typically, these activities are administered by an assortment of departments and vendors. But we believe companies can improve efficiency, raise employee satisfaction, and potentially reduce costs by centralizing management of all aspects of employee mobility–the process of getting people from here to there.

Several client surveys–each of which tracks a discrete aspect of corporate mobility and includes a sample of between 70 and 120 corporations–and proprietary research show that the typical company spends $25,500 annually on vehicles, travel, and technology per mobile employee. Business travel represents the largest component, with companies spending, on average, $12,500 per traveler per year for airfare, meals, lodging, and other miscellaneous expenditures. The cost of providing a company vehicle or reimbursing an employee for driving his own vehicle for business is approximately $7,100. Meanwhile, communication tools and other technology for mobile workers, such as PDAs, laptops, cell phones, and Internet access, raise the bill another $5,900. Additionally, the employee who relocates costs companies an average of $51,700 for a domestic move and $500,000 or more for a five-year international assignment.

Transportation, travel and entertainment, and technology costs are comparable to those of a typical benefits package, which accounts for about 25% of employee compensation. In most organizations, all aspects of benefits management are consolidated in the HR department, resulting in consistent administration and economies of scale. By contrast, travel and telecommuting arrangements are dispersed among numerous functions, leading to less-than-optimal processes and reduced opportunities for savings. For example, companies' meetings management and travel departments often negotiate separate contracts with the same airlines and hotels. In many cases, these two functions report to people in different parts of the organization, and opportunities to leverage purchasing power are lost. We have also seen many companies give local managers discretion to arrange equipment and connectivity purchases for their telecommuters rather than negotiating a discounted rate on Internet access, cell phone plans, and other services. Such fragmentation is increasingly complicated by outsourcing

continued on page 32

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by JONATHAN SCHWARTZ

If You Want to Lead, Blog

Many senior executives at Sun, including me, have blogs that can be read by anyone, anywhere in the world. We discuss everything from business strategy to product development to company values. We host open letters from the outside, and we openly respond to them. We talk about our successes–and our mistakes. (If you don't believe me, go to www.blogs.sun.com/roller/page/jonathan?entry=dear_john.)

That may seem risky. But it's riskier not to have a blog. Remember when, not long ago, CEOs would ask their assistants to print out their e-mails for them, and they'd dictate responses to be typewritten and sent via snail mail? Where are those leaders now? (The last of my contacts of that breed just retired.) In ten years, most of us will communicate directly with customers, employees, and the broader business community through blogs. For executives, having a blog is not going to be a matter of choice, any more than using e-mail is today. If you're not part of the conversation, others will speak on your behalf–and I'm not talking about your employees.

Blogging lets you participate in communities you want to cultivate–whether it's your employees, potential employees, customers, or anyone else–and leverage your corporate culture competitively. Here's a good example: Sun, like every organization, receives e-mails from happy customers lauding one employee or another for good work. The idea came up that we should post these e-mails on a "wall of fame" on our intranet. But we realized that this venue would profoundly limit the number of readers, so someone suggested putting the wall of fame up on my external blog. Immediately, people raised the concern that by identifying our best employees, we'd make them recruitment targets. Well, of course that could happen. But it cuts both ways. The upside is the positive ripple effect on workers' morale and on the public's perception of the company. What's more, my competitors' employees could see what I'm saying about my team and could decide whether I'm more compelling than their own leaders. So rather than being a threat to Sun, blogging about my best employees can build loyalty and be a recruitment tool to boot.

How do you get started on a blog? I suggest clearly defining a blogging strategy and guidelines. (Or go ahead and use ours at www.sun.com/aboutsun/media/blogs/policy.html. Just make sure to change the company name.) Then find your voice. Be honest and open. Be respectful of your audiences. Don't treat blogging like advertising–it's not. Use humor. Link to those who interest and influence you.

Once you get going, don't micromanage the process. Your legal and corporate communications teams do not have to be involved in every post–after all, they're not involved in every e-mail you send or telephone call you make. Once in a while, you may need to add some clarifying language. (For example, a 14A filing was required for my blog posting about acquisition intentions, just as it would be for many other forms of communication.)

But the rule of thumb is simple: Know the guidelines, then let loose. If you're unclear about your company's policy on something, ask around. Maybe it needs to be more carefully defined.

Be sure to listen to feedback and respond to legitimate ideas–from inside and outside. And, most important, write the blog yourself. Authenticity is paramount. Some senior executives hire people to write their blogs. Don't bother. It's like hiring someone to write your e-mail. It's not going to work.

Trust me, your market and your employees are clamoring for executive engagement and insight. They will value and remember your candor. And you'll be surprised by how much you learn from them.

JONATHAN SCHWARTZ *(jonathan.i.schwartz@sun.com) is the president and COO of Sun Microsystems. His blog is at www.blogs.sun.com/jonathan.*

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arrangements, which make accountability and management oversight even more difficult.

But what if companies treated employee mobility as a single integrated area – ideally under the purview of human resources or finance? Such an approach creates several advantages.

Employees benefit from a single point of contact and standard policies and procedures. For example, an employee can approach the same department whether she plans to travel by company car, private vehicle, or rental car, and can also arrange for a cell phone or PDA at the same time. If a sales rep drives a fleet vehicle to an airport and then hops on a commercial plane, she can report both portions of the trip on the same form. Organizations can use the same motor vehicle record-checking process, regardless of whether an employee travels extensively by company car, private vehicle, or rental car. And a single department can administer airline tickets, work papers and documentation, and even cultural orientation services for employees traveling or relocating abroad.

Managers benefit from the opportunity to share expertise and responsibilities. For example, both corporate travel and international relocation managers must keep up with legal requirements for visas and other documents related to living abroad. And when a mobile employee is hired or terminated, the process is simplified if all corporate property (the corporate credit card, the company vehicle, the cell phone) is seamlessly dispensed and retrieved.

Companies benefit because redundant processes are eliminated and management controls improved. Most important, companies will discover best practices and achieve economies of scale.

The notion of a centralized mobility department is very new, and only a few companies have begun taking steps in that direction. For those that do so, we conservatively project a savings of 15% to 20% in administrative costs and 5% in total program costs. (These assumptions are based, in part, on the results of companies that outsource HR benefits administration to a shared service center.)

For employees, the rewards are also substantial, as centralization takes some of the stress out of being on the go.

REX RUNZHEIMER *(pb@runzheimer.com) is the chairman, CEO, and owner of Runzheimer International, a firm based in Rochester, Wisconsin, that advises companies on employee mobility.*

Reprint F0511H

FRONTIERS

Is There a Patient in the House?

by AMY SALZHAUER

The U.S. health care crisis is about manpower as well as money. Within the next 15 years, experts predict a shortfall of 800,000 nurses and 200,000 doctors, and the American education system is inadequate to take up the slack. As caregiver supply declines, demand for it will rise. For one thing, there are 80 million baby boomers who will be senior citizens by 2015, and senior citizens suffer a higher incidence of chronic disease. Thanks to improvements in acute care, more of these seniors will survive if they have heart attacks, for example, but those survivors will continue to suffer from chronic heart disease. At the same time, obesity and hypertension are epidemic. "We're really looking at three different issues that are converging into a perfect storm," says GE Healthcare Transformation Project Manager Robert Ludlow. "This is an issue that keeps GE's senior leadership up at night."

To date, the media have focused chiefly on the short-term problem of how we pay for health care. But large buyers and providers of health care – and a few canny start-ups – are also working on the longer-term problem of how we deliver it. For chronic disease, the best answer may be to take health care out of hospitals and doctors' offices and move it into people's homes.

Tech Talk: A lot of the most exciting research in home health care is focused on remote patient monitoring – technologies that track physiological changes while the patients go about their daily lives. The concept is neatly summed up in the slogan of Pittsburgh-based BodyMedia: "Health. Care. Anywhere." Started by a group of engineers from Carnegie Mellon, BodyMedia makes noninvasive body-monitoring systems and has created complex predictive algorithms that can interpret the volumes of medical-grade data generated by its monitors. The patient wears a small armband that can capture such information as her heart rate, blood pressure, and glucose level. And body status isn't the only thing that new monitoring technologies are geared toward tracking. For instance, IBM has developed an electronic pillbox that sends a signal to the patient's cell phone every time a tablet is removed and alerts the patient if he has skipped a dose or is taking too many pills.

People Talk: While technology can do much, patients at home still need human help. Some experts feel that those humans should, when possible, be friends and family. Kaiser Permanente, the MIT Media Lab, and a few other organizations recently supported the formation of the Care Product Institute (CPI), a nonprofit group pioneering ways to combine "technology with social support," according to CPI's Brent Lowensohn, an authority on health care technology. In the CPI model, a diabetic's glucose reading might be transmitted to a designated relative who is trained to know what that number means and what to do about it. The family member then can "nudge" the patient to take appropriate actions.

In the Game: The U.S. Department of Health and Human Services attributes 75% of the country's $1.4 trillion in medical care costs to chronic disease. With so much money on the line, companies of all sizes are entering the market. Among the most notable: American TeleCare, BodyMedia, CardioNet, Polar Electro, Honeywell HomMed, GE Medical Systems, Philips, Medtronic, and Motorola.

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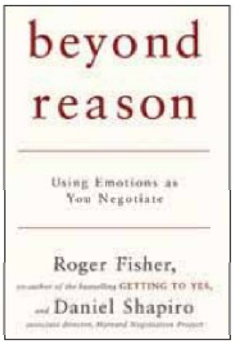
Reviews

Beyond Reason
Using Emotions as You Negotiate
Roger Fisher and Daniel Shapiro
(Viking, 2005)

Sherlock Holmes was a brilliant detective, but he would have made a lousy negotiator. That paragon of rational thought embodied all the traits negotiators need except one: emotion.

We know the advantages of a cool head and logical mind, but rationality alone won't triumph at the bargaining table, assert Roger Fisher and Daniel Shapiro of the Harvard Negotiation Project. Negotiators must also be adept at managing their emotions, because emotions–defined as "felt experience"–influence everything humans do. If we ignore anger, guilt, and panic, they can sabotage us. By contrast, excitement, cheerfulness, pride, and relief can improve our performance in negotiations ranging from the casual to the high-stakes.



The authors suggest a model for managing emotions built on five "concerns" that influence how the negotiator feels and thus performs: appreciation, affiliation, autonomy, status, and role. Negotiators who are aware of those concerns can redirect them onto a positive path. Feeling helpless in the face of a big decision? Reduce the pressure by recalling your autonomy to accept or reject an agreement. Experiencing self-doubt? Boost your confidence by saying something–perhaps a reference to some aspect of your expertise–that raises your status in your opponent's eyes.

Although the model makes sense, it appears, at times, simplistic. Most troublesome is the conflation of feeling an emotion with acting on it and the overemphasis on positive emotions. In fact, *Beyond Reason* is most intriguing when it describes the implications of our darker moods. "Positive emotions are more likely…to foster rapport and collaboration," write Fisher and Shapiro in a short footnote. "Yet, tactically, even the negative emotion of anger can enable two people to clear the air and get back together." That is provocative stuff, as is the single chapter devoted to negative emotions, prosaically titled "On Strong Negative Emotions: They Happen. Be Ready." This reader wondered whether negative emotions are even more constructive than the authors suggest.

Whether or not they are, readers will expect Fisher and Shapiro to deliver some useful tools for understanding and mastering them. Unfortunately, the book falls back on clichés: Listen to calming music. Vent to a disinterested third party. Write a poisonous message that you don't send (a risky suggestion, given the impulsiveness of human nature and irretrievability of e-mail).

Beyond Reason may be, in the end, too simplistic for an audience made savvy by earlier books–including Fisher's own seminal *Getting to Yes*. But even sophisticated readers won't want to miss the excellent annotated bibliography. This tantalizing tour of past and present thinking on emotions and negotiation makes clear just what a rich and nuanced subject it is.

–DIANE L. COUTU

End of the Line: The Rise and Coming Fall of the Global Corporation
Barry C. Lynn
(Doubleday, 2005)

In this informed if overwrought critique, journalist Barry Lynn finds that companies are mishandling their offshoring arrangements–especially by relying on one or two suppliers for key components. If corporations don't better manage their risk by building greater flexibility into their outsourcing arrangements, Lynn warns, governments may have to act.

Grapevine: The New Art of Word-of-Mouth Marketing
Dave Balter and John Butman
(Portfolio, 2005)

Money can't buy you love, but in the early days of buzz marketing, it bought protestations of love as paid shills talked up products while posing as ordinary Joes. Today, marketing is all about authenticity, so a better approach is to enlist the evangelical skills of actual ordinary Joes with a passion for your product, the authors say. (Balter's firm, BzzAgent, does that very thing.) In this consumption-obsessed society, there are plenty of people who enjoy chatting about products almost as much as using them. Much of *Grapevine* reads like an extended testimonial and so is a fine introduction to this technique.

The Ten Faces of Innovation: IDEO's Strategies for Beating the Devil's Advocate and Driving Creativity Throughout Your Organization
Tom Kelley with Jonathan Littman
(Currency/Doubleday, 2005)

If your innovation efforts still rely on focus groups, brainstorming, and other old tricks, this second book from design firm IDEO will introduce you to some new thinking on new thinking. Anyone who has studied the progress of consumer product innovation, however, is probably already familiar with the Anthropologist, who watches how people behave; the Experience Architect, who considers the consumer's overall interaction with a product; and many of IDEO's other archetypes. And the self-congratulatory tone can be grating. Still, the book's detailed, often quirky examples will inspire some of those looking to expand their innovation horizons.

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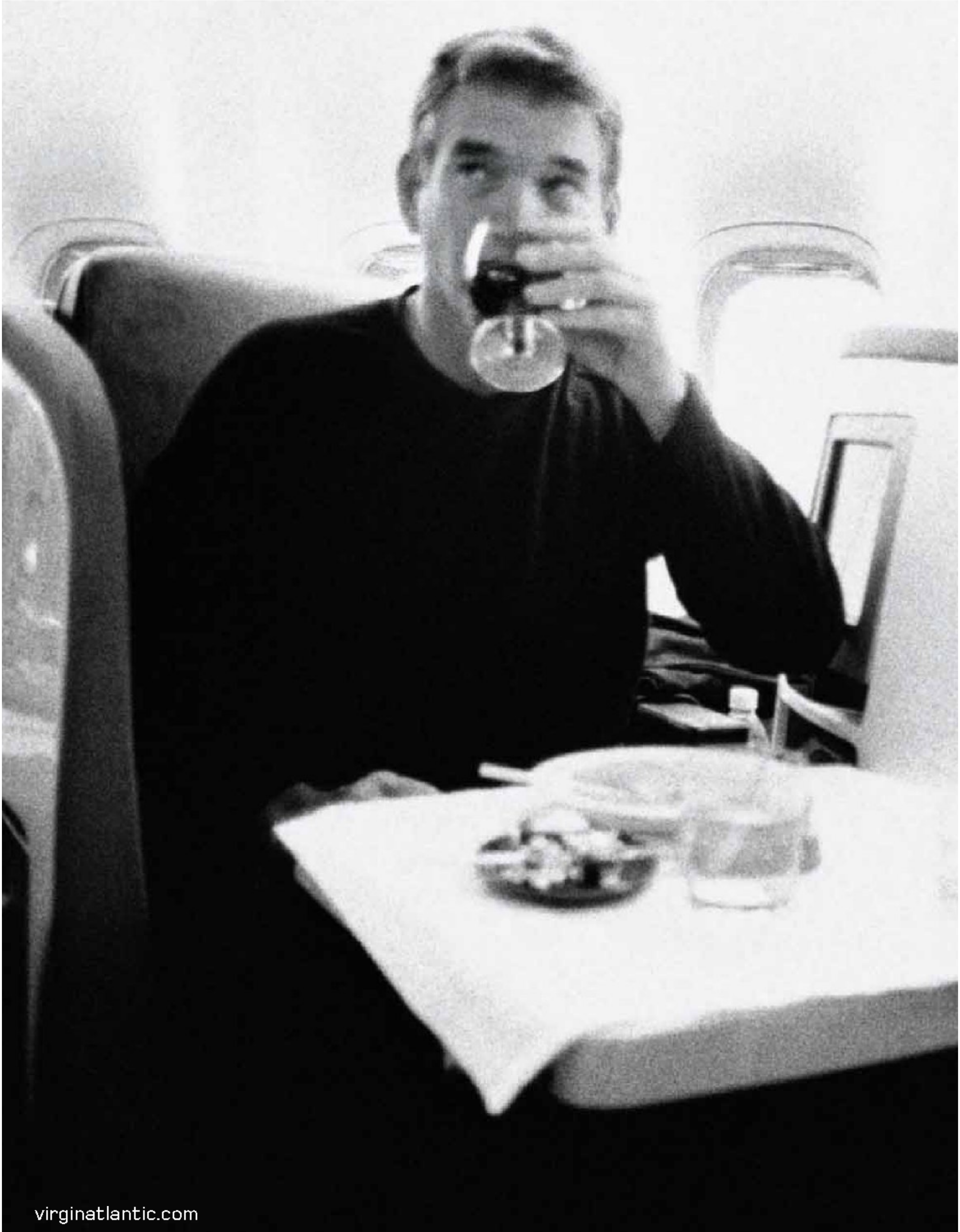
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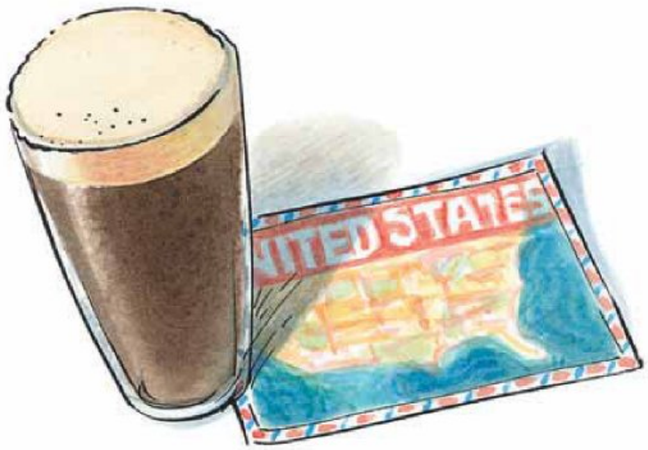


Ireland's booming economy lured John Dooley home six years ago. Is it strong enough to keep him there?

Riding the Celtic Tiger

by Eileen Roche

AS HE WALKED INTO WORK on a rainy Thursday morning, John Dooley felt cheerful despite the bleak weather. BioSol, the global biotechnology corporation he worked for, had recently made significant progress in its therapeutic antibody for the treatment of adult and juvenile asthma. If the momentum continued, it would mean great things not only for the company but also for the thousands of people who suffered from the illness. On a personal level, John's own career could get a real boost as well. Hadn't his boss, Niall Doyle, said as much yesterday, when he told John that corporate headquarters was impressed and suggested they meet today to talk about future plans?

Last night, after the children had gone to bed, John and his wife, Fiona, had conjectured what that might mean for their family. John was the vice president of strategic research now; maybe he'd be promoted to director of his division? Or perhaps the company wanted to tap him for a new project altogether? John had always loved the start-up phase of a project–the feeling of endless possibility, the challenge of assembling the right team, the excitement of discovering something entirely new.

He was finishing off his cup of tea when Doyle knocked on his open office door. "Morning, John. Thought I'd find you in here early."

"Niall," he smiled. "What can I do for you?"

Doyle sat down and came right to the point. "Good news, John. As I mentioned yesterday, the people in California are

HBR's cases, which are fictional, present common managerial dilemmas and offer concrete solutions from experts.

DANIEL VASCONCELLOS

impressed. I had to wait until this morning to talk to you officially, though. The eight-hour time difference can be a hassle, all right, but that's not your problem – at least, not yet," he grinned. "I talked to Carl last night, and he thinks, and I agree, that you're the right man for the job – the director of strategy job, that is, over at headquarters. It's a big jump, I know, but I've got full confidence in you. You're more than up for the challenge. I've always expected great things from you." He beamed. "So, what do you think?"

Truthfully, John didn't know what to think. He hadn't even considered a promotion of that magnitude. He was feeling honored, excited, and overwhelmed, all at once. He cleared his throat, then said, "Niall, I'm floored. I'm not sure what to say."

"Quite right. This is big news to digest. Take some time to think about it. I just want you to know you've got my full backing."

"Thanks, I appreciate that. And I'm honored to be offered such a tremendous opportunity. It would mean big changes, though, and not just for me. I'll have to talk it over with Fiona – "

"Of course, of course. It's a big decision, you can't go rushing in. But I hope you realize just what this could mean for your career. Not everyone gets a chance like this. Besides, you and Fiona have lived in the States before, so it won't be a massive culture shock.... Well, I won't keep you any longer. If there's anything you want to talk about, though, the door's always open." And, with a backward wave, he walked out.

Follow the Rainbow

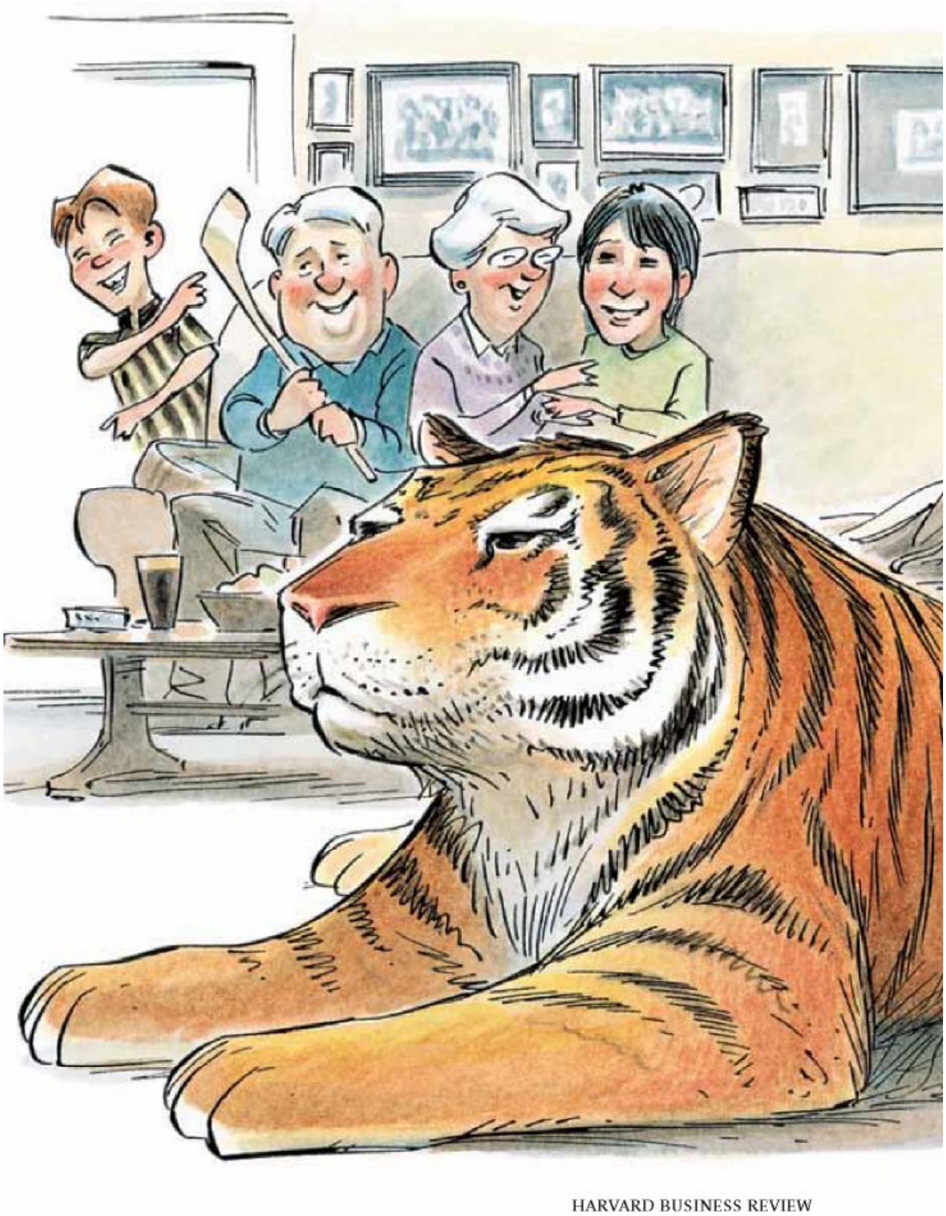
"What an opportunity," John thought. "But America?" He hadn't been prepared for that.

It's true that he and his wife had lived there before – but on the other coast, in Boston. He had met Fiona at university in Dublin 20 years ago. After graduation, they'd taken a year off to travel. They'd backpacked through Europe and worked their way across Australia, tending bar and doing other odd jobs, but mostly just enjoying themselves. When they'd returned home to Ireland, John had gone back to school, earning a master's degree in biology. He and Fiona married, and, when John was accepted to the doctoral program at MIT, they moved to Massachusetts.

The truth was, it had been difficult to make a good living in Ireland then. Jobs were scarce, unemployment was high, and it seemed the natural choice to set out for greener pastures. A lot of John's and Fiona's friends and siblings had moved abroad around that time, too. John had a brother in Canada and a sister in France, and two of Fiona's brothers lived in England.

The couple had had a good life in Boston. John had worked at two leading-edge firms in the area over the course of six years, and Fiona had established a name for herself as a children's book illustrator. They had become involved with a large Irish expatriate community and started their family.

But by 1999, things were turning around at home: The Celtic Tiger was in full force. John and Fiona had attended three going-away parties in the past year for friends moving back to Ireland,



Eileen Roche (eroche@hbsp.harvard.edu) is an associate editor at HBR.

and they began to wonder seriously if they should follow suit. Why not? They'd left to make a better life for themselves, but now it seemed they could make a fine living in Ireland. Business was booming, and the whole country seemed to be bursting with possibility. The Irish government was investing heavily in the economy; the country's low corporate tax rate and large pool of educated workers were attracting companies from all over the globe. And there was even a burgeoning biotechnology industry, so John's career wouldn't suffer. Ultimately, the deciding factor had been their young son, Conor. They wanted him to grow up knowing his grandparents and other relatives, to learn Irish history, and to play hurling and Gaelic football rather than baseball–a sport neither of them understood. So, when John was offered a job at BioSol's Dublin subsidiary, he and Fiona decided to pull up stakes and go home.

They had settled in the Ballsbridge neighborhood of Dublin, which was convenient to the office and only a short drive away from Fiona's parents in Wicklow. John's parents, on the north side of Dublin, were even closer. The following year, their daughter, Nicola, had been born; now she was starting school. In all, John felt himself a lucky man. He loved this city–loved the smell of barley by the Guinness factory, the bustle of Temple Bar, the bits of history around every corner. But what to do about this promotion?

He picked up the telephone and tapped in his wife's mobile phone number. When she didn't pick up, he left a brief message: "Fi, I've just gotten some big news at work–bigger than we imagined. Give me a call when you get this? Thanks."

Seeing Green

At 6:00 PM, John left the office and headed over to O'Neill's. The pub had been their local since university days, and John and his friends still met up there at least once a month. He found Dave and Fergal already settled in a booth when he arrived. He ordered three pints of Guinness and walked over to join them.

"Cheers, John," said Fergal as he picked up his glass. "What's the story?"

John updated them on the day's events.

"That's brilliant! You're taking it, right?!" urged Dave, in a voice that sounded more like a command than a question.

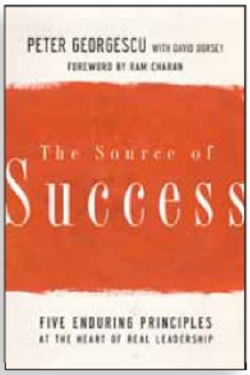
"What? And move to California?" Fergal interrupted. "You tried life in the States before, remember? And you came back home, I'm assuming, for good reasons–"

"John, if you say no, you can kiss any hopes of advancing in your company good-bye," Dave jumped in again. "Besides, it's a deadly offer," he grinned. "You'll be running the whole show in no time."

"There are loads of biotech companies here," retorted Fergal. "Couldn't you do just as well in one of them?"

John felt a bit like he was watching a tennis match. "Actually," he spoke before Dave could make his next point, "I've had a few conversations with a recruiter for a local company. GeneSys is looking to hire an executive vice president of R&D. It's much smaller than BioSol, though, and it doesn't have nearly the reputation."

How business gets better.



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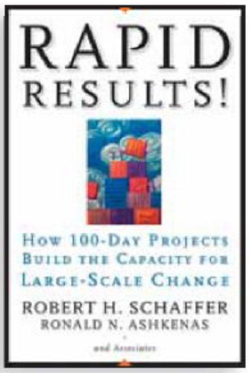

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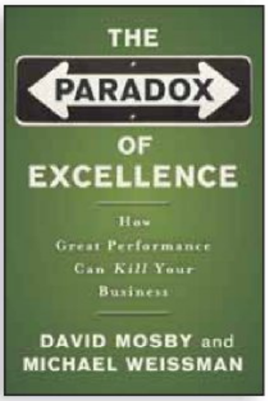

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"Are you mad?" asked Dave. "You're seriously considering turning down an offer at one of the world's most respected companies in America – 'the land of opportunity'–for a small operation in Ireland, best known as 'a terrible beauty'? Think of the life you could give your children there. Think of your career. Hell, think of the sunshine."

Fergal countered, "Think of the earthquakes!"

moving them to Poland. Who's to say that's not a sign of things to come? Remember what happened in Israel a few years ago? The economy took off in the 1990s, just like here. But then it crashed – hard. What if we're next, and I've already turned down my big chance at BioSol?"

"Ah, go on then," mocked Fergal, in an over-the-top accent. "Sure, you're just like all the rest – happy enough to pull

He loved this city – loved the smell of barley by the Guinness factory, the bustle of Temple Bar, the bits of history around every corner. But what to do about this promotion?

"Whatever I decide, it will not be due to the weather or tectonic plates," John said, slightly frustrated. "I was hoping for some good advice from you two."

"Well, I spent a year in New York, and two things stick out in my mind," said Fergal. "One, the money there is terrible – all the same color and size. Can't tell you how many times I lost track of what I had." At John's expression, he rushed on. "And two, Americans don't know how to buy rounds – though some Irish, I'm ashamed to say," he looked pointedly at Dave, "can be just as ignorant."

"I'm going, ye muppet. But first I am trying to save my friend here from your ludicrous waffling. Money 'all the same color,'" Dave muttered as he walked to the bar. A few minutes later, they were each sipping a fresh pint.

"The Guinness isn't the same over there, I'll give you that," said John, looking at Fergal. "But I did take to their Thanksgiving holiday. So that's a point in their favor," he sighed. "The thing is, I know how it feels to be an expat. You're always a bit of an outsider, you miss the cultural references, you're far from family. That's part of the reason we came home in the first place.

"But I've got to be realistic. How long is Ireland's economy going to keep up like this? I read in the paper last week about another company that's cutting hundreds of accounting jobs here and

your chair up to the table when the feast is on, but not willing to roll up your sleeves and cook the meal." He winked. "What kind of an Irishman are you?" Even though Fergal's tone was light, John sensed he wasn't entirely joking.

"Relax, Fergal, I'm not turning my back on Ireland."

Fergal raised an eyebrow questioningly, then spoke. "All right, all messing aside, I see what you're saying. But let me ask you this: Aren't the reasons you came home still true? Aren't you happy your children are learning Irish in school and Conor's going to be a cracker of a hurler? Aren't you glad they've grown so close to their grandparents, and you can drop the kids off with them for an hour or two with no worries? I'm not telling you to sacrifice your kids' futures; I'm saying we've got one of the strongest economies in the world right now. Isn't that enough?"

Without giving John a chance to reply, Dave spoke up. "Look, I'm all for Ireland – I live here myself, you might've noticed. But a chance like this doesn't come along very often. This is a big step in your career – more money, more responsibility, more everything. I don't want you to throw it away because Fergal here starts singing 'The Fields of Athenry' and you get all sentimental. What does Fiona have to say about all of this?"

"We only talked briefly on the phone today; she was happy for me, of course, but she definitely hasn't started packing. We're going to have a serious conversation when I get home." John checked his watch. "Right, I should be off. Talk to you later." He stood, put on his coat, and waved as he left the pub.

Opportunity Rings

John was stifling a yawn when the phone rang in his office Friday morning. He and Fiona had been up half the night talking about the pros and cons of relocating. As an illustrator, she wasn't tied to an office, but she did have definite attachments to their community. She was reluctant to give them up and was concerned about how Conor and Nicola would adjust to a new culture. John was concerned, too, but they agreed that exposing their children to a new country wouldn't be all bad. They'd widen their horizons, and some of the best schools in the world were located in the States.

He picked up the receiver, "Yes? John Dooley here."

"I'm glad I found you in, John. It's Suzanne White. I was wondering if you've given any more thought to the executive position at GeneSys we talked about last week?"

"Suzanne, hello. Thanks for calling. I have been considering it, yes. I have to be honest, though, my circumstances have changed since last we spoke. I was offered a new position here at BioSol, which rather complicates things."

"Oh, I see. Of course, I understand, but before you make a final decision, could I persuade you to meet with Tim Clarke, the CEO? He's eager to speak with you. Talking with him about his vision for the company, and how you fit into it, might help you decide."

John agreed and arranged for a lunch meeting the following week. "It can't hurt to listen," he thought. "And I *would* like to stay in Ireland." But was that a good enough reason to turn down the promotion at BioSol?

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First make the macro decision: Where is my life headed, and what do I want it to mean? Then make the micro decision: Where will I work?

A few decades ago, many people emigrated from India to the United States to pursue economic opportunity. These "professional refugees" may have adjusted well to their new lives, but most maintained strong emotional and familial ties to their homeland and harbored a desire to return someday. Because there was such disparity between the opportunities available in India and those available in the United States and Great Britain, however, the head had to overrule the heart, and few émigrés actually moved back home.

Today, though, it's possible to make decisions with your head and your heart in agreement. Many nations – such as India, China, and Ireland – are solidly on the path of growth. You are as likely to be designing next-generation chips for Intel in Bangalore as you are in Silicon Valley. We can expect to see the occasional blip, but there's no question that the fundamentals for long-term growth are in place.

Turning to the case study, John Dooley should think about his choice in terms of growth, relative positioning, and impact. Given the state of their development compared with the United States, countries like Ireland and India are more likely to sustain high overall growth rates of 8% or 9%. The rising tide in these countries will result in much wider and more attractive opportunities.

Next, relative positioning. People who have studied and worked in the United States, like me and like John, are typically at an advantage in their home countries. The experience and perspective gained by having worked in what is viewed as the most commercially advanced environment opens many doors. But, in the United States, the fact that John is an Irish expatriate would be neutral – it would not give him an edge.

Finally, many returning émigrés find satisfaction in their ability to have real impact in their home countries. One can, of course, make a contribution anywhere, but here in India the impact can be dramatic. In 2000, for instance, I was involved in starting the Akshaya Patra Foundation, an organization that feeds children in government-run schools. Today, we feed 253,000 kids a day. In many schools, the program has increased attendance from less than 50% to more than 90%. The program costs only about $22 per child for a whole year, and it has set an example that the federal and many state governments are beginning to follow.

To me, John's decision is a no-brainer. I left India at age 17. I was educated in the United States, had a very good life there, and found terrific opportunities as a management consultant, investment banker, and private equity investor before returning home in 1999 to start the first independent venture capital fund in India. At that time, it wasn't clear that India was going to take off economically, and very few professionals were making their way back in this direction. In the past six years, however, the combination of economic opportunity, closeness to family, and the ability to make a difference has been unbeatable. There are, of course, the frustrations that come with poor infrastructure and visible poverty, but they often provide me with the energy to work even harder in the hope that my business will mean something.

When facing a professional crossroads, first you have to make the macro decision: Where is my life headed, and what do I want it to mean? Then you make the micro decision: Where will I work, and which job will I hold? In matters this important, you can't let the micro concerns drive the macro. John doesn't need to leave Ireland to have a successful career; the country is doing well economically. But should things go sideways there, then maybe it would be time, as Fergal suggests, for John to roll up his sleeves and help move his country forward.

WENDY WRAY

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James M. Citrin, a senior director at Spencer Stuart in Stamford, Connecticut, is a recruiter of CEOs and board directors. He has authored or coauthored four books on leadership and career management. His most recent book, with Thomas J. Neff, is You're in Charge – Now What? The 8-Point Plan *(Crown Business, 2005).*

John approaches his opportunity in the classic way, by making a list of pros and cons. It isn't surprising, therefore, that by the following day he is no further ahead in his thinking. A more productive approach is to create scenarios to see how the decision might play out. For example, assume John accepts the job, then looks back at this moment three years later. He should ask himself, "What will have had to fall in place for this to be the best decision of my life?" He should also force himself to unfold the events that would have made this the worst decision of his career. The process of creating those scenarios and evaluating the assumptions that would make them come to pass will not only guide his decision but will also suggest aspects of the offer he should take care to negotiate.

In outlining the two scenarios, John should address three separate perspectives along what I call the "career triangle"–professional development/impact, lifestyle/family, and compensation/financial – and focus on what really matters in each. So, for instance, John's good scenario might include family successes such as finding a terrific new home, first-rate schools for the kids, and interesting illustration projects for his wife, Fiona. On the professional development front, John could discover a real love for higher-level strategy work and his ability to add more value than the typical American executive. As an Irishman with a doctorate from MIT, he might even enjoy some celebrity at headquarters. Success on the financial dimension might simply mean doing better after accounting for the difference in cost of living. Put it all together and accepting the promotion looks like a very good decision.

In the bad scenario, however, Fiona can't break into local professional networks or the social scene, and the children are ridiculed for their funny accents. John realizes that he is embroiled in shallow MBA-type work that he scorned as a scientist and that he's far from the real action at BioSol, which is all about discovering new cures. California proves to be so incredibly expensive that John is not really ahead of where he was financially, and, to make things worse, the family is stranded – the only way to get back to Ireland is for John personally to incur the cost of quitting and relocating. If this tale of woe were to become manifest, John would curse his decision.

The value of drawing these two scenarios is that now John can approach the decision systematically by assessing the likelihood of these various outcomes and actually managing some of the issues. To do that, John can reflect on what he already knows from visits to California and interactions with colleagues there. Another trip, with Fiona, might make sense to get the feel of the place. He can schedule a phone call to the executive who would be his boss and get a better idea of the real substance of the job: What is the day-to-day routine like? What constitutes success? Scenario planning can also help minimize risk. For example, John might ask for a formal checkpoint in, say, two years and an agreement that, if either side feels it's time for a change, the family can move back at company expense, without angst.

Scenario planning can help minimize risk. John might ask for a formal checkpoint in two years and an agreement that the family can move back at company expense.

Is it important to go through the same kind of process with the opportunity offered by the Ireland-based start-up? In my opinion, no. John should politely decline it and stay focused on his future with BioSol. My guess is that John is not an entrepreneur at heart; otherwise he wouldn't be so happy and successful in a big multinational. But, even if he is the start-up type, he'll have other opportunities – and they'll only get better as he rises through the ranks at BioSol.

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Maurice Treacy is the director of biotechnology at Science Foundation Ireland in Dublin.

I can sympathize with John, because there are many parallels between his career and my own. My wife and I are both scientists, and we moved to San Diego in 1988 for our postdoctoral studies. At the time, staying in Ireland wasn't a real choice – we simply couldn't do the cutting-edge research we wanted to there. In California, we were able to rub shoulders with the pioneers of the biotechnology industry. Four years later, we moved to Boston, where I worked for a company headquartered in Switzerland, where we also spent two years.

Those were all positive experiences, but the fact is, it's easier to be in your home country; you've got a support structure there, you have family, you know how things work. In the late 1990s, we began to see that opportunities were emerging for us in Ireland. So, we moved back home and found a sense of optimism and possibility that hadn't existed a decade before.

By now, everyone has heard of the contributing factors of the Celtic Tiger – low corporate tax rates; a strong education system; a skilled, English-speaking workforce; a commitment to investment. In 2000, for instance,

Ireland has made a long-term commitment to growing the biotech sector, and John can be just as successful here as he would be in the United States.

Science Foundation Ireland was established to help ensure the nation's long-term competitiveness. SFI has received €640 million in government funding, and that's just one agency. It works in conjunction with other government agencies, like Enterprise Ireland and IDA Ireland, to foster collaboration between universities and the private sector to strengthen the knowledge-based economy that is Ireland today.

When I returned to Ireland, I set up HiberGen, the first genomics-based drug-discovery company in the country. Several years later, I joined SFI so that I could participate more fully in shaping academic research and contribute more directly to the growing biotechnology industry. By June 2005, SFI's biotech division had invested €170 million in 84 principal investigators and their research teams. These experts represent a critical mass within the academic research community and serve as a huge attractant to companies of all sizes to perform research in Ireland.

John need not be overly concerned about Ireland's economic stability. By all accounts, the republic is thriving. Twenty-five percent of all foreign domestic investment into Europe comes to Ireland, and its per capita GDP is higher than Germany, France, and Great Britain. Moreover, Ireland's participation in the Lisbon Agenda, which states that 3% of GDP will be spent on R&D by 2010, will create more opportunities for growth.

That's not to say there isn't room for improvement. Setting up a business here isn't as cost-effective as it once was because labor isn't cheap. To stay competitive, we need other incentives, like skilled workers and a strong infrastructure. We need to better advertise the fact that revenue generated from intellectual property created in Ireland is 100% tax exempt. That's a powerful incentive to do research here. The government also needs to consider giving deeper tax breaks to individual researchers who relocate to Ireland. And there should be constant investments in improving roads and other infrastructure. Finally, Ireland's key priority should be to broaden the activities conducted by the huge embedded multinationals from manufacturing to research and knowledge-based work.

My advice to John is to stay in Ireland. His roots are here, and he appears to long to remain in his home country. He'll probably travel to numerous countries with his new company to collaborate with experts, and that will keep him abreast of the constantly evolving biotech sector. Of course, there's always going to be an element of risk – that's the nature of the industry. But Ireland has made a long-term commitment to growing this sector, and John can be just as successful here as he would be in the United States.

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Although BioSol's market is high-tech, its expatriate management is old school and paternalistic.

The real problem here is that BioSol is at risk of losing a valuable employee, and it doesn't even know it. Although BioSol's market is high-tech, its expatriate management is old school and paternalistic. To properly manage talent, BioSol will need to abandon its backroom politics, open up communications with its key employees, and recognize the importance of involving family and offering support during major transitions.

Backroom Politics. There sure seems to be a lot of smoke in the back room as Niall Doyle in Ireland and the executives in California decide that John is the right man for the job. They assume he will see the opportunity as too good to pass up, but they haven't checked to see whether he would even contemplate leaving Ireland. This gap in thinking might be generational – members of Generations X and Y tend to strike a different work/life balance than earlier generations – but smart leaders would have taken that difference into account.

It's also clear that the headquarters staff don't recognize the challenge of cross-cultural adjustments. Perhaps they assume that "inpatriation" is easier than expatriation because, for them, HQ is home. Whatever the reason, they need to broaden their perspective, appreciate that international assignments inevitably cause upheaval in an employee's life, and act accordingly.

One way to head off potential problems from the start is to announce the availability of certain key jobs to a select group of eligible employees, with an invitation to consider applying. This would attract interested employees instead of forcing anyone into an unwanted position.

Active Communication. On the surface, BioSol seems to have avoided a common trap in managing foreign assignments: poor cultural adjustment. BioSol knows that John adapted successfully to life in the United States several years ago – at least in Boston, with its strong Irish community and traditions – so, no problem, right?

Wrong. Does the company know whether John has enough experience to run the global strategy team in California? More important, has the firm offered him what he needs to make an informed decision? Niall gives John "some time to think," but what John really needs is more information about the job, the package, and his prospects. Could John return to Ireland in a more senior role in a few years? If he turns the position down, does he have other options at BioSol?

Companies interested in holding on to their talent should have regular conversations with key employees about their jobs, careers, and outlook. If Niall and John had had such a conversation, for example, Niall would probably have learned about the headhunting a long time ago.

Transition Support. It is imperative to involve an employee's family in life-altering decisions. Spousal satisfaction and adjustment are crucial for successful expatriate assignments. And given that few women today are willing to sacrifice their professional lives for their husbands' ambition, BioSol should acknowledge Fiona's independent career. The company should prepare a package and a plan and involve her in the discussions.

Also, it's likely that executive management has been considering who would fill the top-team position for some time, and they are probably ready for John to move into his new position pronto. This is often true for international assignments; unfortunately, it means they rarely come with enough lead time to arrange a smooth transfer at both ends. This puts an added strain on the employee and results in a slower road to top performance.

Finally, BioSol should provide coaching. John's friends may offer their advice, but their own aspirations and ideas compromise their judgment. Working things out with an objective professional is more likely to result in making the right decision.

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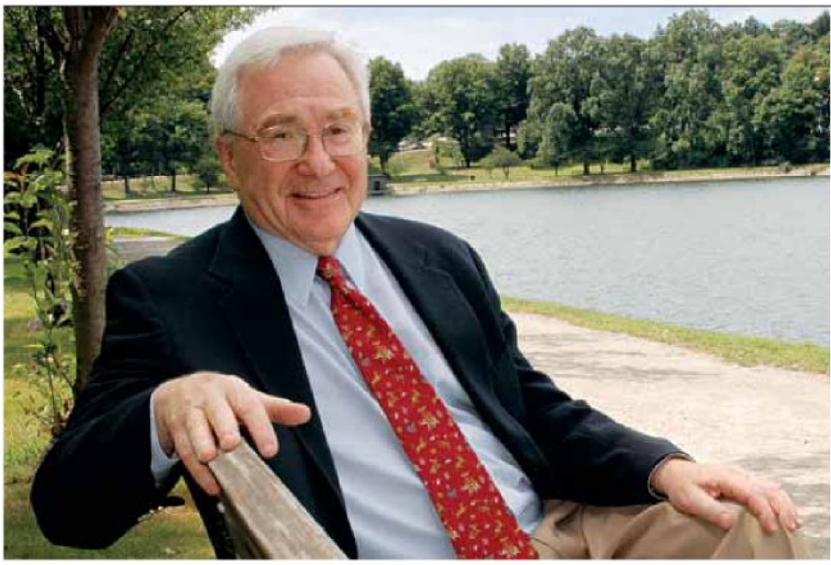

Are You Working Too Hard?

A Conversation with Mind/Body Researcher Herbert Benson

Is stress good or bad for you? The answer is both. New research demonstrates that managers who learn to regulate stress can be more productive and happy at work – and do the same for their teams.

MANAGERS APPLY pressure to themselves and their teams in the belief that it will make them more productive. After all, stress is an intrinsic part of work and a critical element of achievement; without a certain amount of it, we would never perform at all.

Yet the dangers of burnout are real. Studies cited by the National Institute for Occupational Safety and Health (NIOSH) indicate that some 40% of all workers today feel overworked, pressured, and squeezed to the point of anxiety, depression, and disease. And the problem is getting worse, thanks to intensified competition, rapid market changes, and an unending stream of terrible news about natural disasters, terrorism, and the state of the economy. The cost to employers is appalling: Corporate health insurance premiums in the United States shot up by 11.2% in 2004 – quadruple the rate of inflation – according to survey figures from the Henry J. Kaiser Family Foundation. Today, the American Institute of Stress reports, roughly 60% of doctor visits stem from stress-related complaints and illnesses: In total, American businesses lose $300 billion annually to lowered productivity, absenteeism, health-care, and related costs stemming from stress.

So the question is: When does stress help and when does it hurt? To find out, HBR senior editor Bronwyn Fryer talked with Herbert Benson, M.D., founder of the Mind/Body Medical Institute in Chestnut Hill, Massachusetts. Also an associate professor of medicine at Harvard Medical School, Benson has spent more than 35 years conducting research in the fields of neuroscience and stress. He is best known for his 1975 bestseller, *The Relaxation Response*. He first described a technique to bring forth the complex physiologic dance between stress and relaxation, and the benefits to managers of practices such

KATHY C. ARMAN

as meditation, in these pages in "Your Innate Asset for Combating Stress" (July–August 1974). His most recent book is *The Breakout Principle* (Scribner, 2003) with William Proctor.

Benson and Proctor have found that managers can learn to use stress productively by applying the "breakout principle"– a paradoxical active-passive dynamic. By using simple techniques to regulate the amounts of stress one feels, a manager can increase performance and productivity and avoid burnout. In this edited conversation, Benson describes how managers can tap into their own creative insights, boost their productivity at work, and assist their teams to do the same. He is quick to acknowledge the large part Proctor's thinking has played in the ideas he discusses here.

The relaxation response is a physical state of deep rest that counteracts the harmful effects of the fight-or-flight response.

We all know that unmanaged stress can be destructive. But are there positive sides to stress as well?

Yes, but let's define what stress is first. Stress is a physiological response to any change, whether good or bad, that alerts the adaptive fight-or-flight response in the brain and the body. Good stress, also called "eustress," gives us energy and motivates us to strive and produce. We see eustress in elite athletes, creative artists, and all kinds of high achievers. Anyone who's clinched an important deal or had a good performance review, for example, enjoys the benefits of eustress, such as clear thinking, focus, and creative insight.

But when most people talk about stress, they are referring to the bad kind. At work, negative stressors are usually the perceived actions of customers, clients, bosses, colleagues, and employees, combined with demanding deadlines. At the Mind/Body Medical Institute, we also encounter executives who worry incessantly about Sarbanes-Oxley compliance, the impact of China on their companies' markets, the state of the economy, the world oil supply, and so on. Additionally, people bring to work the stress aroused by dealing with family problems, taxes, and traffic jams, as well as anxieties stemming from a continuous diet of bad news that upsets them and makes them feel helpless–hurricanes, politics, child abductions, wars, terrorist attacks, environmental devastation, you name it.

Many companies offer various kinds of stress-reduction programs, from on-site yoga classes and massage to fancy gyms to workshops. What's wrong with these?

It's critical that companies do something to address the rampant negative effects of workplace stress if they want to compete effectively, but often the kinds of programs they institute are stopgaps. HR may bring in a lecturer once or twice a year or set up tai chi sessions and urge everyone to go, but few people show up because they feel they can't take the time to eat their lunch, much less spend an hour doing something perceived as both unrelated to work and relaxing to boot. Unless the leadership and culture explicitly encourage people to join in, employees will continue to feel guilty or worry that they'll be seen as slackers if they go.

This state of affairs is inexcusable if you look at the billions lost to absenteeism, turnover, disability, insurance costs, workplace accidents, violence, workers' compensation, and lawsuits, not to mention the expense of replacing valuable employees lost to stress-related problems. Fortunately, each of us holds the key for managing stress, and leaders who learn to do this and help their employees to do likewise can tap into enormous productivity and potential while mitigating these costs.

What is the science behind your latest research, and what does it reveal?

First, let me say that we at the Mind/Body Medical Institute didn't discover anything new. The American philosopher William James identified the breakout principle in his *Varieties of Religious Experience* in 1902. What we set about to do was explore the science behind what James had identified.

Over the past 35 years, our teams have collected data on thousands of subjects from population studies, physiologic measurements, brain imaging, molecular biology, biochemistry, and other approaches to measuring bodily reactions to stress. From these we identified the relaxation response and could see how powerful it was. It is a physical state of

The Yerkes-Dodson Curve

Stress is an essential response in highly competitive environments. Before a race, before an exam, before an important meeting, your heart rate goes up and so does your blood pressure. You become more focused, alert, and efficient. But past a certain level, stress compromises your performance, efficiency, and eventually your heath. Two Harvard researchers, Robert M. Yerkes and John D. Dodson, first calibrated the relationship between stress and performance in 1908, which has been dubbed the Yerkes-Dodson law.

deep rest that counteracts the harmful effects of the fight-or-flight response, such as increased heart rate, blood pressure, and muscle tension.

Neurologically, what happens is this: When we encounter a stressor at work – a difficult employee, a tough negotiation, a tight deadline, or worse – we can deal with it for a little while before the negative effects set in. But if we are exposed for excessively long periods to the fight-or-flight response, the pressure on us will become too great, and our system will be flooded with the hormones epinephrine, norepinephrine, and cortisol. These cause blood pressure to rise and the heart rate and brain activity to increase, effects that are very deleterious over time. But our latest findings indicate that by completely letting go of a problem at that point by applying certain triggers, the brain actually rearranges itself so that the hemispheres communicate better. Then the brain is better able to solve the problem.

The best way to understand this mechanism is to go back nearly 100 years to the work of two Harvard researchers, Robert Yerkes and John Dodson. In 1908, these two demonstrated that efficiency increases when stress increases,

Anyone who's clinched an important deal or had a good performance review enjoys the benefits of good stress.

but only up to a point; after that, performance falls off dramatically (see the exhibit "The Yerkes-Dodson Curve"). We found that by taking the stress level up to the top of the bell curve and then effectively pulling the rug out from under it by turning to a quieting, rejuvenating activity, subjects could evoke the relaxation response, which effectively counteracts the negative effects of the stress hormones. Molecular studies have shown that the calming response releases little "puffs" of nitric oxide, which has been linked to the production of such neurotransmitters as endorphins and dopamine. These chemicals enhance general feelings of well-being. As the brain quiets down, another phenomenon that we call "calm commotion" – or a focused increase in activity – takes place in the areas of the brain associated with attention, space-time concepts, and decision making.

In eliciting the relaxation response, individuals experience a sudden creative insight, in which the solution to the problem becomes apparent. This is a momentary phenomenon. Thereafter, the subjects enter a state of sustained improved performance, which we call the "new-normal" state, because the breakthrough effect can be remembered indefinitely.

We find this to be an intriguing phenomenon. By bringing the brain to the height of activity and then suddenly

moving it into a passive, relaxed state, it's possible to stimulate much higher neurological performance than would otherwise be the case. Over time, subjects who learn to do this as a matter of course perform at consistently higher levels. The effect is particularly noticeable in athletes and creative artists, but we have also seen it among the businesspeople we work with.

So how would a manager actually go about tapping into the breakout principle?

A breakout sequence occurs in four steps. The first step is to struggle mightily with a thorny problem. For a businessperson, this may be concentrated problem analysis or fact gathering; it can also simply be thinking intently about a stressful situation at work – a tough employee, a performance conundrum, a budgetary difficulty. The key is to put a significant amount of preliminary hard work into the matter. Basically, you want to lean into the problem to get to the top of the Yerkes-Dodson curve.

You can tell when you have neared the top of the curve when you stop feeling productive and start feeling stressed. You may have unpleasant feelings such as anxiety, fearfulness, anger, or boredom, or you may feel like procrastinating. You may even have physical symptoms such as a headache, a knot in the stomach, or sweaty palms. At this point, it's time to move to step two.

Step two involves walking away from the problem and doing something utterly different that produces the relaxation response. There are many ways to do this. A ten-minute relaxation-response exercise, in which you calm your mind and focus on your out-breath while disregarding the thoughts you've been having, works extremely well. Some people go jogging or pet a furry animal; others look at paintings they love. Some relax in a sauna or take a hot shower. Still others "sleep on it" by taking a nap or getting a good night's rest, having a meal with friends, or listening to their favorite calming music. One male executive I know relaxes by doing needlepoint. All of these things bring about the mental rearrangement that is the foundation for new insights, solutions, and creativity. The key is to stop analyzing, surrender control, and completely detach yourself from the stress-producing thoughts. When you allow your brain to quiet down, your body releases the puffs of nitric oxide that make you feel better and make you more productive.

One executive we observed was worried about a big presentation she had to make before some top-level managers. She worked and worked on it, but the harder she worked the more befuddled she became and the more anxiety took over. Fortunately, she had learned to evoke her relaxation response by visiting the art museum near her office. So she did. After a while, she felt a sense of total release as she stood there looking at her favorite pictures. At that point, she suddenly had the insight that she was trying to cover too many topics at once and needed to pare down the presentation to a single, overriding concept she could illustrate with solid examples. She felt inspired and confident that she had the answer. She went back to the office, redid the presentation and, feeling relaxed and happy, went home for the day.

This third step – gaining a sudden insight – is the actual breakout. Breakouts are also often referred to as "peak experiences," "flow," or "being in the zone." Elite athletes reach this state when they train hard and then let go and allow the muscle memory to take over. They become completely immersed in what they're doing, which feels automatic, smooth, and effortless. In all cases, a breakout is experienced as a sense of well-being and relaxation that brings with it an unexpected insight or a higher level of performance. And it's all the result of a simple biological mechanism that we can tap into at will.

The final step is the return to the new-normal state in which the sense of self-confidence continues. The manager who reorganized her presentation, for example, came in the next morning knowing all would be well. The meeting did go well, and she received accolades for her work from her bosses and colleagues.

Efficiency increases when stress increases, but only up to a point; after that, performance falls off dramatically.

Does a breakout occur all the time or just occasionally? What percentage of people, according to your research, experience breakouts in this way?

We don't yet have hard data on this, but anecdotally I can tell you that when you compare groups of people who have been trained to evoke the relaxation response to groups who lack such training, the former experience breakouts much more frequently. About 25% of people trained in this process, and sometimes many more, can reliably reach the breakout stage.

Can teams or groups do this together or somehow feed off one another?

Certainly. The benefits of mind/body management are by no means limited to individuals. Those who become skilled in these techniques can also expect to have an exponential impact in groups or teams; they can work together to solve organizational problems as part of what we might call a mind/body orchestra.

Let me give you an example of how this works. A few years ago, three software executives with whom we had worked spent two days trying to cajole venture capitalists in Singapore to fund several projects having to do with a new kind of encryption technology. They had all thought long and hard about the problems with encryption, both at their home office in the States and in their preparations for the Singapore presentation. This produced significant levels of stress hormones.

After the meetings finally ended, the three of them took a cab to the airport. The drive was long, and they all felt they could finally let their hair down and relax. Through no planning on anyone's part, the environment in the taxi produced the required break from prior thinking patterns and emotions. The sense of relief, the release from days of high stress, the feeling of camaraderie, and the mentally lulling ride in the dark taxi clearly triggered the relaxation response. That put them all in a neurological position to focus and think clearly about encryption.

The inventor of the technology was the most creative thinker of the three, the one who could best integrate his left- and right-brain functions. He tossed out a thought that had just come to him for a revolutionary product. The others, who were more linear and practical in their thinking style, got excited and chimed in with all kinds of questions and ideas for marketing and selling it. By the end of the cab ride, the trio had fashioned an entirely new encryption product–without taking a single note as the final idea emerged in their minds. They filed a provisional patent three weeks afterwards and their final patent application one year later. They are now selling a version of the product as part of a multimillion-dollar enterprise.

Unwinding after a long trip is one thing, but if you were a manager dealing with a project team in a conference room, what might you do to evoke a breakout?

First, I would lay out a picture of an especially difficult project. I'd ask everyone to come to the meeting having thought very hard about their particular task and how that task affects other parts of the project. I would open the meeting by saying something about what we were all trying to achieve.

Then I would tell the group that we want to shift our thinking to produce a breakthrough idea, and we can do that by evoking the relaxation response. When I work with groups of people, I ask them to close their eyes and relax all their muscles, beginning at their feet and progressing up from the feet and legs through the torso, and finally to their shoulders, neck, and head. I ask them to focus on breathing slowly. Every time they breathe out, they should silently say a word or phrase that is personally meaningful to them, like "calm" or "peace." If they happen to be religious, they might say something like the first line of the twenty-third psalm. I instruct them not to worry about what they're doing or what they attach to the thoughts that come into their heads; they should just say to themselves, "oh well," and return to the repetition. This process goes on for about eight to ten minutes. When they finish, they sit quietly with their eyes closed for a minute or so and a moment longer with their eyes open.

After this exercise, they can begin to focus on the assignment. It's very likely that more than one insightful solution will emerge from the group.

It's hard to imagine any leader doing that. It sounds much too soft.

Actually, it's not soft at all. It's a matter of learning to shift our internal biology at will so that we increase production of nitric oxide and the neurotransmitters associated with well-being and increased creativity. And if you think about it, most people experience breakthrough moments at one time or another. Managers can doubtless recall times when they've had an "aha" moment at the gym or on the golf course or in the shower. All I'm saying is that it is possible to leverage this invaluable biological tool when we want or need to.

It sometimes takes a serious illness caused or exacerbated by stress for people to have their "aha" moments. One well-known CEO we worked with spent years putting in more than 60 hours a week at his intensely stressful job. He came to us after he had been diagnosed with a silent heart attack. His world had completely turned upside down. He took a leave of absence from work to focus on healing, to ask himself

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why he was on the planet, and to spend time with his family. We trained him to use the relaxation response and the breakout principle. He recovered and came back to work far more resilient and productive than he was before.

Ultimately, leaders need only look at the high cost of stress to their businesses to understand why this is so important. They are losing out because they are not paying proper attention to teaching their employees a simple approach–one that can not only save their companies enormous costs but also free the productivity and creativity in their workers.

In the West, we are accustomed to linear thought patterns, which are generally the domain of the left hemisphere of the brain. We excel at technology, science, and analysis. If you are a creative person, you must literally step outside the linear, analytic way of thinking to do your work. This is not so much the case in other cultures, particularly Asian ones, which tend to view things more holistically. In China, for example, thinking is more contextual. If a Westerner gets involved in an argument with a Chinese person, the Westerner will try to gain the upper hand by rationally eliminating contradictions. The Chinese person, by contrast, will incorporate the contradictions and adopt an evolving, less rigid point of view–essentially using both hemispheres of the brain.

Ultimately, leaders need only look at the high cost of stress to their businesses to understand why this is so important.

Now that you've established the biological basis of the breakout principle, what do you think is the next frontier in mind/body medicine?
It's clear that mind/body medicine is the third leg of a three-legged stool of health and well-being, the other two legs of which are pharmaceuticals and surgery. As people take more responsibility for their own care through diet, exercise, and tools such as the relaxation response, they will become less dependent on the other two legs of the stool.

At the Mind/Body Medical Institute, one frontier is to further demonstrate the applicability of the principle in places where it hasn't been routinely used, especially in the business world. I am convinced that companies that can bring these principles to bear will maximize the brain capabilities of their entire organizations, make them healthier and more productive, and help them compete effectively in this challenging global economy.

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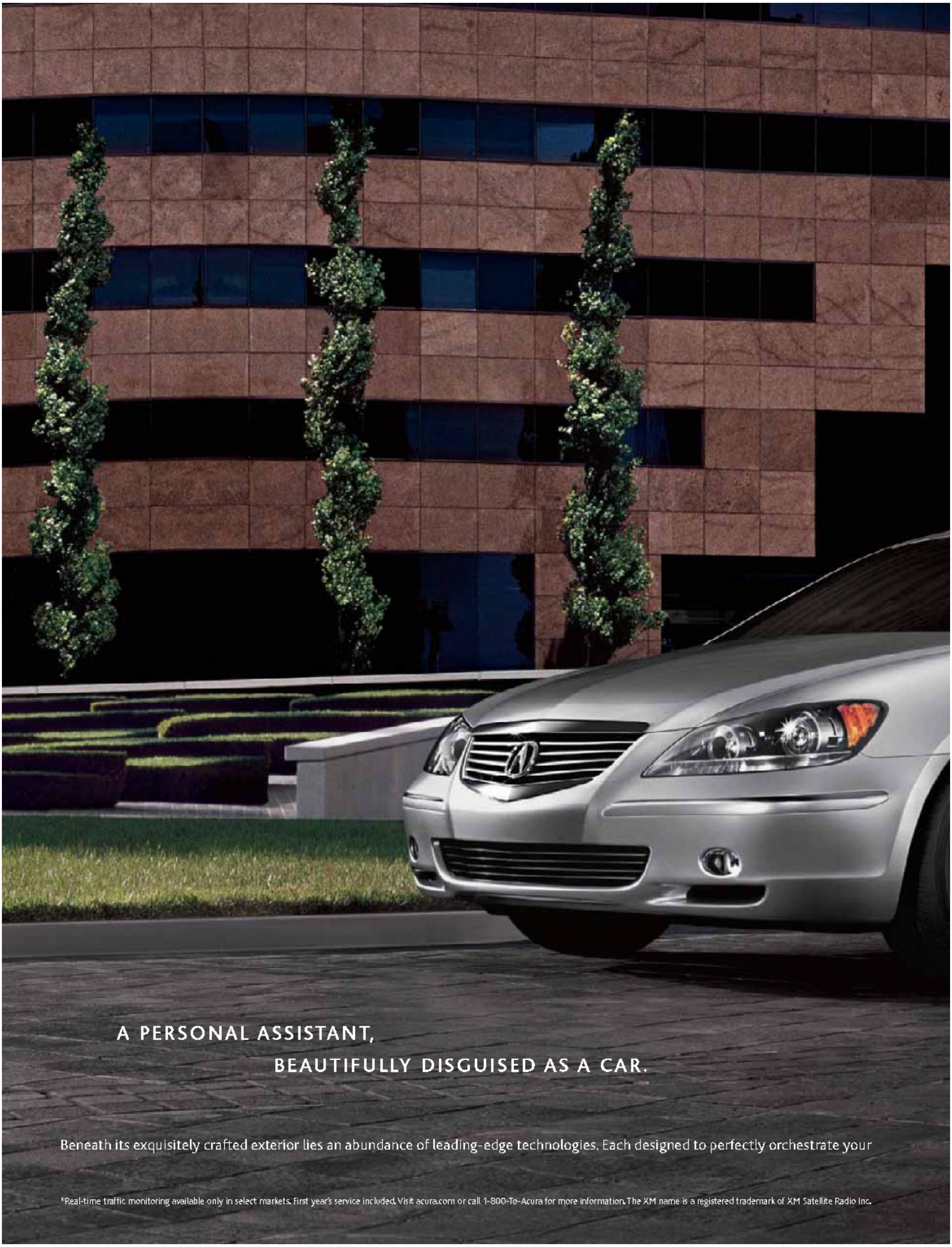
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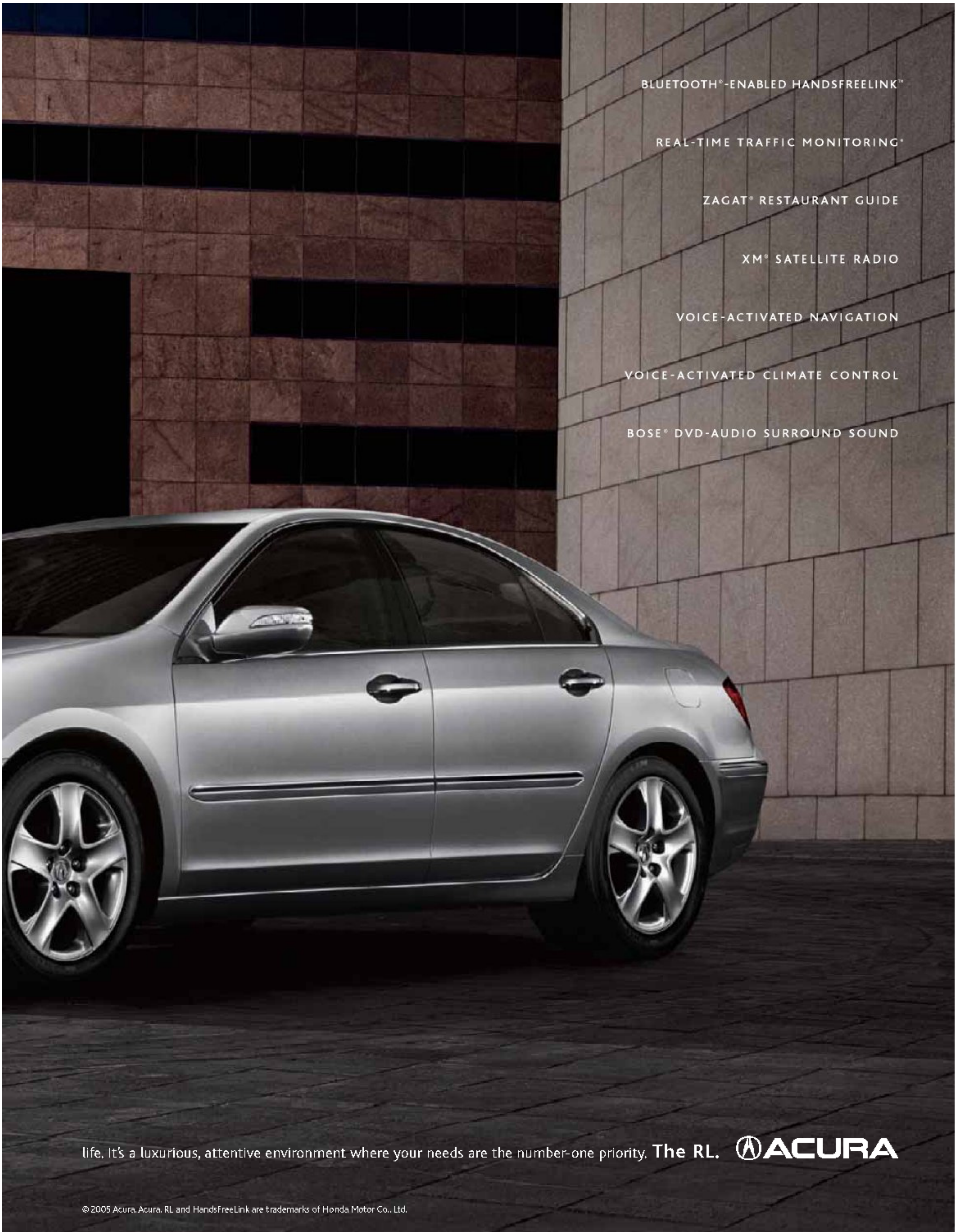

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To get at the roots of profit-destroying complexity, companies need to identify their innovation fulcrum, the point at which the level of product innovation maximizes both revenues and profits. **by Mark Gottfredson and Keith Aspinall**

Innovation vs Complexity

WHAT IS TOO MUCH OF A GOOD THING?

WALK INTO THE IN-N-OUT BURGER restaurant on Fisherman's Wharf in San Francisco, and one of the first things that may strike you is the number four. Four colors: red, white, yellow, and gray; four cash registers with four friendly faces behind them; and just four items on the menu. You can buy burgers, fries, shakes, and sodas. All the ingredients are delivered fresh to the store, where they're prepared in the open kitchen behind the cashiers. You'll see a few folks eating at the restaurant's tables or tucking into their food outdoors on patio benches, but most customers come in with

PAUL WEARING

a handful of cash—no credit or debit cards, thank you—and head back out with their meals.

Four is In-N-Out Burger's innovation fulcrum – the point at which the number of products strikes the right balance between customer satisfaction and operating complexity. Four means simple purchasing, simple production, and simple service. And, it turns out, in a world where fast-food restaurants are forever adding formats and menu items, simple means profitable growth. With its chain of about 200 restaurants throughout California, Arizona, and Nevada, the family-owned company expanded its sales by 9.2%, to $308 million, in 2003, a rate just about double the fast-food standard. Analysts estimate In-N-Out's margins at 20%, again supersized for the industry.

So where's your company's innovation fulcrum? What's the number of product or service offerings that would optimize both your revenues and your profits? If you're like most managers, you're probably scratching your head right now. You don't have a clear idea of where that point lies. All you know—or at least strongly suspect—is that it's considerably lower than where you are today.

The fact is, companies have strong incentives to be overly innovative in new-product development. Introducing distinctive offerings is often the easiest way to compete for shelf space, protect market share, or repel a rival's attack. Moreover, the press abounds with dramatic stories of bold innovators that revive brands or product categories. Those tales grab managerial and investor attention, encouraging companies to focus even more insistently on product development. But the pursuit of innovation can be taken too far. As a company increases the pace of innovation, its profitability often begins to stagnate or even erode. The reason can be summed up in one word: complexity. The continual launch of new products and line extensions adds complexity throughout a company's operations, and, as the costs of managing that complexity multiply, margins shrink.

Managers aren't blind to the problem. Nearly 70% admit that excessive complexity is raising their costs and hindering their profit growth, according to a 2005 Bain survey of more than 900 global executives. What managers often miss is the true source of the problem – the way complexity begins in the product line and then spreads outward through every facet of a company's operations. As a result, the typical corporate response to complexity – launching a Six Sigma or other lean-operations program—often falls short. Such efforts may reduce complexity in one obvious area, but they don't address or root out complexity hidden elsewhere in the value chain. Profits continue to stagnate or fall.

In working with scores of companies since the 1980s, we've studied how complexity infects a company's entire value chain and identified the most common culprits for its spread: bad economic data, overoptimistic sales expectations, and entrenched managerial assumptions. Based on our research, we've developed a comprehensive approach to simplifying a business, centered on a company's innovation fulcrum. By finding the right balance between complexity and innovation – the way In-N-Out Burger has – companies can reduce costs by as much as 35% and lift revenues up to 40%. For many businesses, the innovation fulcrum becomes a turning point toward higher profits and greater sales.

Nearly 70% of managers admit that excessive complexity is raising their costs and hindering their profit growth.

Why Lean Is Not Enough

The usual antidotes to complexity miss their mark because they treat the problem on the factory floor rather than at the source: in the product line. Consider the case of a large, sophisticated high-tech manufacturer, long frustrated by its inability to reduce its inventory of parts and components. The company uses cutting-edge lean-manufacturing techniques to streamline production processes, and its labor force works at world-class productivity rates and routinely hits Six Sigma quality targets. But its inventory-turn rate, the number of times a year the company goes through its entire inventory, remains stuck at seven, a far cry from its goal of 12. Spurred by management's desire to fulfill customer needs and maximize sales, the company has steadily expanded its product line to the point that it now encompasses thousands of SKUs. To make all those products, the company must stock

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The High Price of Service Complexity

The downsides of product complexity for manufacturers have been documented in many studies. But manufacturers don't suffer alone. In fact, in service and knowledge businesses, the continual introduction of new, information-rich offerings can have even more destructive consequences. It can leave virtually every employee struggling to make sense of a complex service portfolio, undermining both productivity and customer responsiveness.

One telecommunications company, for example, has used the power of information technology to slice and dice its service set into ever more finely differentiated options. The firm hoped it would boost revenues by more precisely fulfilling the needs of every imaginable buyer. But offering so many options has had the opposite effect. The company's customer-service reps are now forced to sort through more than a thousand promotion codes while they're talking to a potential customer. Most of the promotions offer distinct levels of discounts and product benefits. Making sense of them all is an overwhelming task. The result? Sales agents give slow and often inaccurate answers to inquiries–and customers grow frustrated and head toward a competitor.

about 400,000 parts from hundreds of suppliers. Given the unpredictable variations in demand, particularly for less popular products, the manufacturer is forced to maintain extensive safety stocks in order to avoid having to shut down the plant while awaiting the delivery of a particular part. Because the product line's size drives inventory requirements, the turn rate lies beyond the reach of lean-manufacturing programs.

This company's problem is not unusual. It's natural for businesses to add products to keep customers happy. Smart marketers have no trouble justifying each addition as a means of adding or protecting revenues. But as more products are added, the costs of the resulting complexity begin to outweigh the revenues, and profits start falling. From that point on, every new offering–however attractive in isolation–just thins margins further. The more aggressively the company innovates in product development, the weaker its results become. (It's not just manufacturers that suffer from profit-eroding complexity. It affects service firms and knowledge companies as well. See the sidebar "The High Price of Service Complexity.")

What makes the problem particularly damaging is that it tends to be invisible to management. Look at what happened when one automaker started offering tinted windshields as an option. On the surface, the move looked like a clear winner. The company's marketers calculated that nearly 40% of customers would buy the option for $120, while the supplier would charge just $8 per unit. Moreover, installing tinted glass rather than clear glass seemed to add no labor costs on the assembly line. With new revenue far outstripping direct costs, adding the new option seemed to guarantee a quick profit boost.

But it didn't turn out that way. Offering tinted windshields, in combination with many other options, led to a whole range of higher costs that never showed up in the company's analysis. On the factory floor, the automaker had to adjust its work flows, add new quality-control tests, and even change the routes of its forklifts – all of which increased production costs. Purchasing and material-handling costs went up to accommodate the added part. Assembly-line errors crept up as proliferating options made workers' jobs less predictable. The tinted windshields added complexity to the company's operating and accounting software, which already produced millions of option codes to account for often-minor variations in assembly. Because the systems could no longer "control" for every option, orders now came to the factory floor in random patterns–for example, three cars in a row might require tinted windshields, followed by five that didn't. Workers' walk and reach time increased because they had to double-check order sheets to determine which windshield to install. The increased customization also caused unexpected peaks in demand, leading to dips in quality as workers rushed to finish tasks. Forecasting became more complex, resulting in cars with options packages no one wanted on dealers' hands. Perhaps most pernicious, when a dealer discounted a car to move it off the lot, the forecasting system would see that sale as true marketplace demand, triggering inaccurate forecasts of orders that were likely to come. All of this led to a ratcheting up of inventories to avoid possible stockouts. The "clear winner" ended up losing the company money, though management didn't make the connection at the time.

Traditional financial systems are simply unable to take into account the link between product proliferation and complexity costs because the costs end up embedded in the very way companies do business. Systems introduced to help manufacturing and other functions cope with the added complexity are usually categorized as fixed costs and thus don't show up on variable margin analyses. That's why so many companies try to solve what really are product problems by tweaking their operations – and end up baffled by the lack of results.

What Customers Want

To meet the complexity challenge, you have to begin at the source: with the way your company views customers and their needs. In most cases, managers overestimate the value buyers place on having many choices. Deeply entrenched in management thinking, that mistaken assumption sets the stage for product proliferation. But some companies have begun to challenge that belief. They have launched efforts to determine how much product or service choice customers really want and then gear their operations to efficiently provide that degree of complexity – and no more. These organizations are finding, in other words, their innovation fulcrums. (For an important caveat, see the sidebar "You Can Be Too Simple, Too.")

In 2003, the global food company H.J. Heinz decided to take on its complexity issues. The company launched a Remove the Clutter initiative aimed at "aggressively attacking complexity on many levels," as the company's annual report put it. The effort focused in particular on Heinz's product line, which, over the years, had ballooned to more than 30,000 SKUs as a result of mergers and acquisitions and a focus on creating local brands and products around the globe. As the company analyzed the portfolio, it discovered that many products actually had little appeal to customers. For example, of its three flavored ketchup variations – Hot & Spicy, Mesquite, and Zesty Garlic – only Hot & Spicy had attracted a loyal clientele and was generating meaningful sales. By the end of 2004, Heinz had discontinued its least profitable SKUs, trimming the total to about 20,000. The cuts reduced manufacturing, packaging, raw materials, and procurement costs while unclogging store shelves to make room for its profitable products. The initiative helped add a full percentage point to the company's gross margin.

Similarly, Starbucks decided a few years ago to streamline its artisan approach to making drinks by automating

Many companies try to solve product problems by tweaking their operations – and end up baffled by the lack of results.

and standardizing certain elements of the latte manufacturing process. Today, Starbucks still has a very complex product line on the surface – customers can customize their lattes by size, type of milk, temperature, and flavor additives – but all the variations are based on a standard platform. The process change made very little difference to customers: Their desire for a "custom" product continued to be satisfied even as Starbucks' speed of service increased significantly.

Navistar International, the industrial equipment manufacturer, has also found its innovation fulcrum. In the truck industry, manufacturers typically offer customers pages of options for customizing their vehicles, leading to innumerable build permutations and hidden complexity across the value chain. Navistar challenged the widely held assumption that consumers want a custom-built product, and, in the mid-1990s, introduced a company-wide strategy to focus its assembly plants and streamline product lines.

A key piece of this strategy was Navistar's Diamond Spec program, which created a simpler and quicker ordering process for one class of truck while reducing manufacturing complexity. Customers now chose from 16 pre-engineered modules instead of thousands of individual components. Not long after its launch, Diamond Spec accounted for 80% of dealer orders for that class of truck. The shortened ordering process from days to hours and the guaranteed improvements in quality and performance resulted in consumers placing 120% more orders during the pilot than initially forecast.

Clearly, when organizations prune their offerings to better fit the needs of customers, they do more than cut

You Can Be Too Simple, Too

Complexity is not always bad. In many cases, maintaining some degree of complexity is essential to effective operations and astute risk management. The high-tech hardware manufacturing sector, for example, suffers frequent supply disruptions for a number of reasons. These include cyclical capacity shortages (notorious in memory chips), technology schedule slippages (for new CPUs, for example), and regional crises affecting suppliers (such as earthquakes). If alternatives are not available, the financial implications can be devastating. Getting too simple in your inventory may prevent you from having enough $2 capacitors on hand, which stops production of a critical video card, which, in turn, holds up production of a high-end workstation. Supply disruptions have cost high-tech OEMs hundreds of millions of dollars in profits. In situations like these, it makes sense to maintain redundant supply sources – even though doing so adds considerable complexity to the supply chain.

costs; they often boost sales as well. In many cases, in fact, the revenue gains are even greater than the cost savings. Consider Chrysler's California Velocity Program, launched in the late 1980s. For certain car lines, the carmaker identified the 200 top-selling configurations out of an initial list of about 5,000. The company then used detailed market analysis to suggest to each dealer which four to six of those 200 configurations would be the hottest sellers in its local area. The dealers would then focus on stocking those particular configurations on their lots. This was critical because the months-long process of special ordering a car caused 92% of all customers to buy directly off the lot. If a configuration near what the customer wanted was not on the lot, the dealer was likely to lose the sale. Chrysler tested the initiative in California, using the rest of the United States as a control. After just a year, the automaker found that average dealer sales in California were 20% higher relative to the control dealerships, and the margins of the California dealers were significantly better as well. By more tightly tailoring their offerings to customer needs, dealers sold more cars more quickly, while avoiding the discounting traditionally required to move "turkeys" off the lot. Fewer choices meant happier customers and higher sales. Chrysler then rolled out the program nationally, and over the next four years the company increased overall revenues by 40%.

The Model T Analysis

How exactly can you find your own company's innovation fulcrum? We've distilled the experiences of successful companies into a two-step process that we call a Model T analysis. First, you determine your zero-complexity baseline, the process cost of selling an absolute minimum number of standard products. What, in other words, would be your company's equivalent of Henry Ford's one-size-fits-all 1920s Model T? For Starbucks, the Model T might be a medium-size cup of brewed coffee. For a bank, it might be a basic checking account. Next, you add variety back into the business system, product by product, and carefully forecast the resulting impact on customer sales as well as the cost impact across the value chain. When the analysis shows the costs beginning to overwhelm the added revenues, you've found your innovation fulcrum. (For an overview of the process, see the exhibit "Finding Your Model T.")

Setting the Baseline. What would your company look like if it made and sold only a single product or service? Answering that question is important for two reasons. First, virtually every complexity reduction exercise we have seen that does not do this has failed to break through organizational resistance. Typically, marketing wants more product diversity, while operations wants less. Starting from a purely theoretical baseline allows long-opposed sides to suspend their defensiveness and "not invented here" mentality. Participants – especially senior executives from marketing and operations who will lead

Gauging the Complexity of Your Business

The Roman poet Ovid surmised, "The cause is hidden; the effect is visible to all." Such is certainly the case with complexity today. It doesn't appear on balance sheets or on quarterly reports, but its impact can be conspicuous. We tend to see the most complexity in businesses that build products to stock, have a sophisticated supply chain or assembly environment, or sell products through retail stores. To determine the complexity of your business, begin by looking at your number of offerings, sales volume, modularity, and where complexity shows up in your value chain. Below, we offer a simple set of diagnostic questions for manufacturers, retailers, and service businesses. If you answer "yes" to any of these questions, your business is likely overly complex.

	Manufacturing	Retail	Services
Number of offerings	Is your total number of SKUs or possible product configurations greater than 1,000 or more than 50% greater than that of your lowest-complexity competitor?	Do your fastest-turning SKUs sell more than twice as frequently as your slowest? Are your inventory turns more than 10% slower than your lowest-complexity competitor?	Does your sales force have trouble understanding and communicating your most profitable offerings to core customers because of the complexity of the offerings?
Sales volume	Do less than 20% of SKUs, build combinations, or product configurations make up more than 80% of your sales volume?	Do less than 20% of SKUs, build combinations, or product configurations make up more than 80% of your sales volume?	Do less than 20% of SKUs, build combinations, or product configurations make up more than 80% of your sales volume?
Modularity	Have any of your competitors created modular or bundled products?	Is your approach to customer segmentation aimed at "offerings for many to attract the many" rather than "delighting the few to attract the many"?	Can you bundle offerings to meet specific segment needs?
Where complexity shows up	Does complexity show up early in the process, such as in engineering (creating change orders) or in assembly (creating unpredictability in the operation)?	Do you find that you frequently have to discount to sell slow-moving inventory?	Do you have excessive error rates, low close rates, or frequent customer abandonment due to customer confusion?

the initiative–can begin thinking about change without asking for commitments.

Second, a baseline changes the lens through which managers view the business. It enables them to see through a company's existing complexity–a difficult challenge given the way financial reports hide process costs. Only by stripping away all the products, options, and configurations do managers get a clear sense of the extent of the complexity and its costs. In working with one company, for example, we determined that its products could be configured in 10 billion different ways. A much more profitable competitor, in contrast, offered 3,000 possible permutations. Our client's managers were unable to comprehend the operational implications of going from 10 billion to 3,000 configurations. When we asked one of them what would change under such a scenario, he shook his head and replied, "We only build 1,000 units a day, so I can't think of anything that would change." But when we asked the managers to imagine producing just one standard product, their eyes lit up. They immediately realized how they'd be able to streamline processes, strip away entire IT systems, and simplify transaction processing. One manager was particularly struck by how making only one product would change the forecasting process for parts. Each night he took an inventory of all 46,000 parts in the plant to ensure he had what he needed to manufacture any of the 10 billion permutations that customers could, theoretically, request. "If we don't have enough in stock or arriving by truck in time to meet the next day's schedule, then we have parts flown in. On average, 15 planes a day fly in to the plant from our suppliers around the country." He then pointed out, "All those costs would disappear instantaneously."

Choosing the right Model T can be tricky. Most companies should look for an average version of their basic offering, avoiding stripped-down versions on the one hand and elaborate models on the other. That way, variations in the cost of product features won't distort the analysis. Big companies operating in many markets may find it difficult to isolate a single "typical" offering. In such cases, managers should look for a proxy – a smaller competitor that's operating with a much more basic set of offerings. A national or international fast-food chain, for instance, might use In-N-Out-Burger as a proxy for its own baseline. By analyzing the smaller, simpler company's operations and financials, the larger enterprise could estimate what its own costs and revenues would be if it minimized its product set.

It's also sometimes possible to look outside your immediate industry to gain insight into your baseline. For example, the Royal Bank of Canada examined the operations and results of local Money Marts, simple check-cashing operations that were thriving in low-income urban neighborhoods, as a model for its baseline set of services.

Adding Variety. Having established the cost of producing a baseline offering, you now need to add back in the options that will be valued by customers. The simplest possible offering, after all, will rarely be the optimal offering. Henry Ford found that out when he continued to churn out basic Model Ts while Chevrolet was introducing new models. Ford soon saw his company's market share and profits erode. By expanding the product line, item by item, a company can forecast the costs that greater complexity will add as well as the incremental revenues that will be gained. Using detailed market research and customer analysis, managers can determine, in concrete terms, the level of choice customers demand. The company adds complexity back in only when it knows that a segment of customers will want the additional SKUs and be willing to pay more than the full systems costs the added complexity entails. (See the exhibit "Adding Variety, Carefully.")

The secret to this second step is to take a painstakingly methodical approach, adding only a single element of complexity at a time and then tracing the effect through the value chain. To return to the fast-food business, consider how Burger King recently used a combination of five measures to identify how adding a product or ingredient, in this case a premium sandwich bun, could benefit its overall business. Using consumer, operational, supply chain, financial, and strategic criteria to evaluate its bread carriers and selection of buns, Burger King saw that several of its current products were relatively complex and costly to handle, requiring special manufacturing and distribution. For instance, sourdough breads and baguettes were baked, frozen, and then shipped, refrigerated, through distribution centers. But using the same evaluation criteria, Burger King identified one attractive new product, the 5-inch corn-dusted bun, which could go through Burger King's core hamburger-bun supply chain.

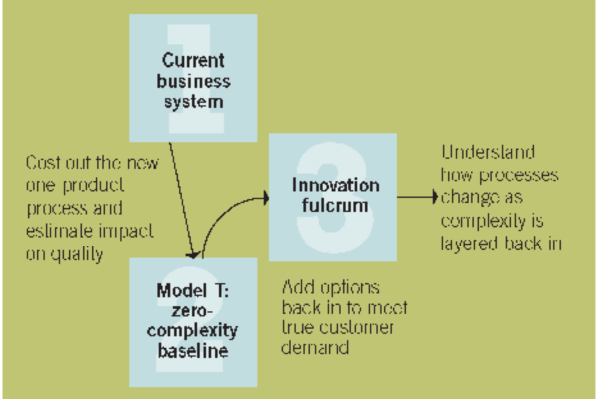
Burger King discovered that adding corn-dusted buns would benefit four critical stakeholders. First, consumers ranked the fresh-baked buns high on key dimensions of quality, including freshness, taste, and appearance. Second, the fresh-bread suppliers could deliver corn-dusted buns alongside standard buns on their current delivery routes. This would increase the drivers' average order and drop sizes, making each restaurant shipment more cost-effective. Third, corn-dusted buns would be simpler for restaurants, since suppliers would handle the inventory management, and the buns would not require costly

Finding Your Model T

What would be your company's equivalent of Henry Ford's one-size-fits-all Model T? To figure that out, begin by considering one of your highest volume products or SKUs. This will usually give you the clearest snapshot of the overall business systems – from marketing and manufacturing operations to relationships with suppliers and retailers – that may need to change. Make sure to choose a configuration that is average in terms of content, cost, and cycle time through the system.

In some instances, a company may have more than one Model T. This is often the case when products:

- are targeted at entirely different customer segments;
- have separate manufacturing processes;
- rely on platforms that are so different that the supply chains cannot be compared.



frozen storage. Finally, the franchisees would benefit as the better products drove higher unit sales, and the simpler logistics resulted in lower unit costs. By analyzing the impact of the additional variety across all stakeholder groups, Burger King could see that the corn-dusted bun would be a winning addition.

Keeping It Simple

As we've seen, complexity is insidious. Getting rid of it is only half the challenge. The other half is keeping it out. Once a company is balanced on its innovation fulcrum, it must be vigilant in preventing the proliferation of products and in reassessing its optimal fulcrum point as, for example, customer needs and production technologies evolve. Four practices can help stem complexity creep:

Raise the hurdle rate. Requiring a higher rate of return on new products not only makes it more difficult for marketers to arbitrarily add SKUs, it also increases discipline in the innovation process. Consider one consumer apparel company that markets a diverse portfolio of iconic, global brands as well as some other national brands. While new styles from the classic brands tended to remain attractive to customers for years on end, innovative styles from the lesser known brands had short shelf lives – and were becoming a drag on profits. To solve the problem, the company started by reducing complexity, dropping thousands of SKUs and million of dollars in unprofitable sales, thereby increasing gross margins. Then, to keep a lid on complexity, the apparel maker introduced significantly higher hurdle rates for new-product introductions of its nonclassic styles, making it harder for the company to take on less profitable products. Instead of requiring a 15% return to introduce a new SKU, which had been the traditional standard, it upped the required return to 25%, a figure that more accurately reflected the added complexity costs. Finally, to ensure accountability in the innovation process, executives assigned a "product owner" to every new style. Employees in this role monitor new-product performance and quickly cull items before they become unprofitable.

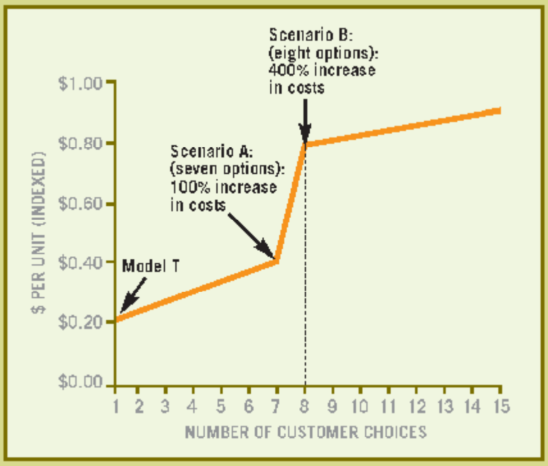
Postpone complexity. The further down the value chain you introduce complexity, the less it costs you. The logic of postponement applies across a wide range of consumer durable and industrial goods sectors. Consider big-box retailing where consumers like product choices but don't want to wait for them and won't pay anything extra. Manufacturers accommodate this by designing products that are customized at the last step in the assembly or distribution process. Manufacturers can source materials and components from anywhere in the world, while assembling products just in time for customers close to the point of sale. In the kitchen department at Home Depot, for example, the retailer and manufacturers work together to provide a variety of customer options. MasterBrand Cabinets and Masco both provide entry-level cabinets that can be integrated with standard Wilsonart countertops. These manufacturers also provide higher-end custom products designed to be configured by in-store designers and then shipped directly to the job. (This approach addresses one of the biggest fears that Home Depot customers have – whether or not the company can actually deliver on its promise of an error-free custom design and installation.) In this way, Home Depot preserves economies of scale while giving customers the flexibility they want.

Institutionalize simplicity in decision making. The goal here is to manage complexity before it is hardwired into plants and costs. To do this, executives need to determine who has responsibility for making innovation decisions across the value chain. Take the example of one food company, where marketers had developed novel forms of packaging for a popular snack. From a marketing standpoint, the approach made sense. Consumer research had long supported the notion that grabbing attention in the store aisle was a prerequisite to growing sales in the impulse-driven snack market. Yet plant personnel knew that marketing's unchecked enthusiasm for innovative packaging was hurting efficiency across the supply chain.

To resolve the conflict, the company's executives entered the fray. First, they purged the excess complexity by consolidating products around a few standard kinds of

Adding Variety, Carefully

When an industrial supplier saw that offering one additional option caused a huge leap in costs, it determined that its innovation fulcrum, the complexity level at which it would maximize both profits and revenues, rested at seven options.



packaging – an approach that reduced material costs and boosted the top line significantly. But the executives also developed a new decision-making process to ensure that complexity wouldn't sneak back in. They assigned formal roles in marketing and manufacturing that defined who would recommend, provide input, and approve new product and packaging concepts. Now brand managers no longer make decisions unilaterally but work through a series of checkpoints with manufacturing and sourcing managers.

Stay balanced. A company's innovation fulcrum can shift over time. As it becomes more experienced in production and distribution, for instance, a company can often drive down the costs of complexity, easing the penalty for adding a new product. Or, the needs of its customers may shift, either reducing or increasing the value they place on having more choices. A company needs to revisit its portfolio routinely to ensure it is optimizing profits. Here, the Japanese automakers provide an exemplary model. By the 1970s, the Big Three U.S. automakers had been competing for years on the breadth of the choices they offered consumers. The resulting complexity had driven up their costs, leaving them vulnerable to attack. Toyota and Honda made the most of this opening by striking the right balance between customer choice and operating complexity. Rather than offering customers millions of build combinations – as the U.S. automakers were doing – Honda, for instance, offered 32 build combinations with four colors.

The results were lower costs, higher-quality cars, and significant gains in market share. Even though the U.S. makers have followed their rivals' lead in becoming simpler – through reducing the number of basic platforms on which they build their various models – Toyota and Honda have been able to maintain their cost leadership by continually resetting their fulcrums. Responding to the demands of customers, for example, Honda has redesigned its engines to reduce fuel consumption and emissions. At the same time, the company has also streamlined the manufacture of its engine family, making it possible for the first time to produce different engine models on the same production line.

What's the right balance? It's a question Henry Ford should have asked before he began to see his competitors' colorful vehicles everywhere. He did, eventually, introduce the Model A, replete with multiple hues and features that won back some customer loyalty. But the lesson remains: Companies that strike the proper balance between innovation and complexity create more efficient operations and more profitable relationships with customers. They also pave the way to a competitive advantage within their industry, often by forcing onto competitors the high costs associated with customization. The need for this equilibrium may not be as obvious as it was in Ford's day, but it's just as critical.

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LEADERSHIP IN YOUR MIDST

TAPPING THE HIDDEN STRENGTHS OF MINORITY EXECUTIVES

Minority professionals often hold leadership roles outside work, serving as pillars of their communities and churches and doing more than their share of mentoring. It's time their employers took notice of these invisible lives and saw them as sources of strength.

by Sylvia Ann Hewlett, Carolyn Buck Luce, and Cornel West

ALL COMPANIES VALUE LEADERSHIP – some of them enough to invest dearly in cultivating it. But few management teams seem to value one engine of leadership development that is right under their noses, churning out the kind of talent they need most. We're referring to the deeply substantive outside lives of their minority executives.

If you know many minority professionals – particularly women of color – then you know that these are the people who are called upon inordinately to lend their energies, perspectives, and guidance to activities outside their jobs. (We use the term "minority" in the statistical sense to denote people who in terms of race or ethnicity are not in the majority in their corporations or organizations.) Because they have "made it," and because often they have done so against heavy odds, they are mentors of choice to young people in their communities. Within their workplaces, they serve on numerous diversity-seeking task forces and spearhead

minority recruitment efforts. They play high-profile volunteer roles in their towns, schools, and churches, and the amount of time they invest in these roles is substantial. In the words of Ella Bell, a professor at Dartmouth's Tuck School of Business, "They comprise the backbone of religious organizations and provide a significant part of the energy driving community service in the United States."

For many minority professionals, involvement in such activities is an important, inherently satisfying part of their lives. For some, it's a way of giving back–or, more accurately, giving in turn the kind of help that benefited them early on. But it's also a fertile source of continued personal growth. In these myriad roles, minority professionals hone valuable leadership skills. The problem is that those skills are not properly recognized by their employers. And no conscious attempt is made to transfer them into the corporate environment and develop them further. The disproportionate load of care that minority professionals bear in their extended families is also invisible to employers, and neither acknowledged nor supported by corporate benefits packages. The result: Too many high-potential employees end up feeling ignored and diminished, overextended and burned out. At the same time, organizations are being deprived of the strong and diverse leadership they could so easily draw upon.

In 2004, the Center for Work-Life Policy formed a private-sector task force called the Hidden Brain Drain to investigate the challenges faced by female and minority talent over the life span. In the spring of 2005, three member companies–Unilever, General Electric, and Time Warner – sponsored a cross-sectoral national survey and series of focus groups to discover the facts about minority professionals' outside leadership work and why it remains unrecognized. (The exhibit "Off-the-Job Leadership Development" describes the research.) A companion study, which targeted the global executives of a large multinational corporation, attests to the resonance of this research in other countries. (The exhibit "Invisible Lives in the Global Context" highlights some of these findings.)

The U.S. research, which we share here for the first time, underscores that the lives of minority professionals are rich with experience that goes unleveraged by their employers. But it also reveals a startling fact: These lives remain invisible largely by choice. For many reasons, minority professionals are reluctant to speak of their outside pursuits and accomplishments to colleagues and managers. We are left with a dual challenge: Companies can't leverage what they don't see – and they can't see what is purposely concealed.

Cultural Capital

One of the impressive professionals we encountered in our research is Sheryl Battles, an African-American vice president of corporate communications at a major global corporation. In addition to her primary responsibility managing executive and investor communications, she coordinates the corporation's communications on issues of diversity and in that capacity supports 30 to 40 events a year. It's a task that constitutes just 5% of her official job description but consumes roughly 25% of her 50-hour workweek. In her personal life, she speaks at community events and career seminars for minority students and is involved in the church that she, her husband, and their daughter attend. She is also on the board of a local organization for the arts and has been active in its African-American Cultural Heritage Series since its inception a decade ago.

Over the years, Sheryl has accumulated substantial cultural capital, sociologist Pierre Bourdieu's term for nonmonetary wealth and relationship capital generated outside the workplace. Cultural capital is impossible to measure with any precision but is undeniably vital for anyone who wishes to exert influence in a neighborhood, a company, or a nation. Everyone accumulates a measure of cultural capital in their lives, but in the case of minority professionals, it is unusually rich. Consider, for example, the value of Joyce's cultural capital. (All research participants referred to in this article by a first name only are disguised at their request.) Joyce is a change agent to be reckoned with in her community. In her church, she was recently inspired by a progressive pastor's vision for transforming the congregation's stance on a divisive social issue. At the same time, she knew he would face resistance–and that the intensity of his enthusiasm was blinding him to the harsh realities of making change happen. He needed a pragmatic strategist, and in her, he found one. Together they guided the church through the transition, crunching the numbers, outlining a plan, initiating a series of meetings with congregants, and evaluating progress. When we talked with Joyce, she reflected on the experience, noting the difficulty of simultaneously unleashing and controlling the energy that flows from transformational change.

Does all this sound like valuable leadership training? The irony is that, despite being a strategic planner at a *Fortune* 100 company, Joyce never heads up such comprehensive initiatives at work. "Sure, I develop strategic plans here," she reflects, "but my hands are tied half the time.

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[At church] I have an audience that says, 'Yeah, do your thing.'"

Beyond personal stories like these, statistics do even more to make the point. Among highly educated African-American female professionals, 25% are active leaders in their religious communities (compared with 16% of white men) and 41% are involved in social outreach activities (compared with 32% of white men). Most frequently, they volunteer in schools, hospitals, libraries, shelters, and other organizations in their communities. Minority women are also on the front lines helping young people in their communities as mentors, tutors, and "big sisters." A quarter of African-American businesswomen (25%) take on these roles. (The figure for white businesswomen is 14%).

Such substantive community involvement develops strategic and interpersonal skills, hones core values, and builds organizational and communication capabilities – all of which are transferable to and highly valued in the workplace. Yet our research shows that these skills remain invisible to managers.

Under the Radar

Why aren't companies more attuned to the untapped leadership in their ranks? First, because they haven't looked for it. Traditionally, to the extent that management takes an interest in employees' "extracurricular" lives, the focus has been on activities that have long been sanctioned by white male executives and are thought to burnish a company's image or enhance client relationships: United Way drives, symphony orchestra sponsorships, and sporting events, for example. Most companies do not bother to note the kind of pursuit that Stephanie, a bright, young African-American manager we interviewed, is involved in: running an award-winning Girl Scout troop in a homeless shelter. "These kids are not going to Harvard, they don't have a place to live, and they don't know how many times they're going to eat today," she told us. Stephanie's commitment to these homeless girls is expanding her leadership skill set as she navigates public- and nonprofit-sector bureaucracies while serving a population with myriad needs.

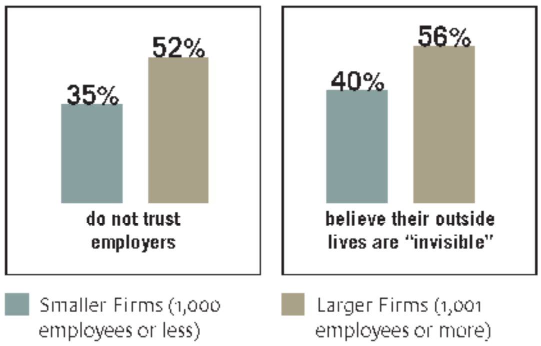
But Stephanie is convinced that her boss disapproves of her involvement in scouting, because it means she must leave work at 5:30 PM a few times a month. Despite the fact that she arrives at 7 AM on those days, she is acutely concerned about being thought of as less than fully committed to her job. She refrains from talking about her Girl Scouts program at work – even though this initiative earned her a Future Leader Today award at a ceremony at the White House.

Stephanie's reticence suggests a second reason that minority professionals' lives remain invisible to their managers: because they are deliberately hidden. Sometimes this is simply because professionals themselves don't recognize their outside affiliations as legitimate leadership development venues. One highly accomplished woman we met is on the board of an active and growing nonprofit organization, where she is gaining valuable skills in fund-raising and finance. But she told us, "I have not made the choice to share my board involvement at work....I have never found a natural segue to make it relevant to what I do for the firm."

Sometimes the conversation doesn't occur because it would necessarily touch on religion, an important part of many minorities' nonwork lives. Joyce, the strategic planner we introduced earlier, feels she can't talk about the change effort she managed for her church, which is a different denomination from that of the apparently homogeneous hierarchy of leaders at her company. The same fear makes Michael, an Asian-American executive at a large California-based energy company, reluctant to share with colleagues his involvement on the board of a prominent charity. His reticence stems from the fact that the charity supports faith-based organizations and targets minority families. According to Michael, colleagues are likely to react negatively to his involvement because it raises "the big taboo subjects of the workplace: religion and ethnicity." In his view, it leads them to think, "You're *different*. I have always suspected that – and now you're confirming it." Michael admits that if people, himself included, talked more openly, then the taboos might be lifted, and his charity work might gain legitimacy and heft. But his short-term view is strictly pragmatic: "Why give anyone ammo?"

The fact that many minorities fear giving employers "ammunition" to use against them is among the most disturbing findings of our research. As shown in the chart below, many minority women professionals feel they cannot trust their employers with even basic information about their private lives. In large corporations, the percentage rises to more than half.

A large proportion of minority women professionals...



The survey data show that the distrust and reluctance to discuss private lives are deeply rooted in minorities' experiences of "hidden bias" in corporate cultures. Many avoid discussing their nonwork lives because they don't want to run the risk of reinforcing negative stereotypes.

Latisha, an African-American executive at a global consumer products company, described growing up in the Newark projects, her mother on welfare and both parents eventually succumbing to AIDS. "When I do try and open up personally, people just don't get it…So you stop trying." Others worry about a perception that they got their jobs through affirmative action rather than on the grounds of merit.

Some feel hemmed in by "style compliance" issues, such as speaking style, hand gestures, and appearance. Nearly one-third of minority female executives (32%) in large corporations worry that their quiet speaking style is equated with lack of leadership potential, while 23% worry that their animated hand gestures are perceived as inappropriate. Fully 34% of African-American women in the business sector believe that promotion at their companies is based on appearance rather than ability.

According to Sears executive Angela Williams, hidden biases can be debilitating because they lead minority professionals to "deny their authenticity" in their efforts to fit into the prevailing white male model. Indeed, our research shows that almost one-fifth of professional women of color (19%) perceive hidden biases severe enough for them to consider quitting. Focus group participants talked about "teetering on the edge" (thinking about quitting, looking for a new job, trying to figure out whether there is less bias elsewhere) for months, or even years, meanwhile downsizing effort and expectations. One participant told us she had "quit but stayed on the job"–with predictable effects on performance.

Leveraging Unseen Strengths

Companies stand to benefit enormously if they can learn to nurture and support the cultural capital that minority professionals routinely develop outside work. Our research reveals four ways companies can discover and leverage these hidden skills: Companies need to build a greater awareness of the invisible lives of their minority professionals; they need to appreciate and try to lighten the outsize burdens these professionals carry; they must build trust in their ranks by putting teeth into diversity goals and encouraging more latitude in leadership style; and they should finish the job of leadership development begun in minorities' off-hours activities so that those nascent skills can make a difference to workplace performance and competitive strength.

Shine a light. First, greater awareness and appreciation of community work is key. A large number of minority women professionals (45%) do not feel that their roles and responsibilities outside the workplace are recognized or understood by their employers. Minority women in larger companies (56%), young women of color (50%), and Asian women (49%) are the most likely to feel that their lives are "invisible" to their employers.

Demitra Jones, on the other hand, has no such concern. A dedicated human resource generalist at Pitney Bowes, she feels her employer is fully supportive of the evenings and weekends she spends with her sorority sisters. When Demitra says "sorority," she's talking about Delta Sigma Theta, an African-American organization founded in 1913 that "places more emphasis on service than on socializing." Her membership in the organization is a strenuous commitment, demanding 30 hours a month on top of 60-hour workweeks. It's a win-win situation for her and for Pitney Bowes and has been since the beginning. It was a Delta Sigma Theta member who matched Demitra with the company even before she entered college through Inroads, a leadership development institute for minority youth. Since then, Pitney Bowes has continued to support Delta Sigma Theta in many ways, from purchasing advertising space in fund-raising souvenir journals to matching Demitra's own donations. More important, it has kept an eye on the cultivation and training of Demitra as a leader in both worlds. It's no coincidence that her rapid rise in the company paralleled her progress through the leadership structure of the sorority, which she joined as a junior at Trinity College in Hartford, Connecticut.

What Pitney Bowes has done is not difficult; the company merely shined a light on an aspect of employee life that is often left in the shadows. This kind of light can take many forms. Some specific suggestions that came out of our survey include, for example, ensuring that recruiting activities are recognized explicitly in job descriptions and performance evaluations. Also, allowing employees to set aside time for volunteer activities – even a few hours a month–would send a message that employers recognize and value social outreach and community involvement. An overwhelming majority of our survey participants would welcome training from their companies in fund-raising for volunteer activities. Companies could even take an active role in helping young minority professionals access nonprofit boards, thereby giving them an early

Community involvement develops skills that are transferable to and highly valued in the workplace.

opportunity to develop leadership skills they can bring back to their workplaces.

Lessen the load. Companies that are truly invested in seeing their diverse talent flourish must be better attuned to the extra burdens carried by many minorities – particularly minority women, whose load of care reaches beyond the nuclear family to extended family and the community. Over half of minority professional women are working mothers (51%), compared with 41% of professional white women. Many, too, are single moms or prime breadwinners. African-American professional women in our survey are more than twice as likely as white women to be single mothers (18%, compared with 7%). In addition, minority women spend significant amounts of time caring for elders and extended family. Seventeen percent of African-American female professionals care for elders and extended family, spending an average of 12.4 hours per week on this care. (The figures for professional white men and women are 6.6 and 9.5 hours, respectively.)

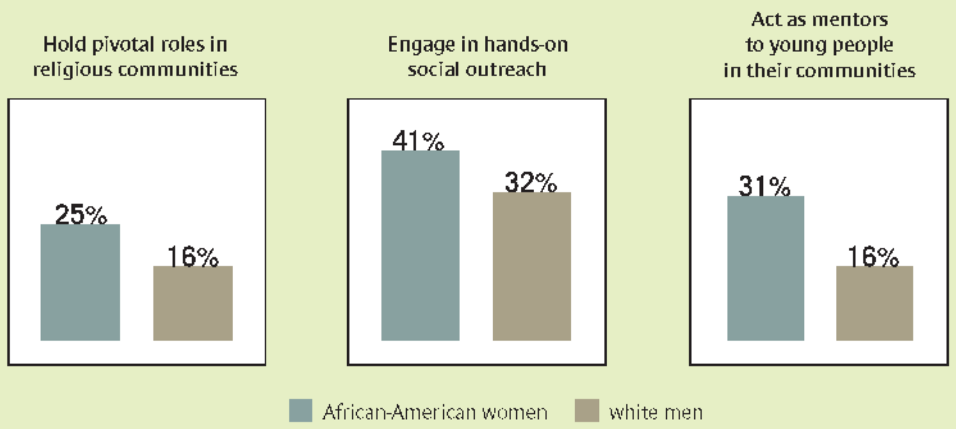
Given this heavy burden of care, some well-established practices like flextime and telecommuting may be especially attractive to minority professionals. Beyond these, there are forms of assistance that few companies have considered, but that might, at small expense, be of tremendous benefit. For example, in our survey there was considerable support for company initiatives that "widen the tent," such as employee benefits that go beyond the nuclear family. Nearly three-quarters (74%) of minority women want help paying for health insurance for up to two members of their extended families. Many minority women (72%) want a few days of annual leave for the purpose of elder care or extended-family care. And 74% of minority women say they would appreciate help in accessing state and federal services for a range of nuclear- and extended-family needs.

Time Warner is one company that has begun to address the issue. Patricia Fili-Krushel, executive vice president of administration, explains, "I wanted to check if we were looking through a white lens in terms of how we organize benefits – and, sure enough, we were." The company recently extended its employee assistance program (which includes, for example, access to child care referral services and company scholarship programs) to other reliant family members (perhaps an aunt or uncle). "In the last five months, there's been a 200% increase in uptake," she says. "There's a lot we can do that doesn't cost a lot of money. It just takes some different thinking."

Reimagine inclusion. The research data underscore the need to expand and amplify what is meant by inclusion. We're not talking here about the same old diversity initiatives, but specifically about innovative policies that build trust and foster workplace environments where minorities feel able to share the full round of their lives. Our survey revealed a widespread wish that companies establish "safe harbors"–places where employees can discuss issues, challenges, or opportunities in their private lives while maintaining anonymity. (Support for this notion was highest among Hispanic women professionals, at 75%, but it was also favored by majorities of African-American women, white women, and African-American men.)

Off-the-Job Leadership Development

Professional women of color incubate leadership and other transferable skills in their neighborhoods and communities. Specifically, the highly educated African-American women in our study develop cultural capital in the following ways:



Respondents in our survey also emphasize the need to "walk the talk" in diversity initiatives and put in place financial incentives to motivate managers. Fully 71% of minority businesswomen support the idea of evaluating managers on their track records in recruiting minority talent and favor linking this evaluation to compensation.

This was particularly important to Marie, a Wall Street professional coming back to the financial world after a few years doing client work. She wanted a company that not only had a diversity program, but had one with teeth. As an African-American woman, she was all too familiar with diversity initiatives that never seemed to amount to anything and diversity goals that were never evaluated past their inception. When Marie started work at Lehman Brothers, she was encouraged by the firm's sizable diversity bonus pool – an incentive that recognizes individual managers and teams for their innovative diversity initiatives. The fact that her new firm encouraged investment bankers to take diversity seriously by providing meaningful incentives was a source of reassurance for Marie.

At Time Warner, there is a policy that for any hire at the vice president level or above, the slate of candidates must be diverse. In 2002, the company created the role of executive connector to make sure that there are viable candidates available for consideration. The connector uses contacts in numerous social and professional circles to develop an extensive pool of diverse candidates. Since taking on this role, Debra Langford has been instrumental in the hiring of 65 minority senior executives. She travels frequently to events and conferences looking for talented high-potential candidates. Once Debra has facilitated a minority hire, she monitors his or her progress. She knows that, unlike their white counterparts, the individuals may not have preexisting relationships within the company. Debra organizes formal and informal gatherings of employees with similar backgrounds – for instance, a lunch for African-American fathers or a dinner for minority lawyers.

Minority professionals are also reassured when they see companies actively combating hidden bias. According to DeAnne Aguirre, a senior vice president at Booz Allen Hamilton, a good way to begin is to "examine the prevailing mode of managerial behavior, determine where it is narrowly drawn, and reenvisage a much more inclusive model." In our survey, 72% of minority women back cultural sensitivity training for managers to break down stereotypes.

One company that has historically welcomed diversity and champions the notion of bringing one's whole self to work is Unilever. Through its Getting into the Skin program, introduced in 2002 as a key part of the company's leadership development program, Unilever takes direct aim at hidden biases by asking selected groups of current and future leaders to spend time outside the realm of their normal experiences. Former Unilever cochairman Niall FitzGerald helped create the program and was also a participant. Of a 2002 journey to Croatia, he remarked, "I lived the life of a Salvation Army volunteer and picked up an unkempt, uncared-for man off the street…we talked about his life. In an eerie twist of fate, he turned out to be from my hometown. We were two people who fate had dealt very different hands. He taught me, in a way no other experience has, the power of generous listening – without judgment." Other participants have spent time at a rural hospital in Mexico, an AIDS clinic in Ireland, and a prison in Germany. The current CEO Patrick Cescau continues to build on Unilever's mission of inclusion and has established a diversity board, which he chairs.

Finish the job of leadership development. Companies will reap the most benefit from the outside leadership experiences of their employees when they begin to consider this cultural capital explicitly as a form of leadership "action learning." What this means is that they should observe established pedagogical practice, helping minority executives reflect on their experiences, extract and generalize the lessons, and apply what's been learned to other settings.

Some leading corporations are beginning to view after-hours work as leadership training. Goldman Sachs is one, says Aynesh Johnson, an investment banker at Goldman. With the firm's full knowledge and encouragement, Aynesh is sharpening her people skills by working as a board vice president for the Lincoln Square Neighborhood Center, a nonprofit organization that supports public housing residents who happen to share a zip code with some of the richest people in the world. In the process of figuring out how to fund-raise for these families, Aynesh has taken on a marketing task so challenging it would serve admirably as a business school case study. "It's a very rich and wonderful opportunity," Aynesh says, carefully. "But it's not glamorous." Nevertheless, Aynesh is proud to call her position on the center's board "part of my career." Describing her volunteer work, Aynesh says "it has taught me how to work with a wide range of individuals…maximizing their contributions." She's also learned how to listen gracefully when a prospective donor says no and how to refuse (also gracefully) to take no for an answer. These are skills her superiors at Goldman Sachs think are important. As a result, at work she does not hesitate to be open about this outside commitment. "Managers know, all the way up to the executive suite."

Another way to transfer cultural capital to the workplace is through networks of mentors. Many minority businesswomen are skilled mentors themselves, having reached out to young people in their own communities. They therefore know the potential of these relationships and feel frustrated when they lack mentors in their own organizations. In our survey, a significant proportion of minority professionals (66%) supported the creation of mentoring programs across divisions and the matching of minority employees with senior colleagues from similar ethnic and cultural backgrounds. When mentors build trusting, open relationships with minority protégés, companies gain an important window on leadership talent that is often hidden from view. Mentors can actively engage their protégés in discussions about their outside roles and work with them to apply and enhance those skills in their everyday jobs.

General Electric provides much-needed access to mentors and actively fosters leadership along the way through affinity networks. The African-American Forum is a case in point. It began informally – 15 black managers coming together to study retention problems – and has grown into a major initiative that both serves as a vehicle through which minority employees find mentors and holds an annual meeting that draws nearly 1,400 people and features top executives. GE has integrated the AAF into succession planning. As Deborah Elam, manager of diversity and inclusive leadership, explains, "The practice of taking high-potential employees and placing them in leadership roles within the AAF allows top executives to better see the strengths of talented minority professionals."

About the Research

Statistics in this article are the findings of a 2005 survey, fielded by Charney Research under the auspices of the Center for Work-Life Policy. The targeted survey sample comprised 1,601 professionals in the United States, ages 28 to 55, with college or professional degrees. This included 1,001 minority women (of whom one-third were African-American, one-third were Hispanic, and one-third were Asian), 200 minority men (also equally divided among the three groups), 198 white women, and 202 white men. The survey targeted people equally in four professional areas: medicine, law, education, and business and accounting. Interviews averaged 20 minutes and were conducted by telephone between January 2005 and February 2005. (A detailed report of the findings will be available at www.work-lifepolicy.org in late 2005.)

Lives Made Visible

In 1952, Ralph Waldo Ellison published his classic novel, *Invisible Man*. His central insight remains relevant more than 50 years later: Those rendered "invisible" may well be the key to maintaining America's prosperity and integrity. This past half century has seen a sea change in terms of the opportunities available to minorities – especially female minorities. In response to the antidiscrimination laws of the 1960s and 1970s and the global talent shifts of the past 15 years, the face of power has begun to change. One only need look around the workplace. Whether you're talking Wall Street, Main Street, or the White House, most management teams now include powerful and conspicuous nonwhite talent. Secretary of State Condoleezza Rice, Avon CEO Andrea Jung, and Time Warner CEO Dick Parsons are cases in point.

Invisible Lives in the Global Context

Our research shows that minority executives in the United States lead rich lives of leadership and responsibility that are largely invisible to their employers. Is the same true for global executives who do not share the dominant ethnicity of leaders at headquarters? To examine this question, we conducted an employee survey of one large company, a Europe-based multinational with extensive operations in the United Kingdom, India, and South Africa. Targeting midlevel managers and senior executives, we reached more than 1,900 employees. Our goal was to compare the experiences of a group of predominantly white executives in the UK (male and female) with those of a group of predominantly nonwhite executives in India and South Africa.

Like minority executives in the United States, this company's global executives are rich in cultural capital

- 30% of South African executives are leaders in their religious organizations (compared with 10% of executives in the UK)
- 20% of Indian executives serve as mentors to young people in their communities (the figure for UK executives is 8%)
- 38% of South African executives are involved in social outreach programs, as are 27% of Indian executives

Global executives deal with an inordinate load of care responsibilities

- 32% of Indian respondents have elders in their households, while in South Africa, 46% regularly care for elderly relatives outside their homes (only 3% of UK executives have elders living in their homes)
- 33% of Indian respondents support children from extended families and the community (for UK executives, the figure is 12%)

Many global executives suspect hidden bias and choose to keep information about their personal lives close to the vest

- 49% of South African executives perceive "style compliance" pressures
- 78% of respondents in India and South Africa believe that colleagues whose looks and style mirror senior management's are unfairly favored in promotions
- 48% of Indian executives don't fully trust their employer with information about their private lives (compared with 35% of UK executives)
- Almost half of nonwhite global executives say their outside lives are invisible to the company

Among the initiatives suggested by the survey to improve the situation, the following were favored by an overwhelming majority of global executives

- cultural sensitivity training to break down stereotypes (89% to 96%)
- better access to mentors (88% to 95%)
- safe harbors for discussing issues in their private lives while maintaining anonymity (77% to 86%)
- evaluation of individual managers' success in developing diverse talent based on input from subordinates (60% to 78%)

A detailed report of this survey's findings and its underlying methodology will be available from the Center for Work Life Policy in late 2005.

Still, the belief among many minority professionals that they must somehow cloak their real identities has been extremely debilitating. Every professional, no matter what color or creed, wants to be recognized, appreciated, and supported. As we can see from these new data, for a substantial number of minority professionals, covering up outside lives and staying below the radar has produced isolation, alienation, distrust, and disengagement, all of which helps explain why progress has stalled. According to Catalyst and other research organizations, the data show that minorities are not being promoted or advanced at a rate commensurate with their representation in the talent pool. They remain bunched in the early stretches of the career highway. Few make it into the fast lane.

Any company that hopes to compete on the world stage using superior leadership talent must look squarely at the problem of hidden lives and resolve to overcome it. The key is to value the cultural capital that minorities routinely develop in their communities and bring this to bear in their workplaces. Think of the extraordinary energy and purpose that will be released when minority professionals are finally able to speak openly and proudly of their lives, their core values, and their skills. It might well be transformative – of individuals, of companies, and of society.

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12
DAVID WEISMAN

A significant part of the typical corporation's equity capital merely insures against the risks of managing assets and activities that add no value. Modern financial tools enable companies to free up that capital and get it working to create value.

YOU HAVE MORE CAPITAL THAN YOU THINK

by Robert C. Merton

ASK A SENIOR CORPORATE EXECUTIVE of a typical manufacturing or service company about the firm's derivatives activities, and you'll probably be referred to the treasurer. While companies in the financial sector and those producing or trading commodities have long been familiar with derivatives as strategic tools, top executives in most other industries persistently regard the application of derivatives as essentially tactical, unrelated to the core management challenge of creating and sustaining competitive advantage. That's why they cheerfully delegate the management of the company's derivatives portfolio to in-house financial experts.

The dangers of delegation, of course, have been ruthlessly exposed by a number of corporate scandals in which large risks were taken without appropriate understanding or authority. What is less well recognized is the huge strategic opportunity that senior management and boards of directors are passing up by not paying close attention to the way their companies manage risks.

Thanks to the inventiveness of the modern financial markets, managers can, in principle, engineer a company's capital structure so that virtually the only risks its shareholders, debt holders, trade creditors, pensioners, and other liability holders must bear are what I call value-adding risks. Those are the risks associated with positive-net-present-value activities in which the company has a comparative advantage. All other risks can be hedged or insured against through the financial markets.

In most large companies, equity capital is used to cushion against a great many risks that the firm is no better at bearing than anyone else. If it can strip out the non-value-adding, or passive, risk, a company will be able to use its existing equity capital to finance a lot more value-adding assets and activities than competitors, and its shares will be worth far more. So the potential for creating shareholder value through financial engineering is enormous.

This is not just a theoretical possibility: One innovation – the interest rate swap, introduced about 20 years ago – has already enabled a major industry, banking, to dramatically increase its capacity for adding value to each dollar of invested equity capital. With the range of derivative instruments growing, there is no reason other companies cannot do likewise, potentially creating tens of billions of dollars in shareholder value. The possibilities are especially important for private companies that have no access to public equity markets and therefore cannot easily increase their equity capital by issuing more shares.

In other words, smart financial engineering frees up equity capital for strategic investments, allowing a company to finance more value-adding growth for the same amount of equity. And there is no increase in the level of risk a company bears, just a change in the risk's nature. Better yet, as we shall see, managers can create all this value-adding growth without changing the way their companies currently go about their business.

In the following pages, I will explore the distinction that managers need to make between value-adding and passive risks. I will then explain how companies can create a *risk balance sheet,* which shows the risk portfolio and sets forth just how much equity cushion each risk requires. Companies can use the risk balance sheet to identify those risks they should not bear directly and determine how much equity capacity they can release for assuming more value-adding risk through the use of financial tools. I will then describe how derivative contracts of various kinds are now being used, and will be used, strategically to hedge or insure against various risks. These instruments alone offer a huge potential for corporate value creation, but they are just the tip of an iceberg – many tools already exist, and more are sure to emerge.

Value-Adding Versus Passive Risks

Executives are used to thinking of strategy in terms of comparative advantage: What assets and capabilities do we have that allow us to do things better than our rivals? The New York Times Company, for instance, has a comparative advantage in reporting and editing the news, and possibly in printing and distribution, but no particular advantage in, say, producing newsprint. A manufacturer of newsprint such as South Carolina–based Bowater (the largest U.S. producer) would probably have the advantage in that respect. The strategy literature reflects this framework – terms such as "competitive advantage" and "core competence" imply that not all of a company's assets and activities create value and that the more companies focus on the value-adding ones, the better they do.

What executives seem to forget, however, is that the same comparative-advantage distinction can be made about a company's risks. The Times has an advantage in bearing the risks of news gathering (thanks to its talented journalists) but no particular advantage in bearing such risks as the cost of paper. That's not to say newsprint costs are unimportant to the Times, just that it is no better at bearing them than the average company and is probably much less effective than Bowater.

Commercial banking provides a particularly clear example of the distinction. Traditional banks take on essentially two classes of risks. One is associated with banks' ability to find and service customers (selecting branch sites, developing product packages, and so forth). These are value-adding risks. By taking them on, and managing the associated activities and assets successfully, banks can create returns in excess of the cost of capital. The other class stems from the different needs of customers. Because depositors want to be able to withdraw money at any time while borrowers want to lock in a fixed interest rate and avoid repaying as long as they can, banks are exposed to the risk that the long-term interest they receive on loans will be less than the short-term interest they pay on deposits.

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Most bankers would acknowledge that they are not especially good at forecasting and managing interest rate risk and that banks' physical and intangible assets (customer databases and relationships, say) do not help them bear it. A bank that *does* have expertise in forecasting interest rates can make a lot more money applying it in the third-party asset-management business, and some large banks have done just that. From the perspective of the core banking business, however, bearing interest rate risk is not value adding (and the risks that are value adding for the bank would not be value adding for the asset management business).

Why is the distinction important? Whether a company's risks are value adding or not, they still require a cushion of risk capital, most of which is usually provided by the holders of a company's liabilities, primarily the holders of its equity. Unless the company can hedge or insure against its risks in other ways, its ability to bear them is largely limited by the size of that cushion. Thus, the larger the risks the company has to bear directly, the larger the required cushion.

Let's suppose that we have a company whose risks are cushioned entirely by equity, so that all of its outstanding debt is rated AAA. Let's further suppose that the other side of the balance sheet, the asset side, contains virtually no value-adding assets or capabilities. The returns generated by those assets would be unremarkable – neither greater nor less than what any passive investor could earn. But the company's shares would sell in the market below the resale or book value of the assets. That's because the cost of equity is not wholly determined by the risks of the assets and activities that the equity helps to finance. First, equity carries a tax burden – debt interest is tax deductible, but dividends are not. More significantly, there are considerable agency costs related to the nature of the equity contract, which heavily favors managers over shareholders. (By contrast, debt capital has explicit covenants that favor bondholders over managers.) Finally, the transaction costs associated with issuing equity are much heavier than for other forms of risk insurance. If not for these costs, the company's shares would trade at or just below book value and its managers would raise a lot more equity capital than they do – indeed, the optimal capital structure would be to issue so much equity (holding the proceeds in passive financial assets that could be drawn down to pay for new business investments, if and when they became available) that all debt and other obligations of the firm would be rated AAA. The extra costs, however, make equity a highly expensive way to finance risk, so managers in the real world limit its use. (For more on agency and transaction costs, see the sidebar "The High Cost of Equity Capital.")

But if the equity cushions the risk of investments that are expected to receive higher returns, on a risk-adjusted

THE HIGH COST OF EQUITY CAPITAL

Equity capital is by far the most versatile form of risk protection. There are no strings attached to it – managers have absolute control over the money raised and have no contractual obligation to pay it back. Shareholders have rights only to elect the corporation's board and receive distributions. Equity capital can thus be used to cover any business risk, which is why highly capitalized companies usually have the soundest credit ratings.

But equity has the highest premium rate of any kind of corporate-risk insurance policy. For ceding their rights, shareholders demand compensation beyond what they expect for bearing the risks of the investments to be made with their money.

Equity's agency costs, as they are called, are magnified by the equity fund-raising transaction. Publicly traded companies have to make their shares available to all potential investors, favoring no group. This highly regulated, sometimes lengthy process consumes a lot of management time. Management and underwriting fees on an IPO typically amount to around 7% of the value of the shares issued. Companies can cut out their underwriters (or at least reduce their fees) through rights issues, whereby funds are solicited purely from existing shareholders, but in those cases, companies forgo the opportunity to broaden their investor base and still have to offer discounts to persuade shareholders to participate or sell their rights to third parties.

Corporations also take on a tax burden when they issue equity. Interest payments on debt are tax deductible; dividends are not. Indeed, companies can create value by issuing debt instead of equity, accepting lower ratings as long as the increased servicing costs are outweighed by the tax advantages.

If an enterprise's managers want the flexibility of corporate equity, they must pay investors for it. But paying for the all-purpose risk cushion provided by equity is value wasting if an alternative cushion that is more targeted, and therefore usually less expensive, can be used instead.

basis, than the company could expect to get from putting its money into passive, market investments with the same risk, then the stock will sell for more than the amount put into the company. That has considerable implications for strategy. Since the assets associated with passive risk do not contribute to a company's premium over net book value, the company can, in principle, create value without adding new equity capital simply by eliminating existing passive risk and thereby creating risk capacity to expand value-adding investments. The value that can be created in this way, as we shall see, can do a lot more than compensate investors for the deadweight costs of equity. Furthermore, if no such new investments are available at the moment, management can still create value by using the risk reduction to change its capital structure to have less equity without negatively affecting its debt rating.

Listing All Sources of Risk

Once a company has identified its risks and determined which are value adding, it can draw up the risk balance sheet and work out how much equity capital it can eliminate by hedging, selling, or insuring its passive risks. (Managers should not confine themselves to the risks associated only with the assets and liabilities that are on the formal balance sheet but should list all the sources of risk, whether on or off the official financial statements, including risks associated with intangible assets such as reputation or key knowledge workers.)

The modeling tools that enable companies to calculate the equity capital requirement are typically based on the concept of value at risk (VAR), a dollar measure of a company's total riskiness. The most sophisticated VAR tools are probably to be found in the securities and the banking industries, which have long applied the value-at-risk concept in preparing risk exposure reports for internal senior management and creating capital-adequacy reports for regulators. Applying a VAR tool involves estimating the volatility of the value of the company's business portfolio and calculating, from that, the maximum potential loss in asset value the company is likely to sustain over a given time period within a given probability confidence level. For example, a bank might look at its operations and estimate that there is a 99% chance it will lose no more than $500 million over a ten-day period. That is, there's only a 1% chance that the bank will lose more than $500 million in value over that period. This $500 million is the ten-day 1% VAR.

The company's estimated equity requirement is usually some multiple of its VAR – a multiple determined by the company's need to protect the value of its other obligations. A company with a large equity cushion will get a higher credit rating from debt holders than a company with a small cushion, given the same asset volatility. The credit rating affects just how much and on what terms debt holders will lend to the company. If the bank just mentioned, after looking at Moody's and Standard & Poor's assessments of its business, determined that the multiple to protect its AAA credit rating was three times VAR, then it would need $1.5 billion in equity capital (three times $500 million). In other words, it could lose up to $1.5 billion worth of assets before it became unable to meet its obligations to debt holders and other stakeholders.

It's important to note that the required amount of the equity cushion is determined not by the cost or size of the company's assets but by their risk (measured here by VAR). Suppose the assets that collectively allow the bank to manage or provide for both the value-adding risk of managing customers and the passive risk of managing interest rates cost $15 billion to purchase. The bank could finance the purchase of the assets by using the equity ($1.5 billion) and borrowing $13.5 billion in AAA debt. But if the same assets (producing the same VAR) cost $20 billion, the bank would still need only $1.5 billion in equity, while the $18.5 billion balance could be raised by issuing AAA debt. In either case, if the equity portion of the financing were less than $1.5 billion, say $1 billion, then the debt of $14 billion or $19 billion would no longer be rated AAA, because some of the VAR would now be borne by debt holders, who would expect compensation in the form of higher interest payments.

The amount of equity capital a company needs is also independent of its cost of capital. Companies with relatively high weighted average cost of capital (WACC) don't necessarily need more equity than companies with relatively low capital costs. That's because WACC is determined not by the business's total risk, or VAR, but only by the amount of its systematic risk – measured by the sensitivity of the company's asset value to changes in overall equity-market prices (what financial economists, in the context of Sharpe's Capital Asset Pricing Model, refer to as an asset's beta). Imagine you have a firm that has assets of $1 billion invested in a project that will either destroy or double the value of the assets. The outcome, let's say, is decided by a flip of a coin. In that case, the project's outcome is uncorrelated with the overall stock market. That means the project has zero systematic risk, and the compensation for the risks of the project will therefore be the same as the risk-free rate. But while the required, or equilibrium, expected return on this equity would be relatively low compared with that of a company in a business sensitive to the overall market, you would need a lot of equity, given the 50% chance of losing everything.

The exhibit "The Risk Balance Sheet" shows what a simplified risk balance sheet for a commercial bank might look like. On the left side, managers would list the assets: loan assets, most obviously, but also physical and intangible assets such as branches, IT equipment, databases, and brands that a bank needs in order to attract customers and provide services. On the right side, they would list the various types of liability: customer deposits, debt, and equity. Managers would report the market or intrinsic value for each type of asset and liability, and they would list the VAR that each asset imposes on the company and that each liability bears. Where possible, the company would itemize the specific risks associated with a particular asset. In this case, there are two obvious risks associated with customer loans: interest rate risk and credit risk.

The bank's assets amount to $129 billion, and the total VAR associated with them is determined to be $3 billion. Since our hypothetical bank wishes to maintain its AAA debt rating (essentially risk-free), requiring equity equal to three times VAR, the VAR is entirely borne by the equity liability. Of course, if the bank were willing to pay more for debt, it could reduce its equity and the amount of VAR cushioned by equity, transferring some VAR to debt.

Of the bank's $3 billion VAR (requiring $9 billion in equity capital), $1.5 billion is associated with interest rate risk and the rest is associated with the value-adding risk of managing and servicing depositors and borrowers and with assessing and bearing credit risk. What if the bank could take that passive VAR out of the portfolio by hedging or insuring against it without affecting the value-adding side of the business? Its total VAR would then be only $1.5 billion. The bank would need only $4.5 billion of equity capital (three times $1.5 billion) to both sustain its existing value-adding operations and maintain a AAA debt rating. The company could, therefore, return equity to its shareholders (replacing it with AAA debt), and the company's market value would rise by the amount of deadweight equity costs saved less the cost of the hedge or insurance replacing the equity. The increase could be significant.

Alternatively, since the bank already has the equity to support a $3 billion VAR, it could choose to add $1.5 billion of another kind of risk to replace the passive interest rate risks it has just eliminated. If that other kind of risk is value adding, then the company's market capitalization will rise above – possibly well above – current levels. And

THE RISK BALANCE SHEET

Companies seeking to make better use of their equity capital can draw up a risk balance sheet that reports assets in terms of both value and risk, and identifies what proportion of total value and risk each type of liability is cushioning. This document includes all assets and risks faced by the firm (for example, in the case of a bank, the deposit insurance provided to eligible banks for a fee and, of course, all contractual agreements – swaps, options, futures, and pension fund assets), whether off or on the balance sheet, and all significant liabilities (including the company's loan guarantees to customers and suppliers, deferred compensation to employees, and pension liabilities).

In this simplified, hypothetical example, we look at a bank that has value-adding assets related to customer servicing and credit-risk assessment as well as passive assets related to managing interest rate risk. The value at risk (VAR) for each type of asset is shown on the left. On the right, we see the various liabilities and the amount of VAR cushioned by each. In this case, it is assumed that all VAR is cushioned by equity if the amount of equity capital is three times the VAR.

ASSETS

CASH AND EQUIVALENTS		
Value	$5 billion	
VAR		0
LOAN ASSETS		
Value	$100 billion	
Interest rate VAR		$1.5 billion
Credit risk VAR		$0.9 billion
CUSTOMER SERVICE ASSETS (BRANCHES, IT, DATABASES, BRANDS)		
Value	$24 billion	
VAR		$0.6 billion
TOTAL ASSETS		
Value	$129 billion	
VAR		$3 billion

LIABILITIES

CUSTOMER DEPOSITS		
Value	$100 billion	
VAR		0
DEBT		
Value	$20 billion	
VAR		0
EQUITY		
Value	$9 billion	
VAR		$3 billion
TOTAL LIABILITIES		
Value	$129 billion	
VAR		$3 billion

since the bank already has the capacity to bear the $1.5 billion in new value-adding VAR, it does not have to raise any new equity. In other words, it can finance, say, the acquisition of a new branch network in another region entirely through debt as long as the expansion does not create more than the $1.5 billion VAR released by disposing of the passive-risk-bearing assets.

This is precisely what the banking industry has been doing over the past two decades, thanks to a financial contract known as the interest swap.

Setting Free the Banks

A quarter century ago, the only way banks could manage interest rate risks without adversely affecting the value-adding side of their business was to make large capital provisions or develop skills in forecasting interest rate movements. This essentially meant a diversion of risk-bearing capacity away from their value-adding activities and their main source of competitive advantage.

There was no way to avoid making these provisions, because the interest rate risk was imposed on banks by customers. In principle, a bank could refuse to extend long-dated, fixed-rate loans or to accept short-dated, floating-rate deposits, but if it did, it would very soon go out of business. In effect, the interest rate risk was bundled with the company's value-adding activities and could not be avoided. It tied up a lot of expensive equity capital.

Enter the interest rate swap, a bilateral contract in which two organizations agree to exchange cash flows. Take, for example, a bank's anticipated cash inflows from interest earned on a long-term, fixed-rate loan. The bank can swap those cash inflows with a pension fund that wants fixed-rate interest payments to cover its long-term liabilities (to pensioners). In return, the bank receives the cash flows from floating-rate interest applied to the same principal amount as the loan. In practice, the bank and the pension fund simply net off the difference between the cash flows: If the fixed interest rate of the swap exceeds its floating rate, the bank pays the difference to the pension fund. If the reverse is true, the pension fund makes the payment to the bank. This kind of contract is known as a hedge, in that (unlike an insurance policy or an option) it shields the bank from both favorable and unfavorable movements in interest rates.

The beauty of the swap contract is that it is noninvasive. A bank can strip out its interest rate risk without affecting its customers. Borrowers still pay a fixed interest rate on a long-term loan; depositors still have a safe short-term asset. What's more, bank employees do not have to change their value-adding behaviors in any way. They look for the same customers and pitch the same products and services as before.

Even better, interest rate swaps are easily reversible. If customers' tastes change – for instance, if a bank's borrowers decide they want to borrow at floating interest rates – the bank can easily switch its interest rate exposures by taking out another swap the other way. Unwinding an interest rate risk position doesn't involve any renegotiation with swap counterparties, nor does the bank have to sell off its existing swap contracts. Nor must it try to get customers to change their preferences to suit the bank's risk needs.

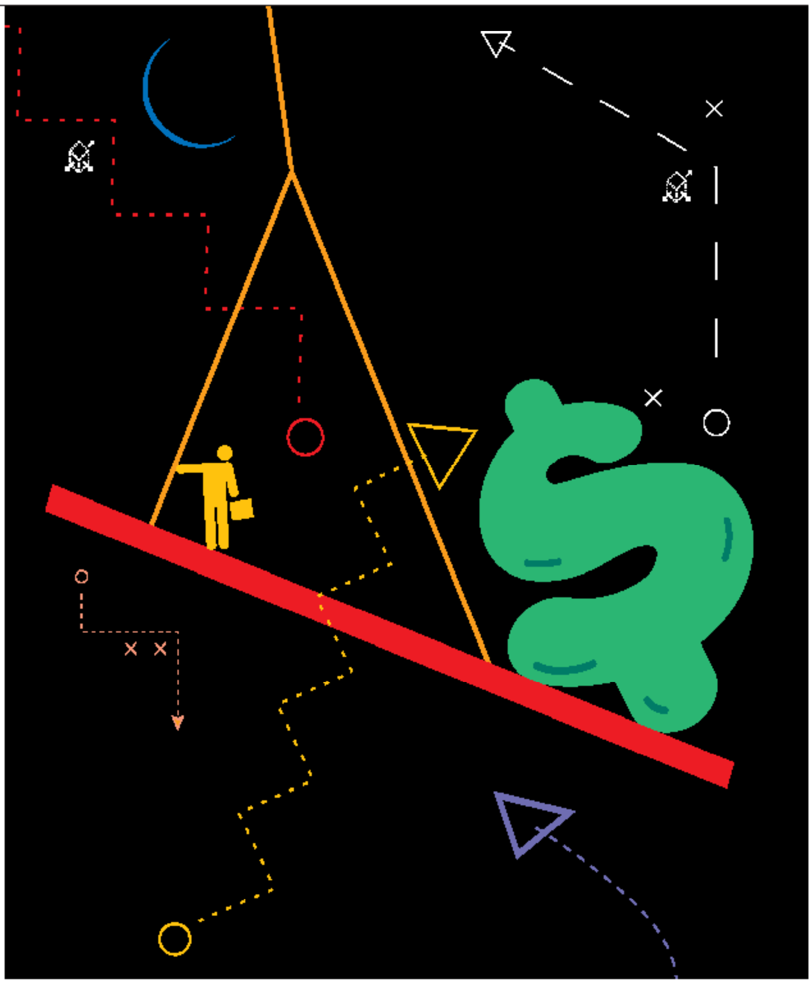
The strategic implications are broad: With the swap, bearing interest rate risk is no longer an inevitable cost of doing business, which means that banks do not have to tie up as much equity in cushioning passive risks, and the capital they raise can be more precisely targeted at areas where it will create the most advantage. It's not clear exactly when the first interest rate swap agreement was struck, but certainly by the early 1990s, the swaps desk had become as much a fixture in the securities trading rooms of most large commercial banks as the foreign exchange desk.

Today, the numbers suggest that companies of all kinds have swapped interest rates on some $147 trillion worth of assets. The swap contract has now become a highly standardized document, and a large body of case law has grown up around the terms and conditions, so that no ambiguity exists around the rights and obligations of the parties to a deal. The swap market is now a highly liquid, deep, and safe market in which to operate.

Escaping Credit-Limit Tyranny

Interest rate risk is not the only kind of customer-related risk that has acted as a brake on banks' capacity to grow. Just as important is the credit risk that banks take on when they extend loans. The more a bank lends to an individual customer, the more exposed it is to the risk that the customer will default. To keep that exposure within bounds, banks have traditionally placed formal limits on the amount of money they lend to any one client. Without such limits, banks would be forced by regulators to raise more equity capital. Just like interest rate risk, credit risk was once thought to be a necessary part of the banking business, a burden that bankers had to take on in order to service customers.

But a new kind of derivative called the credit-default swap largely frees banks from the tyranny of credit limits. Without having to raise more equity, the banks can do as much business with their prime clients as they want. Like the interest rate swap, the credit-default swap is a bilateral contract. But it is not a hedge. Instead, it resembles an insurance policy in that a bank will pay the equivalent of a premium to the swap counterparty in return for the right to a full payment of a loan if a borrower defaults. (A common practice is for a bank to buy credit-default-swap protection in cases where it wants to keep lending to a single name for relationship reasons – even if it is concerned by



too much exposure to that particular company's credit.)

A broader problem for banks than exposure to an individual client was exposure to a particular sector. If a bank felt that a customer's borrowings were increasing the likelihood of default, it could avoid lending more to that customer. But a bank would often have to turn down new business with, say, a strong publishing company that was a good risk, simply because of the bank's existing exposures to other publishing companies. Thus, the bank's attempts to serve the individual customer would be compromised by its overall risk exposure to the industry sector. But now a bank can separate the risk of an individual name from the risk of the sector. It can enter into a credit-default swap on a portfolio of publishing companies that expressly excludes the strong one, thereby covering itself against the credit risk of every publisher except the customer with which it wants to do business.

Once again, we see a derivative contract reducing the amount of passive VAR, enabling a bank to take on more value-adding VAR. In the case just described, the bank is clearly not protected from the risk that the publishing company in question will experience some kind of catastrophe. But it is the bank manager's job to assess such risks. Knowing its customers is one of the sources of the bank's advantages – it is a value-adding activity – and the bank manager's special knowledge of a customer is what enables him or her to surpass a competitor in deciding how much business to do with that customer. In contrast, bearing the risks of the publishing sector in general is a passive, non-value-adding activity, from the bank's perspective. And as with interest rate risk, if a bank did have a valuable (and presumably expensive) capability in sector analysis, it could create more value for shareholders by using that ability in some other line of business, such as asset management.

Of course, the bank still has to pay for the contract, which represents an opportunity cost. Money invested in premiums cannot be invested in acquiring new accounts. But the cost of the insurance provided by the swap is usually considerably lower than the cost of providing the same insurance through equity capital. I think of equity as a kind of all-purpose risk insurance. The broader your coverage, the more expensive it is. Credit-default swaps, on the other hand, are precisely defined (and by now standardized) contracts struck between a company and one other professional party. They are focused on a specific risk and cannot serve to reduce any risk other than the default of the customers involved, which means that they do not impose the same deadweight contract-related (or agency) costs as equity. What's more, the transaction costs associated with issuing new equity do not apply to credit swaps, which can be arranged in minutes by phone.

Recent and ongoing regulatory changes will increase banks' appetites for credit-default swaps. Under the Basel II agreement on banking regulation, banks will be obliged to factor credit risk into their VAR calculations along with interest rate and other market risks, increasing their potential need for equity capital. The pressure on them will be considerably reduced if they can use swaps to take generic credit risks such as sector exposures off their books. Their remaining credit-related VAR will be of the value-adding, growth-contributing kind, which will make the need for any extra equity capital to support risk taking a much more pleasing prospect.

THE VALUE OF ALMOST ANY COMPANY THAT SELLS ON CREDIT CAN BE ENHANCED THROUGH THE USE OF **CREDIT-DEFAULT SWAPS.**

Banks are not the only companies that can benefit from credit-default swaps. In fact, the value of almost any company that sells on credit can be enhanced through the use of these agreements. To take a simple case, suppose you are an aircraft manufacturer like Boeing or Airbus. Your competitive advantage lies in your expertise in designing, manufacturing, and delivering superior aircraft. Unfortunately, your customers – airlines – are almost universally weak credit risks, and they all operate in the same sector, which means your company has a highly concentrated exposure to the vagaries of the air travel business. But managing the risks that your customers will default is outside your area of competitive advantage. From your perspective, they are passive risks, and your only reason for bearing them is that the customer insists on it.

Here, too, the credit-default swap gives you a noninvasive and reversible way to lay off the risks of customer default or to reduce sector credit exposure. You might choose to protect yourself by purchasing a credit-default swap on a group of names, as I described previously for the banking industry. If an airline goes out of business in an isolated event, its assets (its routes and aircraft) will be taken over by some other airline, and you're not concerned by who is paying for or leasing the aircraft. You just want to sell as many planes to as many customers as you can. Your customers don't have to see anything of the swap transaction; from their perspective, you are providing them with exactly what you have done before and on the same terms. And if your credit exposure to the airlines changes at all, you can back out of the swap simply by providing some other company with a swap in which you provide the default guarantee.

Of course, there are other ways for an aircraft manufacturer to insure against customer credit risks. Banks have been providing letters of credit and credit lines to companies for a long time. But except in the case of government export-import banks, bank guarantees to third parties are relatively rare, difficult, and expensive to arrange. Such a guarantee may be better than raising more equity capital, but it is more expensive than entering into a credit-default swap. Obviously, big banks can use the credit-default-swap market too, so prices for this service have fallen, and availability has grown, as this market has gotten bigger.

The market in credit-default swaps is burgeoning; at last count, credit risk derivatives were available for some 400 or 500 companies, and the value of outstanding contracts stands at some $8.2 trillion, according to a recent report by the International Swaps and Derivatives Association. The market is now sufficiently large and liquid to sustain the kind of growth that we saw a decade ago with interest rate swaps.

From Credit to Equity

Let's now suppose that you, the hypothetical aircraft manufacturer, in common with many other large manufacturers (and, indeed, like Boeing), carry large pension liabilities, which are fixed in nominal terms and have long durations. Let's further suppose that the pension assets that were expected to cover these liabilities were invested in the stock markets, whose returns are highly volatile and highly correlated with the risks of most firms' business assets.

General stock-market risk is a passive risk for an aircraft manufacturer – indeed, for any company – since investors can easily obtain that exposure for themselves from professional financial-asset managers. Hence, even for fully funded pension plans, a mismatch of risk between pension plan assets and liabilities would impose a large amount of passive risk on the company's other liability holders, and most of it would be borne by the shareholders. This mismatch of risk between pension assets and liabilities is often more serious an issue than a shortfall in funding measured by the dollar amount of their difference. (For a discussion of companies' costs of bearing this passive risk, see my article "The *Real* Problem with Pensions," HBR December 2004.)

Enter another derivative product: the equity swap, which enables you, the manufacturer, to exchange the returns on your stock-market-invested pension assets for a fixed-rate, long-duration return that can be tailored to your pension liabilities. If your company (or its designated fund managers) were particularly good at managing the equity portfolio, the swap would even allow the firm to retain that value added, because the company could engage only in a swap that exchanged returns on a stock market index rather than the specific returns on its portfolio.

In this way, it could eliminate the non-value-adding market risk of the portfolio but retain the value-adding risk of the superior fund-management performance.

There is no shortage of potential counterparties for such a transaction; any professional investor seeking to increase its exposure to equity returns would be interested. The amount of equity that companies can release by eliminating their pension risks in this way is significant. Indeed, for some companies, the estimated VAR created by the pension asset-liability risk mismatch alone actually exceeds the entire capitalization of their equity.

Equity swaps can do more than remove specific market-related risks, such as those associated with a company's pension plan, from the firm's risk balance sheet. They can also be used to strip away the market-related risks of the operating business itself. As we saw with credit risks, it becomes possible for companies to break down their operating business risks and separately manage the different components so as to retain only those risks that are value-adding for the company.

The online stockbroker Ameritrade is a case in point. Its operating business is exposed to general market risk in two ways. First, when the stock markets fall, Ameritrade's customers become poorer, which means that the dollar value of their trades falls, reducing commission income. Second, customers' propensity to trade falls as the market declines, because dropping market values usually go hand in hand with decreases in trading volumes. This again translates into reduced commission revenues for Ameritrade. The exposure to these risks increases the company's total VAR, most of which it has to cover through equity.

But while Ameritrade's business is sensitive to the stock market, figuring out what the stock market is going to do is not its value-adding business. It adds value by persuading customers to trade through Ameritrade and by providing excellent execution of trades. If Ameritrade could strip out its exposures to equity-trading volumes and market values, it could make more equity available to support the added risk from expanded investments in better customer databases, faster computers, and easier customer interfaces and from the enlargement of its customer base through marketing or M&A activity.

To reduce its exposure to stock market volatility, Ameritrade could enter into an equity swap agreement with a mutual fund or some other investing institution. Ameritrade could swap the returns on a notional portfolio invested in the overall market index in exchange for the returns on an equivalent amount invested at a floating interest rate, which has a zero VAR. If the stock market did well, Ameritrade would be able to pay its obligations out of its improved commission revenues. If the stock market fell, the payments from the swap counterparty would cushion the blow. (For a discussion about other

THE THORNY REALITIES OF REPORTING RISK

There are practical difficulties associated with transactions that, like some of those described in this article, involve using a financial contract to protect a company against a general risk that is hard to specify in advance.

For instance, under current accounting rules (specifically, FAS 133), it would be virtually impossible for a company to obtain hedge accounting treatment for an equity swap used to hedge against a general strategic risk such as the one described in the Ameritrade example. (A company almost surely would be able to use such a treatment if it used the same equity swap for a tactical, more precisely defined hedge of an existing contract or asset that is explicitly, rather than implicitly, linked to an equity return.) If Ameritrade were to engage in the swap proposed, it would have to report on a marked-to-market basis the value for its contract, which would fluctuate depending on the vagaries of the equity market. On the other hand, it would not be permitted to net off on its accounts the offsetting but unrealized value gains or losses from changes in expected future cash flows in its business activities. Reporting only the swap-value changes in the financial transaction, however, could make the company look more risky than it is, because the firm might appear to be speculating on the stock market when it has simply hedged a preexisting strategic business exposure not reported under current rules.

For that reason, I believe that companies conducting these transactions have to engage in deeper communication with shareholders and ratings agencies than they currently do in order to ensure that investors have access to the information they need to assess the company's financial dealings properly. The additional transparency will also help the managers remain disciplined about dealings in the financial markets. In any event, concerns with accounting treatment should not blind companies to the possibilities for value creation offered by the derivatives markets.

considerations related to this form of swap, see the sidebar "The Thorny Realities of Reporting Risk.")

Other types of organizations can benefit from using equity swaps, too. In the HBR List of Breakthrough Ideas (February 2005), I described in "Swapping Your Country's Risks" how investors and governments in developing countries can use equity swaps to diversify market risks without diverting capital from strong domestic industries. The government of Taiwan, for example, could reduce the country's dependence on global demand for electronic products without sinking billions into attempts to diversify. Instead it could exchange the returns on a world electronics portfolio for the returns on a well-diversified world-equity portfolio. And as opposed to selling off shares in Taiwanese companies to foreign investors, this approach would allow Taiwan to retain the benefits and risks of its special expertise in manufacturing chips. If electronics did well, Taiwan could easily afford to meet its obligations. If the world electronics market fell, the blow would be cushioned. Because only the returns on the portfolios are exchanged, the principal could still be invested in the domestic electronics industry, allowing Taiwan to extend its competitive advantage (in factories and expertise), even as it protects itself from the associated risks that are beyond its control.

Relative to notional amounts outstanding in the interest-rate-swap and credit-default-swap markets, the equity-swap market is small. According to statistics from the Bank for International Settlements, as of June 2003, the outstanding notional dollar amounts of assets covered by equity swaps and comparable agreements came to $601 billion. But the conditions for growth clearly exist.

• • •

The derivatives markets – both those already established and those yet to be – contain rich possibilities for value creation through strategic risk management. Most corporations bear substantial amounts of passive risk, some of which is imposed upon them by decisions made when cost-effective means for shedding these risks were not available, and some of which is an inevitable consequence of their industries' competitive dynamics. Thus we see significant amounts of the equity of many large companies tied up as a cushion for the risk mismatch between their pension assets and pension liabilities. In other cases, companies that compete by offering ever more complete and integrated solutions to customers' needs are forced to take on assets and activities that they have no special facility for managing or bearing. All these passive risks can, in principle, be either capped or outright eliminated and removed from the risk balance sheet by hedging, selling, or insuring. Corporate leaders everywhere owe it to their shareholders to take a closer look at the strategic risk-management opportunities made possible by the world's extraordinarily inventive financial institutions and markets.

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It's all very well to be kind, compassionate, and charismatic. But the most crucial predictor of executive success has nothing to do with personality or style. It's brainpower. Here's how to find those people with the sheer intelligence to become business stars.

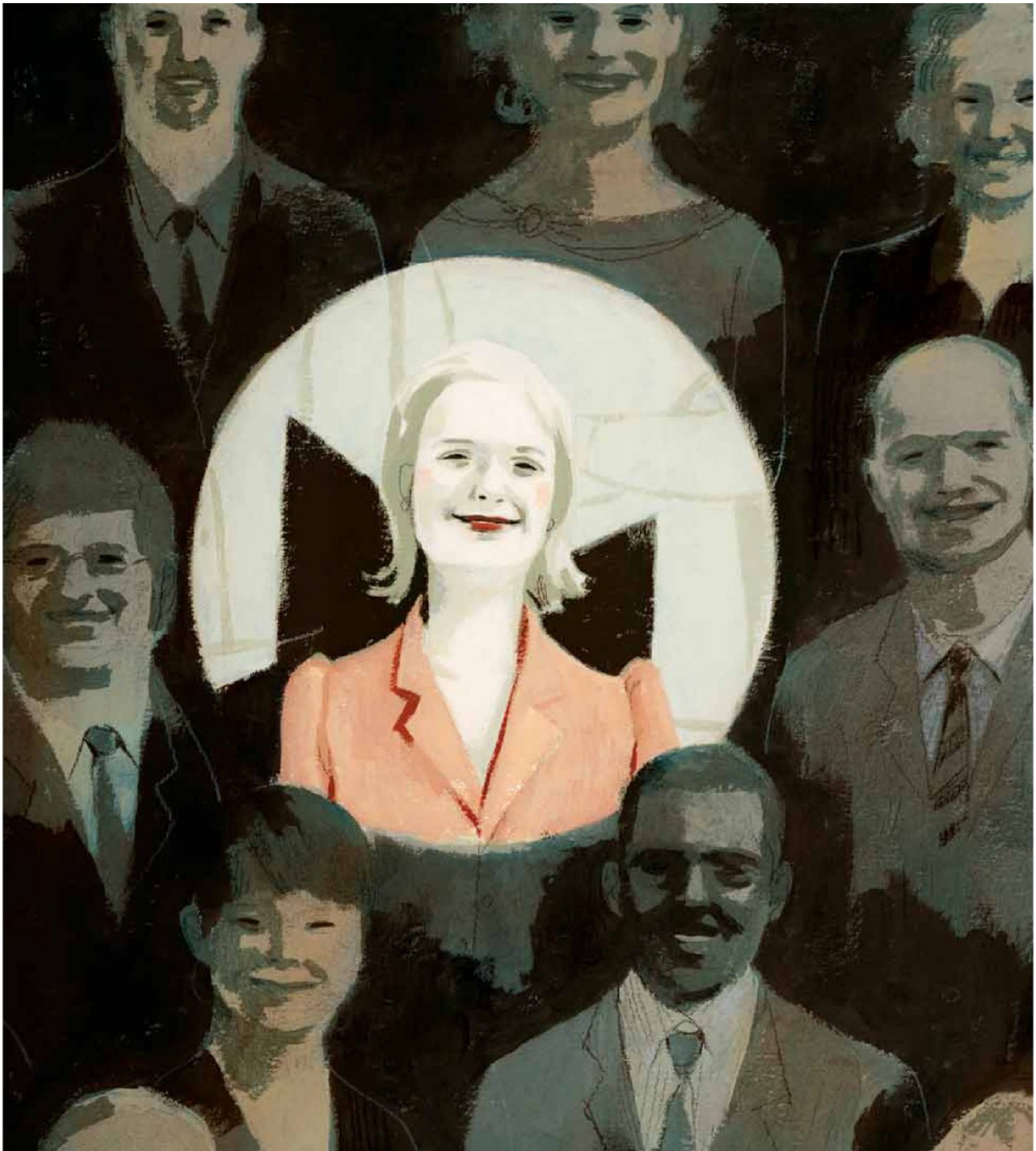
HIRING FOR SMARTS

by Justin Menkes

SO MUCH HAS BEEN WRITTEN about leadership personality and style that hiring managers are in danger of neglecting the most critical factor in executives' success: intelligence. More specifically, those responsible for hiring and promoting haven't been given the tools necessary to evaluate the cognitive abilities that allow a person to consistently reach the "right" answer. How could they recognize such smarts? Historically, the only reliable measure of such brainpower has been the standard IQ test, which, for good reasons, is rarely used in business settings. But in rejecting IQ testing altogether, hiring managers have turned their backs on the single most effective assessment of cognitive abilities, simply because there isn't a version that applies to the corporate world. They have dismissed the one method that could help them identify business stars.

Yes, it's nice when a leader is charismatic and confident, and a great résumé can tell you a lot about a person's knowledge and experience. But such assets are no substitute for sheer business intelligence, and

ISABELLE ARSENAULT



they reveal very little about the leader's ability to get to the truth of the matter. Thinking critically is the primary responsibility of any manager, in any organization, and a leader's capacity to engage in this process is largely determined by his or her intelligence. Of course, there are many academically brilliant people who might score in the genius range on an IQ test but who could never make it as the CEO of a *Fortune* 500 company. That's not surprising, since IQ tests focus on the cognitive skills central to success in school, not success in business.

Nevertheless, there's a lesson to be learned from the predictive power of IQ tests. That is, to accurately forecast how successful someone will be in a particular activity, you must examine the cognitive skills he or she possesses that directly affect that activity–in this case, in the workplace rather than in the classroom. In this article, I'll define the specific cognitive abilities that make up what I call "executive intelligence" and describe what to look for when interviewing job candidates or considering a manager for promotion.

The Main Ingredient: Critical Thinking

For many years, management scholars and practitioners have acknowledged that business leaders must be able to think critically. Lucent Technologies CEO Patricia Russo, who has led the company's turnaround, described this ability to me as "clarity of thought." The people who have it are rare, she said, but if you get a team of clear thinkers, "the possibilities are endless." Avon CEO Andrea Jung made a similar observation: "Clear thinking in senior leadership is a primary attribute we look for. I've seen little correlation between those who have a formal business education and those who possess clear thinking.…Some people have a knack for this, some don't." What Russo and Jung are referring to is a very specific ability–critical business thinking, which is the foundation of executive intelligence.

To better understand this concept, it's useful to consider a business decision that could have benefited from some solid critical thinking. Let's look at the introduction of the Segway Human Transporter. The upright powered vehicle was heralded by its inventors as the catalyst for a revolution in human mobility. But despite the hype, the Segway got a lukewarm reception from consumers and has not transformed urban transportation. Could the inventors have anticipated this outcome? A critical thinker might have analyzed the Segway's market potential like this:

> The motorized scooter has been around for a while, is functionally similar to the Segway, and sells for a fraction of the cost. Yet motor scooters have not been widely adopted, and cities have not altered their infrastructures to accommodate this mode of transportation. So why would the Segway succeed where the scooter has failed? The Segway has two advantages over the scooter: Users can stand and balance completely upright while the transporter is moving or stopped, and they can go backward. The basic question remains, though: Did the lack of these two features keep the scooter from being more widely adopted? If not, there is little reason to anticipate any greater demand for the Segway than there has been for the scooter. In fact, because of the Segway's dramatically higher cost, there may be less demand.

The Segway is fun. But is it worth the cost? Not according to the market. The minds behind the Segway may be sophisticated and technologically brilliant, but they appear to be somewhat naive when it comes to business. Perhaps their excitement over the technology clouded their ability to challenge their market assumptions to any significant degree.

The Segway example is notable because it reveals a fundamental flaw in a company's business plan. But it isn't enough to look generally at what went well or poorly with a particular business. To hire potential business stars, we need to understand the basic attributes that lead individuals to make good or bad decisions. We need to understand what constitutes executive intelligence.

Getting Smart About Smarts

In school, students focus on "subjects" – history, math, language, and so on. Similarly, we can identify the subjects of executive work and the distinct set of aptitudes that a manager must be able to demonstrate in each. All managerial work falls into one of three subjects: *accomplishing tasks*, *working with and through others*, and *judging oneself and adapting one's behavior accordingly*. (For a description of the research supporting these classifications, see the sidebar "Creating a Measure of Executive Intelligence.") Here's how executive intelligence is manifest within these three subjects.

Accomplishing Tasks. In this subject, intelligent executives make decisions using a set of six core cognitive skills. Among them are *critically examining underlying assumptions* and *identifying probable unintended consequences*. (For the full list of cognitive skills in each subject, see the exhibit "The Skills That Make Up Executive Intelligence.") With these aptitudes in mind, consider the way two CEOs accomplished tasks in response to a business crisis.

In the 1980s, General Motors was losing market share to its more efficient Japanese competitors, and, at the same

Justin Menkes (jmenkes@executiveintelligence.com) is a managing director of the Executive Intelligence Group, a New York–based consulting firm partnered with Spencer Stuart and focused on the assessment of executive talent. *Copyright 2005 by the Executive Intelligence Group.* *This article is adapted from the book* Executive Intelligence *by Justin Menkes (HarperCollins, 2005).*

CREATING A MEASURE OF EXECUTIVE INTELLIGENCE

When Alfred Binet was commissioned 100 years ago to create a measure of academic intelligence, he identified the school subjects that students needed to learn, such as arithmetic and language. Then he set about identifying which cognitive skills determined a student's aptitude for mastering each of these subjects. His work formed the basis for what is known today as the IQ test, still recognized as the most powerful predictor of a child's academic potential. While we accept that there is a set of cognitive skills that constitute academic intelligence, until now we have assumed that there is no such thing as intelligence unique to executives – that no distinctive set of cognitive skills determines business or leadership aptitude.

Yet, given the research, a defined set of cognitive skills clearly exists. What was needed was a test that could isolate these skills. Following Binet's lead, I set about creating a measure of business intelligence.

The first step was to identify the "subjects" of executive work, which, based on a review of management and psychology literature, were *accomplishing tasks, working with and through others,* and *judging oneself and adapting one's behavior accordingly.* These three broad categories cover all managerial responsibilities. For instance, making strategy decisions, determining business focus, providing direction, and implementing new initiatives all require the cognitive skills necessary to accomplish tasks. Anticipating and managing conflicts, leading teams, and handling customers and investors all require cognitive skills regarding relationships with people. Integrating others' views, recognizing one's changing circumstances, and adapting one's behavior all require the use of cognitive skills having to do with self-awareness.

Next, I pulled together a list of the cognitive skills that had been cited by the most respected management scientists as being essential to effective leadership. Though the list was long, it was clear there was some repetition and overlap, so I needed to identify core aptitudes. I sorted the skills, and, interestingly, all of them fell naturally into the three categories. This confirmed that the three basic subjects of executive work were an accurate representation of real-world leadership.

The skills include such abilities as *distinguishing primary goals from less relevant concerns, anticipating probable outcomes,* and *recognizing people's underlying agendas.* All of the cognitive skills determine how well someone gathers, processes, and applies information in order to identify the best way to reach a particular goal or navigate a complex situation. In other words, these are the skills that allow someone to achieve the highest level of critical thinking in the workplace.

To validate this theory of executive intelligence, I tested it against real-world executive performance, and a pattern became obvious: Star executives consistently outperformed their peers on these cognitive skills. What's more, all of these aptitudes were necessary for effective decision making. Though most executives possess strong skills in one or two of the three subject categories, the stars of the business world show exceptional ability in all three.

time, it was struggling with terrible labor relations. Then-CEO Roger Smith developed a bold plan to solve both problems by replacing nearly all of GM's manufacturing force with robotics. By the end of the 1980s, GM had spent more than $45 billion on plant automation – a sum that at the time would have been enough to purchase both Toyota and Nissan. Yet its market share and plant productivity continued to decline every year following automation. To Smith, automation had seemed like such a logical move and, obviously, such high-risk initiatives are very difficult to undertake. But Smith demonstrated a severe lack of executive intelligence in his analysis. First, he failed to question his underlying assumption that more robots equals cheaper cars. A review of readily available data would have revealed that machines entail huge capital expenses and call for highly skilled support technicians. Second, he failed to anticipate the unintended consequences of his initiative: Automation can severely limit a plant's flexibility and, hence, its ability to change product lines. Had Smith more skillfully analyzed the situation, he might still have chosen to invest in automation, but he could have done so in a way that maximized his chances for success. As Robert Lutz, a senior GM executive, later explained, the best answer to GM's productivity problems was, in fact, a combination of people and machines that capitalized on the strengths of each.

By contrast, when D. Keith Grossman was hired as Thoratec Corporation's CEO in 1996, the medical devices company was struggling to survive. Grossman was charged with helping the company profitably produce and market its flagship product, a ventricular assist device for recovery from open-heart surgery. But Grossman

IQ TESTS predict work performance at least as well as competency interviews do and about ten times better than personality tests do.

was quick to question the industry's fundamental assumption: that getting a successful product to market would result in a viable business. Thoratec was competing with large, global companies that were focused not just on a single device but on whole diseases, combining drugs and devices. What's more, those firms had deep pockets to market to doctors and consumers.

Thoratec's product-focused assumption had created an expensive unintended consequence: the need to build an infrastructure to produce and sell a single product, leading to a severe cost handicap since the same infrastructure would be required regardless of how many products the company was selling. Thoratec could never hope to compete with companies offering vast and integrated product lines. To succeed, Grossman concluded, the company would have to gain scale, either by acquiring another company or by being acquired. Grossman had effectively *anticipated key obstacles to achieving the company's objectives and identified sensible means to circumvent them*, another of the cognitive skills required in accomplishing tasks.

Grossman's articulation of his facts and conclusions was so sound in its logic that he was eventually able to convince the board of rival Thermo Cardiosystems–a company three times Thoratec's size–to be acquired and even to accept as terms of the deal Thoratec's stock and management team and a minority position on Thoratec's board. Today, Thoratec is a thriving, highly profitable company with a virtual monopoly in its medical niche.

Working with and Through Others. Any discussion about a leader's "people skills" generally focuses on that individual's personality, likability, and manners. By contrast, any discussion about a leader's executive intelligence with respect to people should focus on six core cognitive skills that allow the leader to appreciate and navigate the complexities of interpersonal situations in an intelligent way. Among these are *recognizing the underlying agendas of others* and *considering the probable effects of one's actions.*

Former Boeing CEO Phil Condit, who was blindsided by a series of public scandals, seemed to be lacking these aptitudes. While no evidence links Condit to the managerial mistakes and ethical lapses that ultimately prompted him to resign from his post several years ago, he failed to recognize how far some of his salespeople might go to meet their numbers. Specifically, he never understood that their underlying agendas could compromise their ethics. He didn't recognize the "ends justify the means" sales culture that was developing around him. Senior members of his team became involved in highly questionable dealings–practices that a more socially aware CEO would have discovered and stopped early on. Further, Condit never appropriately considered the probable effects of his actions as he allowed his salespeople to police themselves. Ultimately, the short-term financial gains that the sales team generated were dramatically eclipsed by the costs to Boeing–in both money and reputation.

Now consider the response of Van Johnson, the recently retired CEO of Sutter Health, when Blue Cross's meager and untimely payments threatened to bankrupt Sutter's hospitals and physician groups in 2001. Sutter's employees were screaming for a fight, but Johnson questioned the prevailing opinion within Sutter (widely shared by other health care providers) that Blue Cross was an evil and greedy corporation bent on squeezing out profits, even if it meant forcing community medical care groups into insolvency. He attempted to understand the underlying agendas at Blue Cross by studying the ways Blue Cross's business (health care payment and reimbursement) differed from Sutter's (delivery of care). And Johnson considered the probable effects of a battle with the insurance giant. If Sutter adopted an aggressive stance, the fight with Blue Cross could be costly and protracted and could result in Sutter being removed from Blue Cross's list of providers.

Johnson realized that while the issue of reimbursement needed to be addressed, the biggest problems between Blue Cross and Sutter had to do with how the companies' processes worked together; there were lapses on both sides. By accepting Sutter's role in the problem and approaching negotiations with the other party's perspective in mind, Johnson emphasized fairness rather than power. The two companies were at odds for approximately three months but ultimately resolved their differences and were able to create the foundation for a solid long-term relationship. In fact, Johnson has described Blue Cross as one of Sutter's fairest payers.

Judging Oneself. Effective executives need to be able to cast a critical eye on their thinking and behavior. This involves applying five core cognitive skills, including *recognizing personal biases or limitations in one's perspective* and *pursuing feedback that may reveal an error in judgment and making appropriate adjustments.* It's natural for people to get defensive when challenged, but an effective leader must be able to assess his or her ideas, test them against those of others, and adjust them if need be. Failure to do this can leave a company highly vulnerable to changes in the marketplace.

Consider the situation at Rubbermaid: It was one of *Fortune*'s most admired companies in 1993. Just six years later, it was in such bad shape that it was acquired by turnaround specialist Newell Manufacturing Company. What happened? During the 1990s, Rubbermaid's market changed dramatically, as retailers began to shift their focus from selling innovative products to selling lower-cost products. Rubbermaid's then-CEO, Wolfgang Schmitt, refused to bend to pressure from the retailers because the company had always done well with price increases. And he steadfastly ignored his team, which tried to explain the changes in the market. Schmitt maintained that customers just needed to be educated about why price increases were necessary. His inability to look critically at his own biases and limitations led him to devalue the essential information that others were trying to provide.

Now look at how another CEO more skillfully addressed his own significant oversights. Cedars-Sinai president and CEO Tom Priselac had made a special effort in his 26-year tenure at the health care organization to establish and maintain personal relationships with managers and staff. He prided himself on these connections. But in late 2002, a union effort to organize the hospital's nurses opened Priselac's eyes to the troubling reality that he was out of touch with far too many of his employees. Union recruiters had taken advantage of a growing animosity and a lack of trust between the nursing staff and the administration.

Priselac began an aggressive organizationwide initiative to figure out how the executive team, managers, and staff had grown so far apart – and he insisted that the effort focus on how his own actions had contributed to this rift, despite what he thought were his best efforts to the contrary. Over time, Priselac came to recognize that he'd

THE SKILLS THAT MAKE UP EXECUTIVE INTELLIGENCE

REGARDING TASKS, intelligent leaders:	**REGARDING PEOPLE,** intelligent leaders:	**REGARDING THEMSELVES,** intelligent leaders:
appropriately define a problem and differentiate essential objectives from less-relevant concerns.	recognize the conclusions that can be drawn from a particular exchange.	pursue feedback that may reveal errors in their judgments and make appropriate adjustments.
anticipate obstacles to achieving their objectives and identify sensible means to circumvent them.	recognize the underlying agendas and motivations of individuals and groups involved in a situation.	recognize their personal biases or limitations in perspective and use this understanding to improve their thinking and their action plans.
critically examine the accuracy of underlying assumptions.	anticipate the probable reactions of individuals to actions or communications.	recognize when serious flaws in their ideas or actions require swift public acknowledgment of mistakes and a dramatic change in direction.
articulate the strengths and weaknesses of the suggestions or arguments posed.	accurately identify the core issues and perspectives that are central to a conflict.	appropriately articulate the essential flaws in others' arguments and reiterate the strengths in their own positions.
recognize what is known about an issue, what more needs to be known, and how best to obtain the relevant and accurate information needed.	appropriately consider the probable effects and possible unintended consequences that may result from taking a particular course of action.	recognize when it is appropriate to resist others' objections and remain committed to a sound course of action.
use multiple perspectives to identify probable unintended consequences of various action plans.	acknowledge and balance the different needs of all relevant stakeholders.	

gotten into a comfort zone; he hadn't realized that he was no longer having meaningful contacts with people he already knew and that he hadn't gotten to know many of the new employees. Priselac began meeting with directors, managers, and employees (one-on-one and in small groups) much more frequently. His efforts paid off: About 85% of the participants in a recent employee satisfaction survey (a total of 8,000 Cedars-Sinai employees were polled) rated senior management as fair, honest, and trustworthy. About 92% of respondents said they would recommend working at the organization – a 30% increase in favorable responses from 2002. By late 2004, the union that had been attempting to represent the nurses had withdrawn its petition. How did Priselac engineer such an impressive turnaround? He actively sought and used information that revealed errors in his judgment. His response to the union effort explicitly focused on his own role in creating a breach with employees. And Priselac looked critically at the limitations in his own perspective – namely, how he had unintentionally become isolated.

What do Grossman, Johnson, and Priselac have in common? They faced very different business problems, but each arrived at a solution through the application of certain cognitive skills. These are not the skills you pick up in business schools or executive training programs. Those institutions provide useful techniques for decision making, but most executives have access to all the same tools, and even the best problem-solving models require sharp thinking if they are to be applied effectively. Making sound business decisions requires a form of intelligence – an organic, adaptive, ever-evolving set of cognitive skills.

The Limits of IQ Tests

Until now, the only cognitive skills measured were those initially identified to predict schoolchildren's academic performance – and traditionally such skills have been measured using IQ tests. Although IQ tests were not originally intended for use in business, studies have shown that these instruments predict work performance at least as well as competency interviews do (the most common assessment tool used today for hiring and promotion) and about ten times better than personality tests do. That's because some of the thinking skills that support academic success are also crucial to executive performance.

Yet IQ testing is not widely used as a way to identify top talent (though it plays an indirect role, as companies may choose to hire people with degrees from elite schools). The skills that IQ tests assess represent a fraction of a person's existing cognitive abilities. Some of the skills measured – such as vocabulary, arithmetic, and spatial reasoning – have almost no relevance to managerial work. Moreover, the topics tested would seem academic and elementary – indeed, almost insulting – to people with extensive professional experience.

The format is also ill suited to business. Executives rarely if ever confront problems that have just one right answer; nor do they have the option of picking one answer from several choices listed. IQ test questions don't assess the practical, on-your-feet thinking skills needed in business. What's more, these tests have been repeatedly accused of racial and gender bias.

Yet, despite these very real shortcomings, IQ tests are still a better predictor of managerial success than any other assessment tool. The business world's reluctance to use intelligence testing of any kind (other than assessments of emotional intelligence, which is really about personality and style) has robbed companies of a powerful tool for evaluating candidates for employment or promotion. It is, however, possible to create a comparable measure of intelligence for executives, one that tests for the skills managers need – such as evaluating the quality of data or accurately identifying the core issues in a conflict – and in a format that more accurately emulates the real business environment.

Interviewing for Intelligence

The most common interviewing methodology is the "past behavioral interview" (PBI). A PBI includes questions about a person's experiences performing certain activities – such as managing deadlines or resolving conflicts – but does not include personal questions. This form of interview has become the accepted best practice over the past 30 years, and, in fact, the PBI is a good predictor of performance. It can explain about 25% of the variances in performance among employees.

Still, PBIs miss a lot of what determines executives' success. That's because they don't measure what they claim to. Take two sample PBI questions. "What is the strategic direction of your company or division, and how did you go about developing it?" is designed to assess someone's competence at devising strategy. And "Describe a situation in which you had to interact with a difficult colleague and resolve a conflict" is supposed to test a person's capacity to handle conflicts. Surprisingly, you can just as accurately predict an executive's ability to devise strategy based on her answer to the second question as you can based on her answer to the first. This is not just a single example unique to these two competency questions; the same circumstance holds true for any competency question.

Research by professors Jesús F. Salgado and Silvia Moscoso of the University of Santiago de Compostela in Spain explains why. A person's performance on any behavioral interview question is dominated by the same three qualities: experience, job knowledge, and social skills. A candidate with a long work history has lots of compelling

examples to draw from when asked to recount events that might illustrate a particular competency. A candidate's job knowledge – specifically, his awareness of industrial and managerial best practices – can make it easier for him to punctuate his answers with stories that will earn him high marks from interviewers. And a candidate who can relate his stories in a positive, likable manner has a distinct advantage over someone with inferior social skills. Because each question in the behavioral interview essentially assesses the same qualities, there's no need for the grueling three-to-four-hour sessions favored by hiring managers today. They need only ask enough questions to get a reliable appraisal of the candidate's work experience, job knowledge, and social skills.

Despite their advantages, behavioral interviews really only establish a candidate's minimum qualifications; they don't identify star talent. A candidate's experience, for example, is obviously an important hiring factor, but we all know seasoned executives who aren't stars. Similarly, being likable doesn't mean you have the intellectual horsepower to be a stellar leader. In short, behavioral interviews measure knowledge, not intelligence. Knowledge is information acquired through experience or formal training. Intelligence is the skill with which someone uses knowledge to solve a problem. Knowledge questions require people to *recite* what they have learned or experienced, while intelligence questions call for individuals to *demonstrate* their abilities.

So how do you measure executive intelligence? The best way is to use questions that require candidates to demonstrate their skills in an interview format. For such a measure to assess intelligence, it must raise questions and situations that the candidate has never confronted. The more novel the situation, the less rote knowledge can be applied and the more cognitive ability is required to render an answer.

The interview format is a departure for intelligence tests, which have traditionally been presented as written, multiple-choice exams because their developers believed that human judges could not make objective assessments. But that's not true. The Educational Testing Service recently changed the format of the Scholastic Assessment Test (SAT) to include essay writing. The move was controversial, because it introduced a human element into the judging, presumably making scores less

Being likable doesn't mean you have the intellectual horsepower to be a **STELLAR LEADER.**

objective. But, in fact, research had shown that other essay-based standardized tests, such as some Advanced Placement exams, were in many cases better predictors of academic success than the SAT. That's because most university students are graded on essay exams; almost none of their grades are derived from multiple-choice testing. It turns out that the best way to predict how well people will write essays in the future is to test them using an essay format today. In other words, to most accurately predict someone's performance, you must closely mimic the context in which the individual will have to perform.

The same holds true in the office. Executives exchange information through conversations, questions are posed, and decisions are made on the fly. The most accurate predictor of business performance would have to imitate these dynamics, and human evaluators are far and away the best judges of such interactions.

Rather than concentrating on academic subjects, executive intelligence tests should focus on the particular cognitive subjects associated with executive work: accomplishing tasks, working with and through others, and judging oneself. The questions shouldn't require specific industry expertise or experience. Any knowledge they call for must be rudimentary and common to all executives. Only then can a hiring manager be assured that the disparities among job candidates are because of differences in their processing power, not in their knowledge. And the questions should not be designed to ask whether the candidate has a particular skill; they should be configured so that the candidate will have to demonstrate the skill in the course of answering the question.

Imagine you want to determine whether someone can critically examine underlying assumptions and can anticipate likely unintended consequences. Rather than ask the candidate to recount an occasion in which she did either of these things, you must present a fact-based situation in which she would need to apply such skills. An executive intelligence evaluation designed to test these abilities might look like this:

> You are the CEO of a large software company. Your prices are being severely undercut by both domestic and foreign competitors. Your executive team recognizes a desperate need to cut costs. Your COO concludes that the answer is to outsource most of the company's programming to foreign subcontractors, thereby reducing labor costs. In fact, your COO has already received a number of bids from service firms in both India and South Korea. What questions do you have about his proposal?

A candidate displaying a high level of executive intelligence while answering this question would explain that the core assumption underlying the COO's conclusion needs to be confirmed—that is, outsourcing automatically equals cheaper production. She might point out that there may be indirect costs (up-front investment, ongoing customer service, and software development issues) involved with such a move that must be considered. Further, she would cite the probable unintended consequences of the COO's proposal, such as how using a distant workforce might affect productivity or labor relations.

Now suppose you want to find out whether a candidate has the executive intelligence to work with and through others effectively. You might present him with the following scenario:

> You are the general manager of sales and marketing at Rinaldi Manufacturing. You have been with the company only a year when Amanda, one of Rinaldi's senior account managers, asks to talk to you about concerns she has about the way her immediate superior, Rick, has been handling one of Rinaldi's best customers. Rick is a senior vice president and reports directly to you. Rinaldi employees are expected to respect the chain of command; they are to raise concerns with their immediate supervisors before bringing such issues to others. You know Amanda has not discussed this issue with Rick. What do you do?

A candidate who answers this question well will recognize that he actually knows very little about what is happening with Rinaldi's customer and why Amanda has chosen to disregard the chain of command. He will acknowledge and balance the needs of different stakeholders—his employees, on the one hand, and one of Rinaldi's best customers, on the other. He will recognize the probable effects of his chosen course of action. Whether or not he chooses to meet with Amanda, Rick, or both, he will need sound justification for his choice.

There is no single right answer to either of these questions – which highlights the essential role the interviewer plays in guiding the assessment process. The executive intelligence test doesn't measure the "absolute" quality of a candidate's solutions but rather the likelihood that his reasoning skills and lines of inquiry will lead him to a desirable outcome. Different candidates may address the same situation in different ways, and their solutions may be equally successful. It takes a trained interviewer to explore the logic underlying each solution and determine the candidate's mastery of the cognitive skills involved.

Assessing the Assessment Tool

The executive intelligence measure is a new tool, but considerable evidence supports its validity. In a study conducted in 2002, I interviewed and scored 35 executives from different industries using an executive intelligence instrument. I then asked their peers, subordinates, and superiors to rate the executives' performance (feedback was anonymous). The correlation between the executives' interview scores and their 360-degree performance ratings suggested that the executive intelligence scores were strong predictors of managerial success.

In 2004, Western Michigan University's Evaluation Center, which specializes in the evaluation of assessment instruments, reviewed the executive intelligence tool and all related empirical findings. Led by assistant management professor Jennifer Palthe, the group there concluded that executive intelligence tests measure what they purport to and capture aspects of real-time managerial performance that other methodologies cannot. To date, executive intelligence interviews have been administered to more than 500 senior executives in 18 countries and in seven languages. Language, country of origin, gender, and race have not demonstrated any influence on testing performance.

Executive intelligence assessment is not a magic bullet for leadership evaluation. Like behavioral interviews, executive intelligence interviews can predict about 25% to 30% of the variance in performance between candidates. But these tests measure completely different skill sets from those assessed by behavioral interviews, with almost zero overlap. So together, the two approaches to interviewing offer a much bigger picture of a candidate's potential – around 50% to 60%. Of course, hiring managers can't know all of a candidate's characteristics, even after factoring in personality assessments and references. But given the strong correlation between intelligence and success – and the fact that there's a way to gear intelligence tests to executives – managers can now interview and assess candidates with much greater accuracy.

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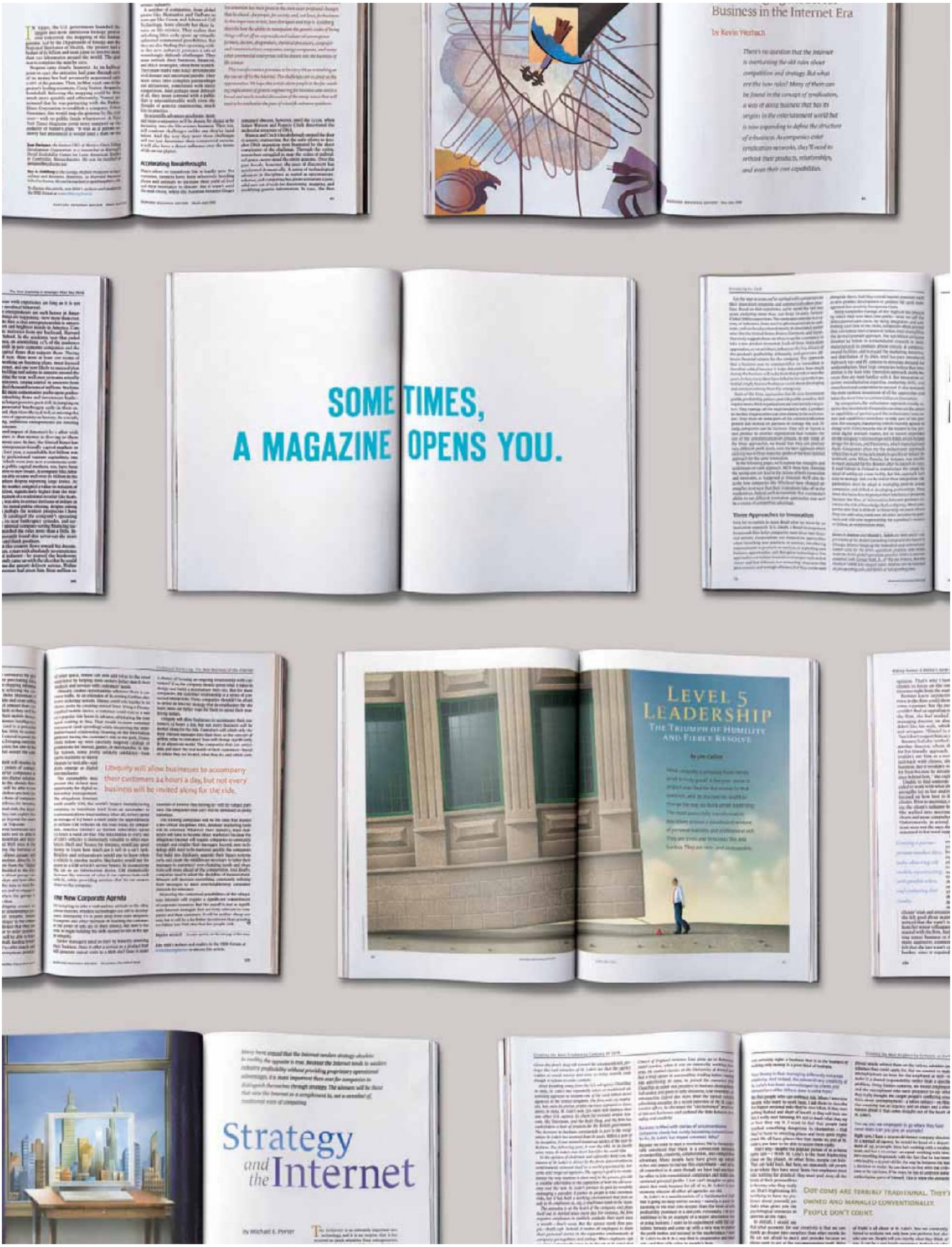
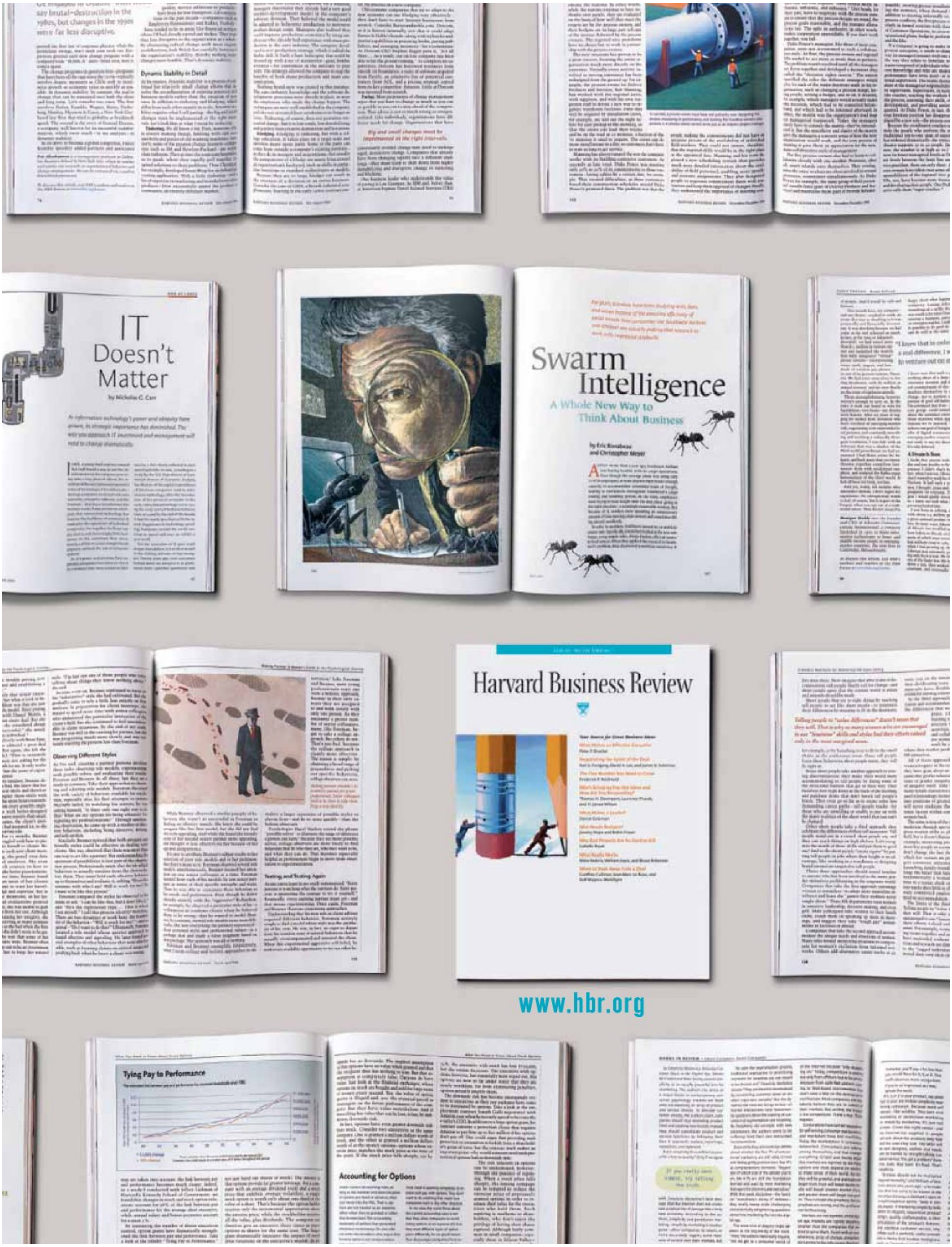
To order, see page 170.

"Around this time of day, if you keep really, really still, you can actually feel the downward pressure on wages."


Business in the Internet Era
by Kevin Werbach
There's no question that the Internet is overturning the old rules about competition and strategy. But what are the new rules? Many of them can be found in the concept of syndication, a way of doing business that has its origins in the entertainment world but is now expanding to define the structure of e-business. As companies enter syndication networks, they'll need to rethink their products, relationships, and even their own capabilities.
SOMETIMES,
A MAGAZINE OPENS YOU.
Ubiquity will allow businesses to accompany their customers 24 hours a day, but not every business will be invited along for the ride.
The New Corporate Agenda
LEVEL 5 LEADERSHIP
THE TRIUMPH OF HUMILITY AND FIERCE RESOLVE
Strategy
and the Internet
DOT COMS ARE TERRIBLY TRADITIONAL. THEY'RE OWNED AND MANAGED CONVENTIONALLY. PEOPLE DON'T COUNT.



say brutal–destruction in the 1980s, but changes in the 1990s were far less disruptive.
Dynamic Stability in Detail
IT Doesn't Matter
by Nicholas G. Carr
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A Whole New Way to Think About Business
by Eric Bonabeau and Christopher Meyer
Observing Different Styles
Testing and Testing Again
Harvard Business Review
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The latest advance in relationship marketing creates a continuous dialogue with customers, allowing them to hear just what they need to know, just when they need to know it.

The Perfect Message at the Perfect Moment

PROMOTIONAL MESSAGES DON'T WORK if customers aren't receptive to them. To boost the odds of being greeted by eager eyes and hungry ears, marketers ask questions that target their audiences. Who should receive the message? What should the content of the message be? How should we deliver the message?

The one question they rarely ask is, *when* should we deliver the message? Yet in marketing, timing is arguably the most important variable of all. Promotions are like weather reports and news bulletins – people need them when they need them. Too early and they are forgotten. Too late and they are ignored.

Most people don't want to hear from most companies most of the time, and in an era of marketing overload – characterized by irrelevance as well as volume – unsolicited communication can provoke apathy or worse, resentment. The business press has lately described a "chaos scenario" in which traditional media (television, print) and established formats (the 30-second spot) are in decline but new, more effective media and formats are still evolving. In the messy interim, advertisers find their

by Kirthi Kalyanam and Monte Zweben

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messages are not being absorbed or even noticed, let alone acted on.

However, there are moments in a customer's relationship with a business when she truly wants–even needs–to communicate with that business. Her life has changed. Her desires have changed. Her perception of the business has changed. If companies contact her with the right message in the right format at just that moment, their chances of a warm reception rise. But few companies sync communications to milestones or transitions in their customer relationships. Even fewer respond to events in their customers' lives.

Consider the airlines. No slouches when it comes to peddling seats, they send an expensive package of promotions to their most valuable customers with each and every loyalty-program statement. But what happens when a customer suddenly stops using an airline he once flew frequently? That customer's apparent defection is a fundamental change in behavior that requires intervention by the airline if it wants to keep his business. Unfortunately, airlines and other organizations cannot afford to manually track and respond to a customer's every act, or failure to act. Such vigilance simply does not scale.

The question "when?" – like most marketing questions – can be answered by technology: specifically, by a new computer-based model called "dialogue marketing." Dialogue marketing is, to date, the highest rung on the evolutionary ladder that ascends from database marketing to relationship marketing to one-to-one marketing. Its principle advantages over those older approaches are that it is completely interactive, exploits many communication channels, and is "relationship aware": that is, it continuously tracks every nuance of the customer's interaction with the business. Consequently, dialogue marketing responds to each transition in that relationship as it occurs – at the moment the customer requires a particular type of attention.

Dialogue marketing is getting good results in several industries, including retail, hospitality, travel, financial services, media, packaged goods, and telecommunications. As it proliferates, it may provide the firm new footing that Madison Avenue seeks. The following article lays out dialogue marketing's fundamentals and briefly describes the technologies required to make it work. (Editor's Note: A number of vendors, including the coauthor's company, offer systems that perform the functions of dialogue marketing. Corporate IT departments can also develop their own.)

In marketing, timing is arguably the most important variable of all.

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It's Time to Talk

Modern marketing doctrine is founded on the primacy of databases, which allow companies to segment customers into demographic and psychographic clusters. In basic database marketing – still alive and kicking – analysts query databases at marketers' behest and produce lists of customers in various subgroups. The marketers then use batch communications to send members of those subgroups nearly identical messages at infrequent intervals, according to the company's schedule. Most of those messages are designed to sell products.

In the 1980s, database marketing spawned relationship marketing, which shifted the emphasis to retaining and nurturing clients. Data segmentation grew more sophisticated as marketers studied differences in customers' profitability and calculated their lifetime value. A decade later, one-to-one marketing sought to exploit the Web's powerful assertion, "I know who you are," by creating personalized messages for individual customers. But one-to-one marketing rarely strays beyond the borders of the Internet. And while it addresses the question, "What should the content of this message be?" that is a necessary – not a sufficient – improvement.

The dialogue model is also a product of database technology and personalization philosophy marching forward in tandem. Yet while dialogue marketing has the body of a software system, it possesses the soul of a salesperson. Great salespeople understand that customer relationships are built, maintained, and expanded through dialogues, which take place one after another over time. A dialogue is, very simply, a series of outreaches and responses between a company and a customer ideally leading to some action on the part of the customer. The person or software conducting a dialogue "listens" to the customer's needs and chooses the content and channel of communication based on what the customer says and does.

So, for example, a dialogue might begin when a company's system sends an e-mail inviting the customer to visit a Web site for information. When a week passes without the customer clicking on the embedded links, his silence triggers the next step in the dialogue – an alert to a salesperson to make a call. The system waits another week after that human contact and then shoots the customer a reminder e-mail. This time, the customer clicks through to the site, and his choices there automatically queue new interactions.

That step-by-step, wait-and-respond approach distinguishes dialogue marketing from its forebears. But the model's most distinctive characteristic may be its attention to the temporal dimension of customer relationships. Time, literally, is its essence. Dialogue-marketing systems are very sensitive to the interval between purchases, movement along loyalty curves, and increasing and decreasing frequency of physical and online visits. Such data registers in these systems as transitions or events, and each time one occurs, the software automatically commences an appropriate dialogue with the customer. Transitions may be positive (indicating an increase in business or loyalty) or negative (indicating a decrease in business or loyalty). All transitions present opportunities to engage the customer anew.

Transitions are a more meaningful lens than transactions for viewing the customer relationship because they focus on the relationship's evolution. In effect, transactions show you a series of frames; transitions play you a movie. Consider the common practice among retailers of collecting raw transactional data and transforming that information into recency, frequency, and monetary (RFM) value scores. These scores, which have been in use since the early days of database marketing, record when customers last made certain transactions, how often they made those transactions, and the monetary value of those transactions. Companies often break down RFM scores by segment, brand, or product category. So a retailer might track:

- the recency of transactions in the shoe department;
- the frequency of transactions in the shoe department;
- the average monetary value of transactions in the shoe department;
- the recency of transactions involving a particular brand of shoes;
- the frequency of transactions involving a particular brand of shoes;
- the average monetary value of transactions involving a particular brand of shoes.

Traditionally, the retailer would collect such data over time. Then, at intervals, it would send out a batch communication to customers who have spent, say, more than $1,000 on a particular brand during the course of a year.

With dialogue marketing, by contrast, the retailer monitors changes in individual customers' RFM scores as they happen and sets the system to launch a dialogue when it detects a meaningful transition. The system responds immediately to individual rather than aggregate data, so the retailer can reach out to the customer while she is fresh in the throes of new-sandal fever or has gone an unprecedented six months without buying a pair of pumps. And dialogues don't just follow up transitions; they follow *through* – to another transaction, a deeper engagement, or simply a larger wedge of customer attention.

The Nature of Changes

No two companies collect identical data, and so each will define the specific transitions that trigger customer dialogues. In general, transitions reflect a change either in the customer's life or in his relationship with the business. They are particularly valuable in the creation and operation of complex loyalty programs. A company might set dialogues to launch when a customer

- makes a purchase in a new category (first suit, first time in our new shoe department);
- buys a brand so frequently that he qualifies as a zealot;
- exceeds a certain monetary value in a year and thus qualifies as a VIP;
- crosses a threshold in a loyalty program;
- requests a change of address, indicating a household move;

- purchases an item that indicates a major life change such as an infant car seat, or a large project such as a sink or cabinets. (Dialogue systems can also incorporate data from third-party vendors that track the issuance of new mortgages, openings of college savings accounts, and other commercially available data.)

Once a transition triggers a dialogue, that dialogue often moves the customer to another transition, at which point a new dialogue with a different goal kicks in. For example, a major regional grocery chain identified a tipping point: People who ordered from its Web site more than four times were very likely to become regular customers. The company's technology staff programmed its dialogue-marketing system to respond to new customers via e-mail, using steep store-financed discounts to push them aggressively through those first four purchases. After purchase number four, the system automatically begins generating less expensive treatments, for example, offering only trade promotions financed by consumer goods manufacturers.

Technology: What Lies Beneath

Four fairly new technologies make dialogue marketing possible:

Intelligent Process Engines. Standard database applications store multiple tables of data and provide screens that allow users to insert, edit, and delete entries from those tables. Intelligent process engines do more: They track individual "states"–where a customer stands in relation to the company at any given moment. (For example, a person who accepts a promotion is in a different state than a person who rejects it.) These engines initiate actions based on changes to those states and provide feedback to managers on the results.

Event-Driven Computing. Intelligent process engines respond to changes in states; event-driven computing responds to actions as they are noted by a company's enterprise systems. An automated engine runs continuously in the background of all customer-focused applications, "listening" for events (a customer playing a slot machine; someone registering on the Web site) and deciding how to react, thus minimizing the need for human intervention.

Scalable Web Application Architectures. Dialogue marketing requires companies to manage dialogues for millions of customers who are in different states of relationship with the business and to do so across multiple channels. Scalable Web application architectures are distributed systems that balance the load of user requests across many computers. As computational demand increases, these architectures allow companies to add more servers so they can incrementally scale applications to serve those millions of customers in a variety of ways.

Web Services. In dialogue marketing, multiple databases and other systems must constantly talk to one another, a task that once required significant programming. Web services allow one computer to send a request for information over the Internet using a simple URL address and another computer to automatically respond in a standard language called XML. This advance greatly reduces the amount of computer skills required to operate such systems.

Other transitions represent not an opportunity but rather a threat–usually, that a customer will defect. Recall for a moment the airline with its high-value customer gone AWOL. Now imagine the company practices dialogue marketing. The system detects the customer's failure to book a flight for several months and sends a message to a service representative asking him to call and try to rectify the problem. If the customer complains of poor service, the representative logs the details into the system, triggering the creation of a written apology signed by an executive and including an incentive to return – automatic upgrades or frequent-flier miles, for example. If her account remains inactive, then the next month the system sends her another note with a reminder about the incentive. If yet another month passes, she gets a call from a senior customer-service manager. When she finally buys a ticket, the system launches a dialogue for special treatment of "saved" customers.

As this example illustrates, dialogue marketing considers not just when to communicate but also *how* to communicate: Dialogues play out across multiple channels depending on the content of the message and the urgency of the situation. Some customer actions will trigger the system to respond immediately, with a personalized e-mail, a personalized piece of direct mail, or an alert to a salesperson to make a call. Other responses will lay the groundwork for future interactions. The system might store a personalized message at the point of sale to be delivered when the customer next visits, or send the message to a call center representative to be used when the customer phones. Or it might place customer-specific content on a Web site in preparation for a virtual visit.

Customer value is another major consideration in channel choice. Before launching its resource-intensive retention dialogue, the airline's system would establish that the customer in question is top tier, based on her previous and predicted purchasing. If the customer qualified as only medium value, the system might mail her a message, either electronically or by placing her contact information on a direct mail list together with personalized content for the message. A low-value customer might receive an e-mail, or nothing at all if he is not profitable or not online. This portfolio of approaches is another way in which dialogue marketing improves on most one-to-one initiatives.

The Data Rich and the Data Poor

Not surprisingly, companies that collect masses of data and cut that information every which way have emerged as dialogue marketing's virtuoso early adopters. Harrah's Casinos, for example, which is known for its sophisticated use of database-marketing technology, runs an elaborate set of dialogues that consider every permutation of the casino-vacationer relationship (see Gary Loveman's article "Diamonds in the Data Mine," HBR May 2003). Harrah's system defines customers in these ways:

- Decliners: number and recency of visits are dropping
- Incliners: number and recency of visits are rising
- Inactive: no visits for a long period of time
- New Business: only one recent visit
- Past Due: no visits for a designated period of time, but not yet considered decliners
- Due Now: not yet considered decliners but need a tickler to bring them in now
- Ad Hoc: everyone else

The company uses dialogues to take customers from negative states (such as decliners) to positive states (such as incliners), chiefly by alerting live "player hosts" to intervene at the first sign of a transition. Since Harrah's began using dialogue marketing in 2003, it has raised revenue by 30% to 69%, depending on the customer segment; increased by 20% to 25% the contacts that produce return visits; and boosted the number of VIP customers overall.

Not all companies, however, are equally awash in data. Some businesses are built on infrequent transactions with individual customers (you buy a cup of coffee once a day, a house once a decade). And while luxury brands may excite occasional purchasers to stay connected to the business, many companies find it difficult to hold customers' attention beyond the sale.

One company with a relative paucity of data is Logitech, a designer and manufacturer of personal peripherals for computers, mobile phones, and MP3 players. Despite its customers' low purchasing frequency, Logitech has managed to create a new loyalty program based on dialogue marketing. The system is nourished by a database of registered customers who trade demographic information for timely notification of software upgrades and new products. Logitech has collected this information over several years from customers buying online or seeking help from support staff.

Because Logitech doesn't gather enough data from customers to effectively detect individual transitions, it sets its clock according to aggregate historical information in the registration database. For example, a principal goal of the loyalty program is to induce first-time or single-item buyers to purchase another product; so the system decides when to start a follow-up dialogue based on the lapse of time between similar customers' first and second purchases. Having determined that repeat customers bought their second products almost immediately after the first, the system launches follow-up dialogues while that initial transaction is still warm. By reaching out again so soon, however, the company risks alienating customers who dislike the hard sell. So Logitech designs those dialogues with a service orientation–for example, explaining how its portable products can assist customers in their travels.

The dialogue to stimulate a second purchase unfolds through a series of such informative e-mails, each of which invites the customer to take one of several actions. If those missives receive no response, the system queues up a replacement product dialogue to commence at a time determined by historical data on the pace of replacement purchases for the customer's product type. As the dialogue-marketing program bears fruit, Logitech's rates of repeat and replacement purchases should rise, spawning more and more data. The company is incorporating that new data into its model, and that, in turn, should cause dialogues to launch at more precise intervals.

Dialogue marketing is, to date, the highest rung on the evolutionary ladder that ascends from database marketing to relationship marketing to one-to-one marketing.

A Dialogue for Every Season

Customer relationships are rich in transitions and events. At different times, companies will need to talk people into a commitment or out of a defection, over a conceptual hurdle or through a complex process. Working with their technology departments, marketers can design repositories or "houses" of dialogues that manage every category of customer interaction. Once the software engine is rolled out, marketers can gradually phase in those dialogues, monitoring their effectiveness and optimizing them until they achieve their desired ROI.

Every company's house should eventually contain four types of dialogues that scale upward in sophistication and ambition.

Foundation Dialogues. As their name suggests, foundation dialogues manage the fundamentals of the customer life cycle: the marketing version of Shakespeare's seven ages of man. These dialogues require only basic data, such as a customer's name and contact information. They do not demand significant process changes or cross-functional coordination. Examples include:

Acquisitions. Acquisition dialogues aim to bring in new customers. They start out in batch fashion with a targeted audience and grow more specialized as prospects respond.

Service Follow-Ups. Follow-ups might begin with a thanks-for-your-recent-purchase message, a notification that an item is ready for pickup, or a simple satisfaction check. They then unfurl into additional offers of help.

Win-Backs. Win-back dialogues launch in response to defections: when a customer asks to terminate her cell-phone-service plan or cancels a magazine subscription, for example.

Level I Dialogues. Each of these product- or event-centric dialogues is named for the type of message that starts the exchange. (See the sidebar "Turning Invitations into Dialogues.") More sophisticated than foundation dialogues, they leverage customer purchase data that may include such information as price or deal sensitivity. Integration with inventory and other systems requires greater IT participation. Examples include:

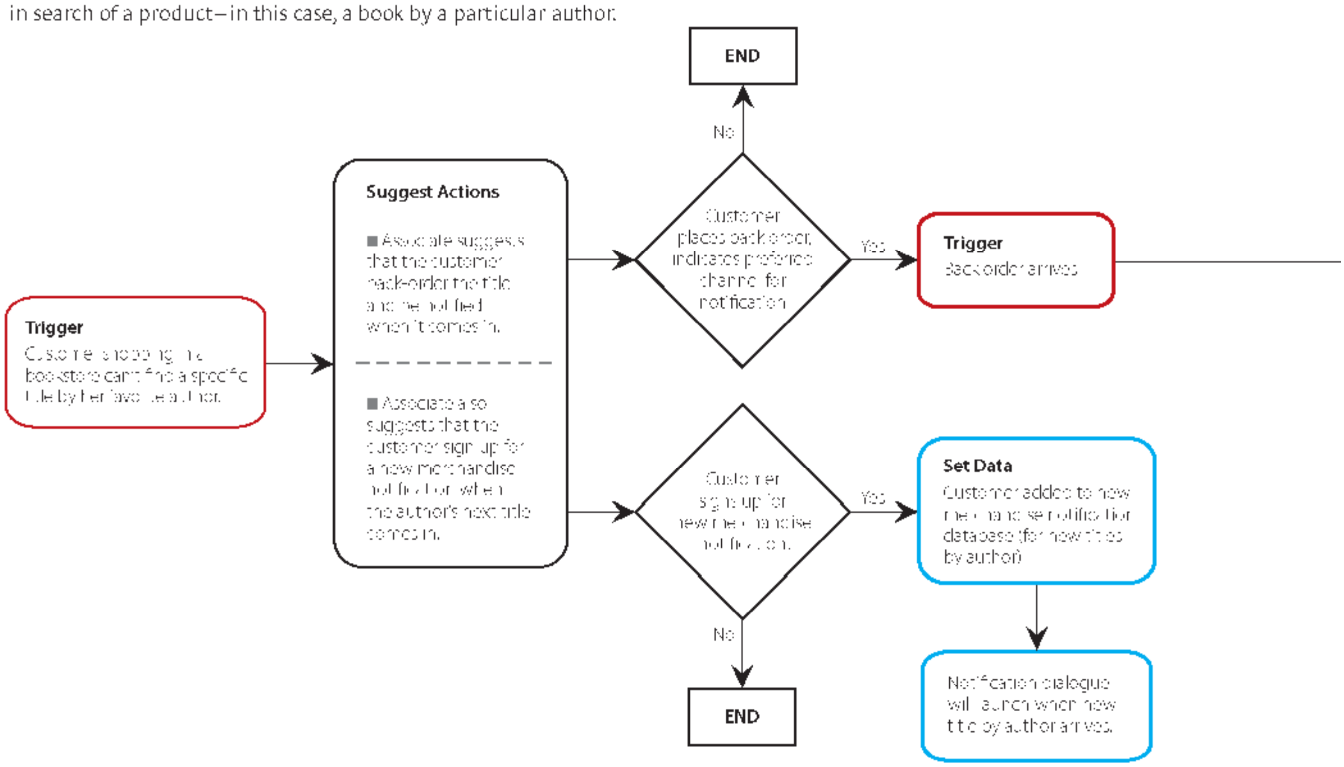
Event Notifications. Notification dialogues draw on geographic data and purchase histories to invite select customers to marketing events.

Repurchase Reminders. Repurchase reminders are gentle nudges to purchasers of consumable products – such as laser printer cartridges, paper, sneakers, drill bits, oil, and lightbulbs – that it is time to buy again. Dialogue-marketing systems can be programmed to correlate an individual customer's purchase of such a product with the known life span of that product.

Inventory and Price Alerts. Inventory alerts announce new arrivals and promotional items of presumed interest. For example, a shipment of Celtic folk CDs to a music retailer would automatically trigger messages to customers

Striking Up the Conversation

A merchandise notification dialogue often begins with a customer in search of a product – in this case, a book by a particular author.



whose purchasing histories are rife with Clannad and the Chieftains. Loyal customers can receive advance notice of price changes, having first crack at a markdown or sale.

Overstock Outreaches. These dialogues launch when overstocked items are about to be marked down. Before prices are slashed, the system seeks customers who have bought such items before and might do so again, perhaps because they are approaching the next level of a loyalty program or because the last such item they purchased is due to expire.

Level II Dialogues. These dialogues draw on individual customers' purchasing patterns or on predictive modeling to influence the progression of the relationship with that customer. They require a sophisticated understanding of a customer's history with the company and considerable cross-functional coordination as everyone from corporate buyers to executives gets involved. Examples include:

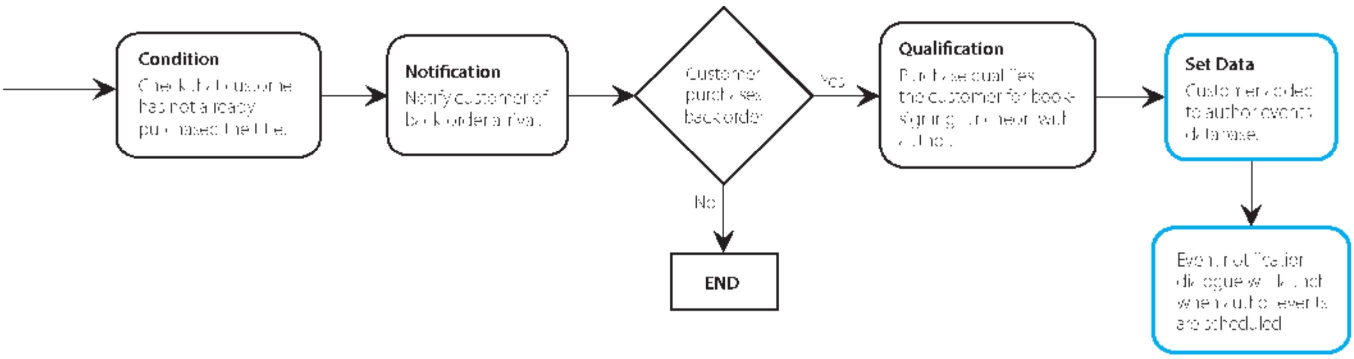
Defection Interventions. Defection dialogues are triggered when the system detects early warning signs, such as a decline in purchasing frequency. They rely on predictive modeling and so are distinct from win-back dialogues, which launch after a customer has already been lost.

Life Cycle Progressions. These dialogues move customers through states of increasing loyalty. For example, when Harrah's customers approach the highest tier of the company's loyalty program, life cycle dialogues automatically contact them with a message such as, "You are only one visit away from our Total Diamond reward level."

Category RFM Transitions. These dialogues allow category managers, merchandise managers, buyers, and product managers to respond to changes in customers' individual RFM scores within their categories.

Brand RFM Transitions. These dialogues allow brand managers to respond to changes in customers' individual RFM scores within their brands.

Level III Dialogues. Level III adds a physical element to dialogues. These on-site interactions – although just feasible now – will likely be common in the future, when customers carry RFID cards into stores or key their identities into smart shopping carts. As they shop, customers will receive personalized messages on their cell phones or PDAs, or on screens scattered around the store. Those messages will draw on the same data other dialogue-marketing applications use. So a book buyer passing the cooking



Turning Invitations into Dialogues

Every day, tens of millions of consumers receive e-mails or postcards announcing a do-it-yourself workshop at the hardware store they frequent or an online retailer's markdown on gourmet cookware. Such notifications are based on customers' demographic data and purchase histories, but they invite minimal or no interaction. Consequently, they are not dialogues.

A simple notification can become the core of a dialogue, however, if it advances the relationship by soliciting additional information, by giving the customer several ways and reasons to respond, and by following up with new communications. Consider an e-mail announcement for a designer trunk show. Such an event notification is generated based on customers' purchasing histories or other indications of interest in that particular designer. It includes the specifics of the event, and possibly photos of designs to be modeled.

To transform the event notification into an event notification dialogue, the retailer would have to include a call to action with multiple options. Those options might include:

a. I will attend.

b. I will attend, and please have available some designs in my size for me to try on. (Because the dialogue system is relationship aware, it knows the customer's size.)

c. I will not attend, but I am interested in scheduling an appointment to try on the following merchandise. (This option might be followed by a link to the retailer's Web site displaying a full array of garments from which the customer could select.)

d. I am unable to attend because of another commitment.

e. Thank you, I am not interested in this designer.

The customer's choice of option would, in turn, trigger the system's response. Customers who chose (a) or (b) would receive a reservation confirmation and directions, as well as a reminder a few days before the event. Customers who chose (c) would receive a follow-up inquiring about convenient times during the week. Customers who chose (d) would receive a follow-up asking if they would like to update their preferences (in say, sizes or styles) and be invited to future events. Customers who chose (e) may become the target of a win-back dialogue. Or the retailer may simply assume that those customers have been qualified incorrectly and update the database accordingly.

Notification dialogues also feature an expiration date: If the customer fails to respond by that date, they launch a follow-up. In this example, a high-value customer who has attended many of the designer's shows in the past might merit a call from a sales associate. The dialogue-marketing engine would alert that associate and provide her with a script.

No matter how customers respond to notification dialogues, the retailer learns something. Customers who select (b) indicate a higher degree of interest than do those who choose (a). If many customers select (c), the retailer should probably consider scheduling a second event. And all that data, of course, is fed back into the system to enrich future dialogues as the long conversation continues.

section might receive an alert that only $20 separates him from the store's Chef's Club and its 25% discount.

That final, futuristic category of dialogue is especially appealing because it reaches even beyond "when" to answer the question of "where"–drilling down to the very aisle a customer is passing. For now, though, marketers must focus on timing as they seek to bind customers more closely.

• • •

The technology to conduct dialogue marketing exists today, and it will only get better. Marketing organizations will need to collaborate with their IT departments to develop or install these systems, but once they are in place the demands on IT will decline significantly as dialogues fire off automatically, without any need for additional database queries. Ultimately, such systems will prove far less expensive than trying to field a service staff large enough to handle the many complex circumstances and evolving states that customer relationships present.

Turning a traditional marketing strategy into a dialogue-marketing program is a straightforward matter. Begin by identifying the communications you make with customers in a batch fashion, then ask yourself what events could trigger those communications to make them more timely. Add a question or call to action to each message, and prepare a different treatment or response for each possible answer. Finally, create a series of increasingly urgent calls to action that kick in if the question or call to action goes unanswered.

Companies that blast frequent, irrelevant messages dilute their brand equity. What customers want is great service and a consistently excellent experience across all channels. For those reasons, we believe that many elements of dialogue marketing will be ubiquitous in five years. Companies that adopt the dialogue model early can rise above today's unwelcome din and become not just the voice that customers hear but also the one they listen for.

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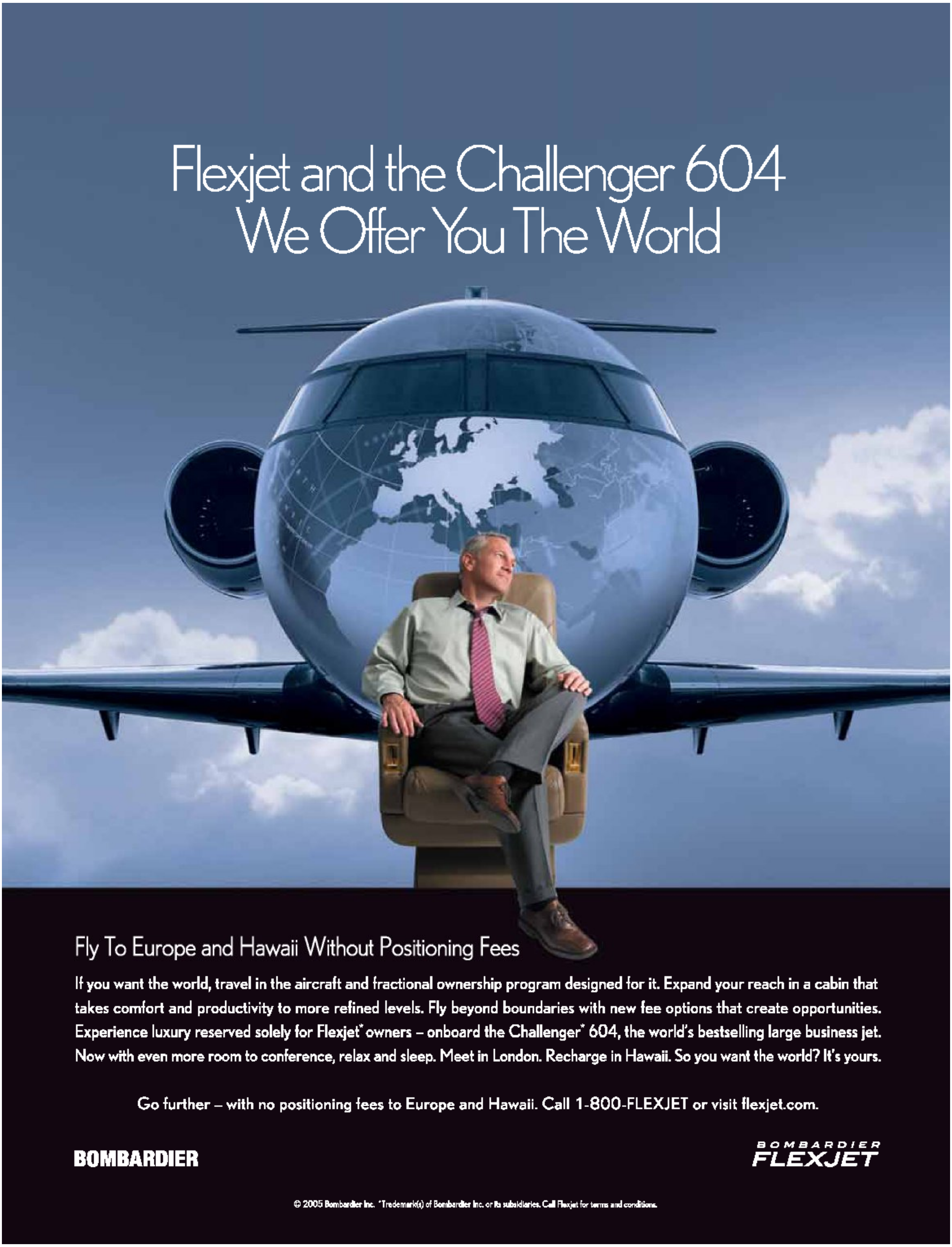

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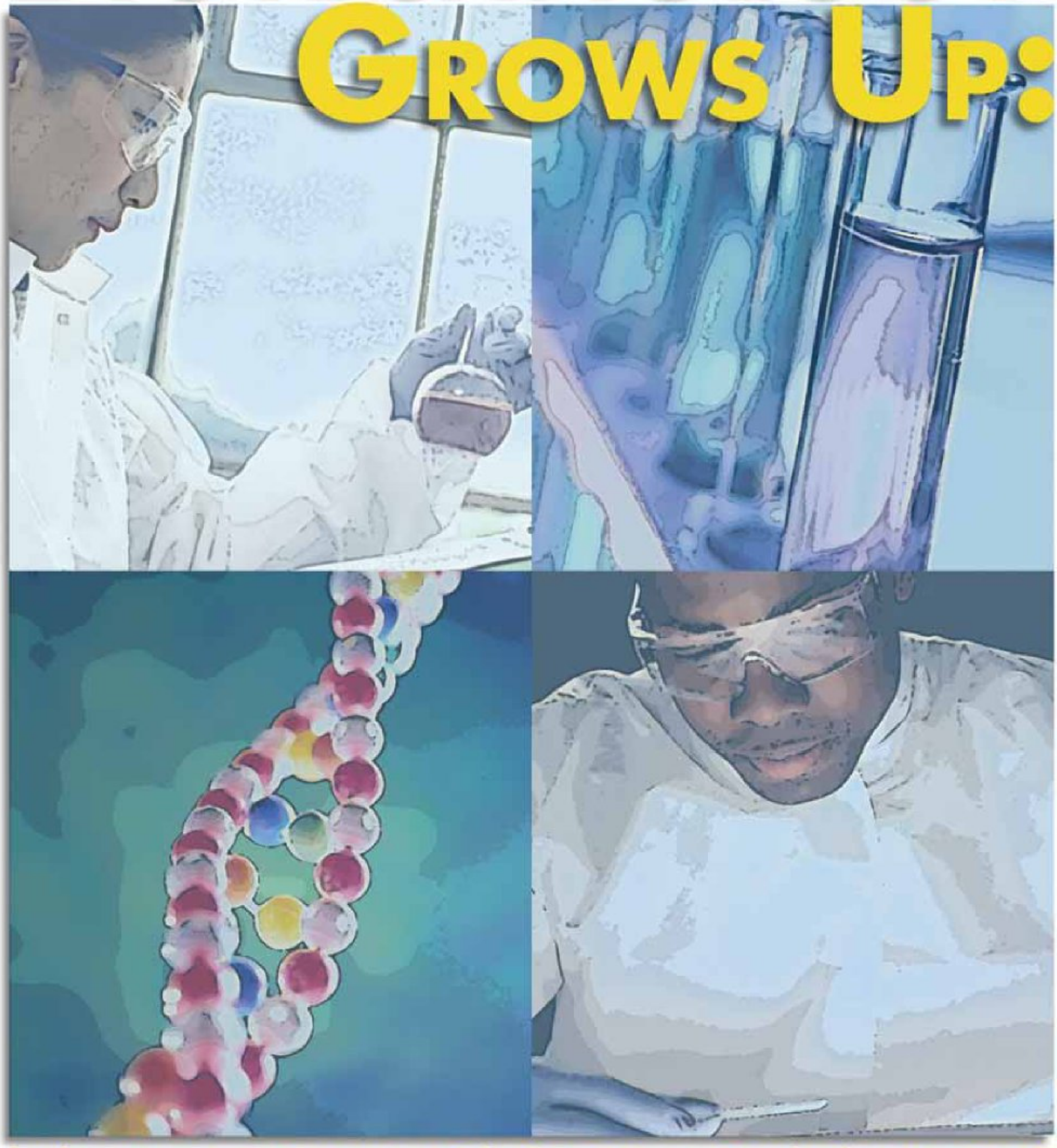

THE INDUSTRY MATURES

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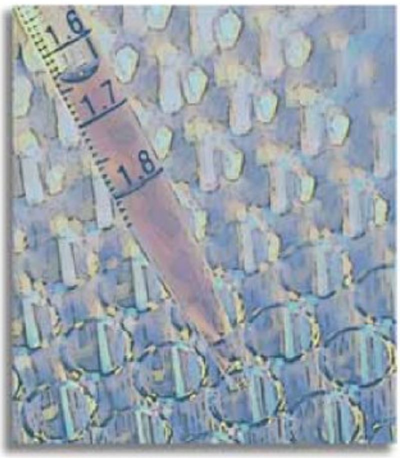
The numbers dazzle. Once the new kid on the block, the biotechnology industry now has 230 approved drugs on the market in the United States. Another 50 new innovative drugs to treat tough diseases such as cancer, congestive heart failure, diabetes, and inflammation are awaiting final approvals. And more than 300 new biotech substances are in clinical trials.



Biotechnology companies today are effectively changing the way the largest pharmaceutical companies do business. In recent years, the largest drugmakers have been consumed by the search for "blockbusters" – drugs with huge sales potential because they serve equally huge populations. Today, with biotechnology increasingly at the center of drug development, a new kind of personalized medicine in which niche markets are better served is taking center stage. As a result, biotech firms are finding it much easier to acquire capital than even just a few years ago. Now biotech firms are going public, venture capital is gushing in, and biotechnology stocks are holding their own on the major exchanges.

Still, the hunt for mold-breaking discoveries continues. "This is a maturing industry. Not a mature one," stresses Dave O'Reilly, CEO of South San Francisco, CA Catalyst Biosciences, a company thick in the hunt for new-generation biopharmaceuticals. "This is an industry that has its growth in front of it." The industry's mantra remains "meeting unmet needs," and as long as there are diseases and disorders that defy current medical practices, biotech researchers will pursue new ways to win these fights. Lately, researchers are making real progress in treating the tough maladies that seemed to mock 20th century researchers. The pendulum is shifting in favor of biotechnology. In the process, biotech is morphing into a new, more powerful force affecting more and more lives.

Blurring the Lines

Traditionally, one of the key differences between a biotechnology company and a big pharmaceutical company is that the big drugmakers pursue chemistry in a quest for small-molecule drugs—i.e., pills that can be swallowed and whose active ingredients can be absorbed through the digestive tract. Biotech, by contrast, goes after biological solutions. "We follow the DNA – the biology – to create novel therapeutics," explains Genentech treasurer Thomas Thomas. "Our approach is biologic. We are using the DNA already in your body, not putting chemicals in you."

As biotech firms mature, however, they sometimes find themselves crossing that line. Genentech's Tarceva, for example, is a small-molecule drug for lung cancer patients. Just as with traditional pharma products, Tarceva is an orally administered tablet. Is that a break with Genentech's past? Thomas doesn't think so. "We are still going where the science takes us, still pursuing unmet needs. That's what we think makes us different."

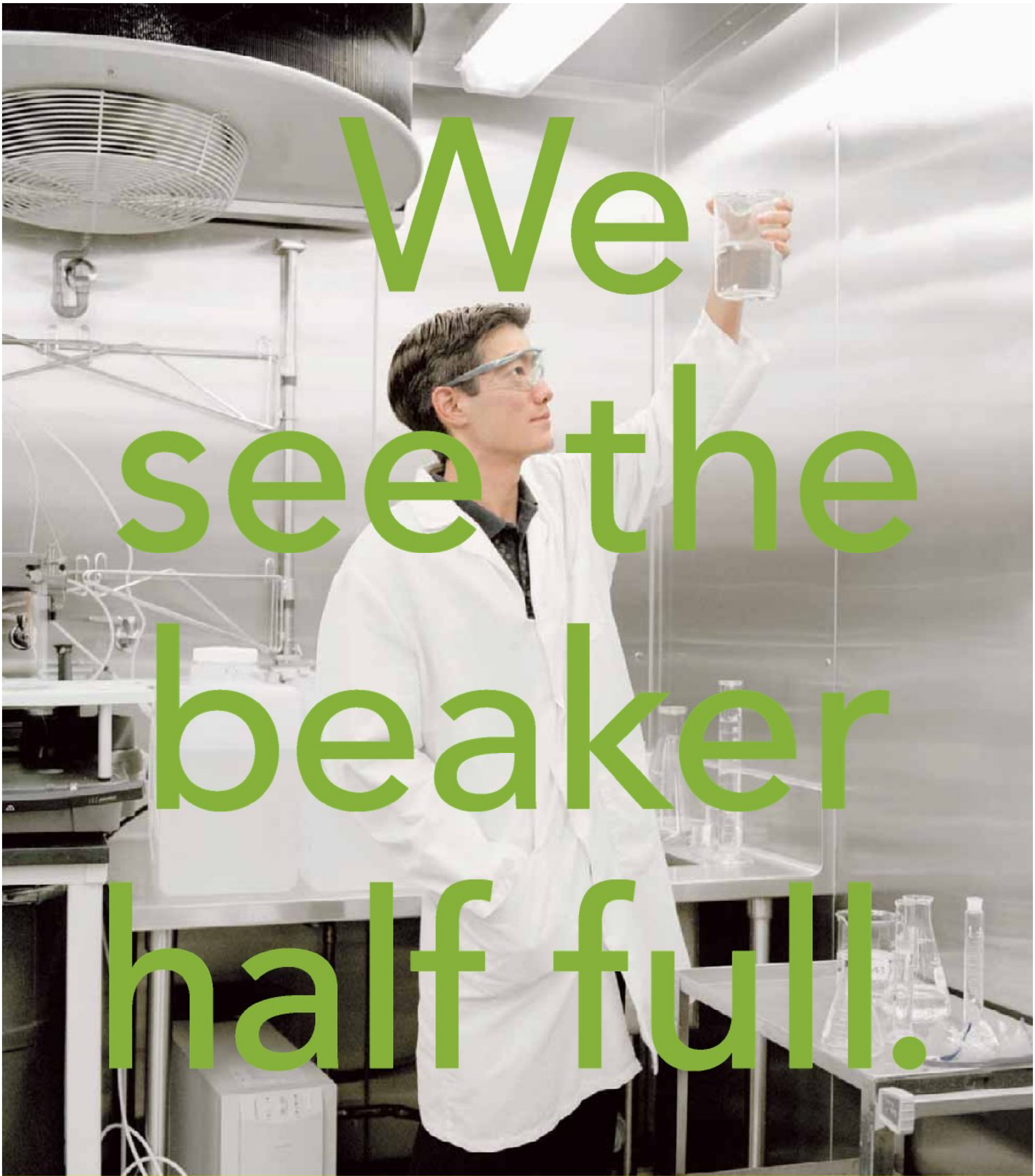
Watch for more small-molecule drugs to come out of biotech labs if indeed that way of delivering the substance proves to be the most effective. "We are committed to pursuing additional small-molecule opportunities," says Thomas. "But we also are committed to creating novel therapies. Every Genentech treatment did not exist before we developed it. That will be true of small molecule drugs we develop, too."

Heading for the Hill

"The stakes have changed for biotech—the industry now is seeking to influence public policy. That's emerged as the next stage of the industry's evolution," says Matthew Hudes, national managing partner, biotechnology, Deloitte. For its first quarter-century, the industry was tightly focused on survival and proving its relevancy, which meant raising cash and creating products that matter. But for many firms today, survival no longer is in question. The new focus is on helping to foster a more biotech-friendly regulatory environment in Washington. That does not necessarily mean tackling hot-button, divisive issues like stem-cell research, however. Many insiders expect the industry to dodge the stem-cell debate and, instead, to focus on issues that will heavily impact next-generation products, such as:

- **Fast-tracking pharmacogenomics.** The Food and Drug Administration (FDA) is changing the way it evaluates drug candidates. Traditionally, the FDA was narrowly focused on safety questions. But in an era of pharmacogenomics, drugs are designed to achieve maximum effectiveness for a particular patient population. By undergoing a genetic makeup screening, patients are pre-selected to receive particular drugs. Genentech's Herceptin, for example, is a breast cancer drug that works only on women who over-express (produce too much) HER2, a gene that regulates cell growth. About 20 percent of women over-express HER2, indicating that Herceptin may not work for 80 percent. Given these percentages, the FDA would never have approved the drug a few decades ago. But in 1998, because the FDA was confident that tests would readily identify the good vs. bad candidates, Herceptin was approved. Based on this success story, many industry insiders are hoping for clearer direction from the FDA regarding approval processes for drugs that are tailored to specific genetic make-ups.
- **More clarity on safety data.** Vioxx was a classic, "small molecule" pharmaceutical. But when it was withdrawn from the U.S. market, it created turmoil throughout both pharmaceutical and biotechnology companies. Exactly what data are needed to validate a drug's safety? How does the FDA define "safety"? Drug developers are pushing for more clarity. While nobody wants to compromise patient safety, biotechnology executives in particular are skittish about FDA delays in permitting new drugs to go to market. Small companies that are burning through capital are in no position to weather long delays. Many industry insiders are seeking answers on how to balance safety against the need to get products to market.

In January, former Pennsylvania Congressman Jim Greenwood was named president of the Biotechnology Industry Organization (BIO), the sector's Washington presence. Soon after taking the job, Greenwood appointed a heavyweight group of



We have a history of seeing possibilities. Twenty-nine years ago, we saw the possibility that biotechnology could fight disease in a whole new way. Then we saw the path to making that vision a reality: creating a culture in which some of the best scientific minds could pursue innovative research. The result? Breakthrough therapies for cancer, asthma, stroke and more. Where do we go next? See the possibilities at gene.com.

Genentech
IN BUSINESS FOR LIFE

Beltway insiders to top BIO posts. Included are Scott Whitaker, formerly chief of staff at the Department of Health and Human Services, now BIO's COO; Amit Sachdev, previously a top FDA official, now BIO's executive vice president; and Brent Del Monte, formerly senior manager of Ernst & Young's Washington Council, now BIO's head of federal government relations. In just a few appointments, Greenwood – who left a safe Congressional seat to lead BIO – sent the message that biotechnology indeed intends to play and win in Washington.

No one expects to see the sector triumph in every fight. But expect to see biotechnology advocates sitting at the same table with those from the big pharmaceuticals as the U.S. regulatory agencies hash out tomorrow's approaches to monitoring drug development and marketing. This historic change indicates just how far biotechnology has come in the past 25 years.

Going Global

What was for many years a domestic pure play, biotechnology in the 21st century increasingly is a global enterprise. "Almost every country in the EU now has a biotech initiative," says John Rhodes, U.S. & global managing partner, life sciences, Deloitte. But Europe is hardly alone. Developing nations, too, are eager to take part in this business opportunity. Congenia, a biotech specialty firm based in Italy, recently partnered with India-based Tata Consultancy Services. Together, they are seeking ways to counteract the effects of P66, a protein associated with diseases related to aging. Their story, while ambitious, is not unique: Research and funding increasingly travel across borders to find the best solutions.

A challenge globally is concern about intellectual property rights and patent protections but, lately, China and India (with its 2005 Patents Law) have both taken steps to afford greater protections to drug developers. Other countries are expected to follow suit. While enforcement issues remain, for now, the impulse sweeping the biotech industry is to vigorously explore increased R&D activities abroad, particularly in countries that offer favorable labor costs coupled with access to proven research expertise (most notably, China, India, and Singapore).

With so much activity, surprise biotechnology powerhouses are emerging. Australia has more than 300 home-grown biotech firms, according to Robert Taylor-Pike, investment manager, U.S. and Canada, Invest Australia. Australia also has 21 cross-border alliances, where local companies are partnering with overseas outfits. And, "with its very diverse population," Taylor-Pike says, Australia is positioning itself as an attractive location for international pharmaceutical companies to run clinical trials. AusBiotech, the trade association for Australians, now claims 2,400 members. Given all of these developments, Australia proudly proclaims itself the number-one biotech hub in the Asia-Pacific region.

Researchers at Progen, a company based in Darra, Australia, are seeking a novel way to short-circuit cancer. Progen's approach is to combat angiogenesis, the new blood-vessel growth that enables cancerous cells to multiply. Many companies are attempting to build platforms around anti-angiogenesis tactics, but Progen's approach is particularly innovative. Its scientists have found a carbohydrate solution, PI-88, that, when injected, inhibits an enzyme called heparanase that is critical to new blood-vessel growth. Without

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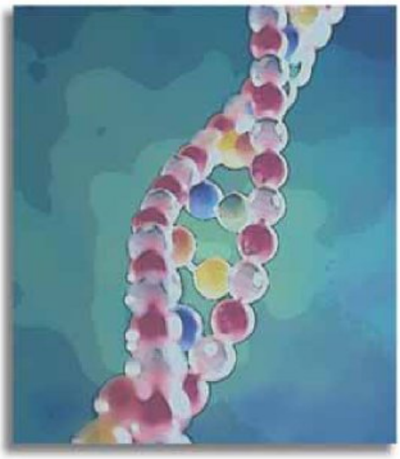
heparanase, new blood vessels cannot grow, meaning the cancer cannot spread. Progen now is studying PI-88 under U.S. FDA guidelines, and initial clinical trials have been encouraging.

Bionomics in Adelaide is another Australian innovator that is distinguishing itself as one of the world's premier researchers into epilepsy. Bionomics' focus is finding the unique genes involved in triggering epilepsy and, then, identifying products that will help mitigate the disease's impact. Bionomics, for its part, has 26 patent applications for its research into epilepsy, a disease that may afflict 3 percent of the world population. A particularly important element of Bionomics' work is that it likely will allow for much earlier identification of epilepsy along with quicker identification of sub-types of epilepsy, thus enabling clinicians to make faster, more valid decisions about treatment.

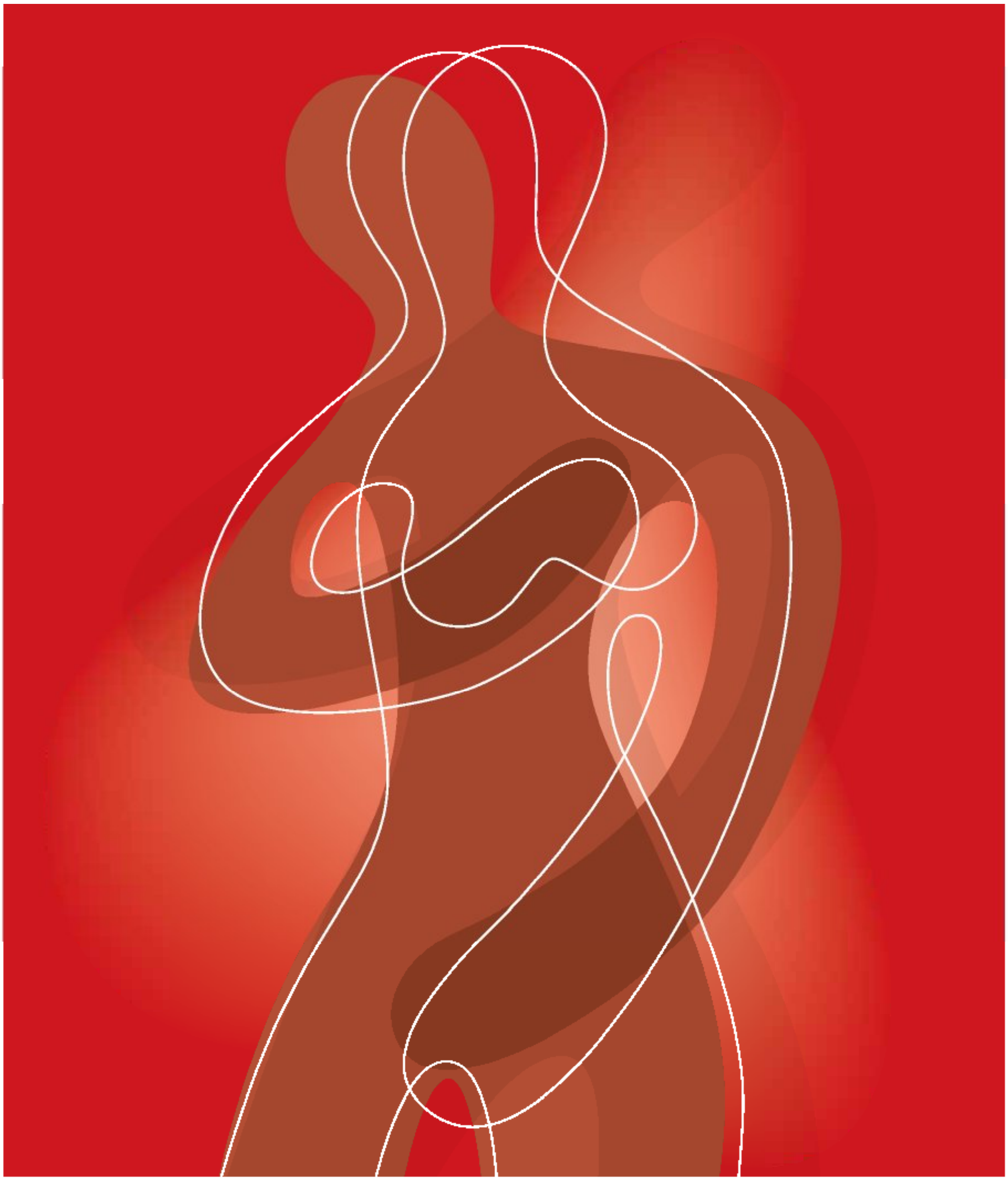


In Europe, Italy may have started late but is now making a fast rush to emerge as a significant player. Ernst & Young estimates that 50 indigenous companies are pursuing biotechnology goals in Italy and a number of multinationals, including Amgen, Bayer, Genzyme, Monsanto, Novartis, and Roche also have a presence. Paolo Corradini, CEO of Invest in Turin and Piedmont, says that Italy now ranks as Europe's third-largest life-sciences sector, largely due to sustained Italian investment in research (40 Italian universities offer biotechnology degree courses, with a key focus in technology development, says Corradini). Despite its recent entry, Italy now hosts more medical trials than Germany (16 are currently in progress).

In particular, Italy seeks to stimulate start-ups, the sector where many expect the nation to do best. After extensive competition for available public and private funding, a new bioincubator in Turin's Bioindustry Park announced that six biotech firms (conceived by academics and government researchers) will divide up 5.7 million euros (roughly $7 million) to launch their companies. This is a large step for Italy because it underlines the government's commitment to harnessing biotechnology as an engine of economic development. Italian officials are optimistic about the future: "We are able to provide [biotech] innovations to the market at an extraordinary rate," says Corradini.

Tightening the Focus

Researchers are also innovating older technologies. Radiation therapy for cancer, for example, has been re-interpreted. Nucletron, a Dutch company, has taken old-fashioned radiation and imbued it with new precision to allow for much more pinpointed targeting of diseased tissue. For many years, radiation has been very effective at eliminating malignant cells and has served as a first-line tool in attacking many specific cancers, such as lung, breast, and prostate cancer. But with conventional radiation therapies, many patients suffer severe side effects (nausea, vomiting, even organ damage in some instances) and, inevitably, large areas of healthy tissue are exposed to radiation in an attempt to reach the cancer. Now Nucletron has pioneered brachytherapy (from the Greek, "brachy," meaning close or nearby), allowing it "to treat the cancer right near the tumor," says Nucletron's General Manager Mark Adam. Conventional radiation therapy treats from outside the body, but "with brachytherapy we treat from inside the body," says Adam. Brachytherapy is designed to get the radiation source as physically near the tumor as possible. Aside from



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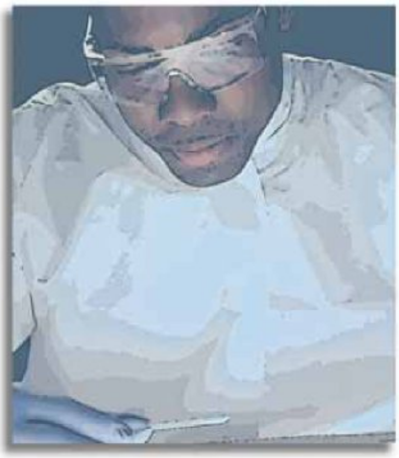
Nucletron

Improving patient care

reduced radiation exposure to healthy tissues, brachytherapy delivers a number of key benefits, including reduced treatment time, says Adam. "We can compress the treatment cycle in many cases down from five or six weeks to three or four days."



Brachytherapy, too, is usually much less expensive than other treatment options: Costs can fall to perhaps a few thousand dollars for a full treatment regimen. So in many developing countries, patients with gynecological and breast cancers who often wouldn't have been treated at all are getting healthy. "We're finding great interest from physicians in China and India," relates Adam. Similarly, in developed nations, patients and physicians who want to side-step the issues involved in chemotherapy or surgery also are rediscovering the benefits of brachytherapy, says Adam. "Existing therapies can be reinvented and given new relevance," says Adam. "That's what we are proving."

The Next Industrial Revolution

Right now, in the universe of industrial biotechnology, a number of initiatives already are changing how things get done. "This is a real industrial revolution that is happening now," says Brent Erickson, a vice president at BIO. "Industrial biotech is taking off." Industrial biotech generates substances and processes that improve upon nature. Denim, for example, traditionally was distressed by washing it with rocks – until biotechnology created an enzyme that does this job more quickly, more uniformly, and at much less cost.

Now industrial biotech is penetrating more areas. A new white paper from the Natural Resources Defense Council (NRDC) asserts that biofuels, properly nurtured, could end the costly dependence on gasoline to power motor vehicles. According to the NRDC, biofuels can eliminate our need for gasoline by 2050; save U.S. consumers and businesses roughly $20 billion annually on fuels by 2050; deliver $5 billion annually in new profits to farmers by 2025; and dramatically curtail emissions of greenhouse gases that are linked to global warming. What's not to like about that?

Erickson elaborates that the use of biotech-created enzymes to convert biomass into ethanol can increase ethanol production "by several orders of magnitude." In fact, biofuels already are the leading source of renewable energy, according to the U.S. Department of Energy (DOE). The DOE reports that for 2004, biofuels produced more than 10 times more energy than wind or solar energy. Erickson asserts that advanced industrial biotech approaches will continue to give us more biofuels to power motor vehicles less expensively.

Industrial biotech initiatives benefit, too, because they usually are not subject to FDA review and, therefore, time to market can be very fast—a matter of months, not the many years it takes the FDA to approve a drug. "Industrial biotech is in your house and you may not know it," says Erickson, who lists a range of places where industrial biotechnology is making itself felt, from laundry detergents, bread, and baked goods (enzymes now prevent cancer-causing acrylamide from forming in baked goods) to Vitamins B and C (now largely produced by biotech processes). "You already are benefiting from industrial biotech," says Erickson.

Raising the Bar

Given all the attention biotechnology has received of late, it can be easy to forget that at its core,

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biotechnology is still is all about life and death. Countless researchers are attacking fundamental questions that, when answered, will prolong life in ways that couldn't have been imagined even a decade ago.

The Center for Biomedicine & Genetics at the Beckman Research Institute of the City of Hope in Duarte, CA, aims to turn everyday white blood cells into agents of cancer-cell destruction. How? "We are reengineering white blood cells so that they learn to recognize cancer cells and kill those targets," says Director Larry Couture. If this comes to pass, it will be huge – "this is a far cry from chemotherapy which, of course, kills healthy as well as cancerous cells," says Couture. While chemotherapy can be life-saving, going through chemo "is nasty," says Couture, because the chemotherapy is essentially indiscriminate in its assault on tissue. "If we can harness the white blood cells, they will kill only the cancer, not the healthy cells," says Couture.

Another problem with traditional cancer therapies is that, even when apparently successful, scattered cancer cells may remain– and may gather strength and multiply. But the City of Hope project's goal is to create, in effect, internal armies of smart, tough white blood cells (or T cells) that have been specifically designed to do battle with cancers. Even better, a few platoons of these savvy T cells can be kept on patrol in a recovery patient, with no harmful effects anticipated because, again, these are basically ordinary cells found in all of us. Can the body be redesigned to keep itself healthy? Will this City of Hope project pan out? Early indications are highly encouraging. Perhaps just as important, though, is that this kind of work illustrates how researchers are determined to shatter the paradigms and invent wholly new biotech modalities, where nature is, in fact, improved upon to make all of our lives better.

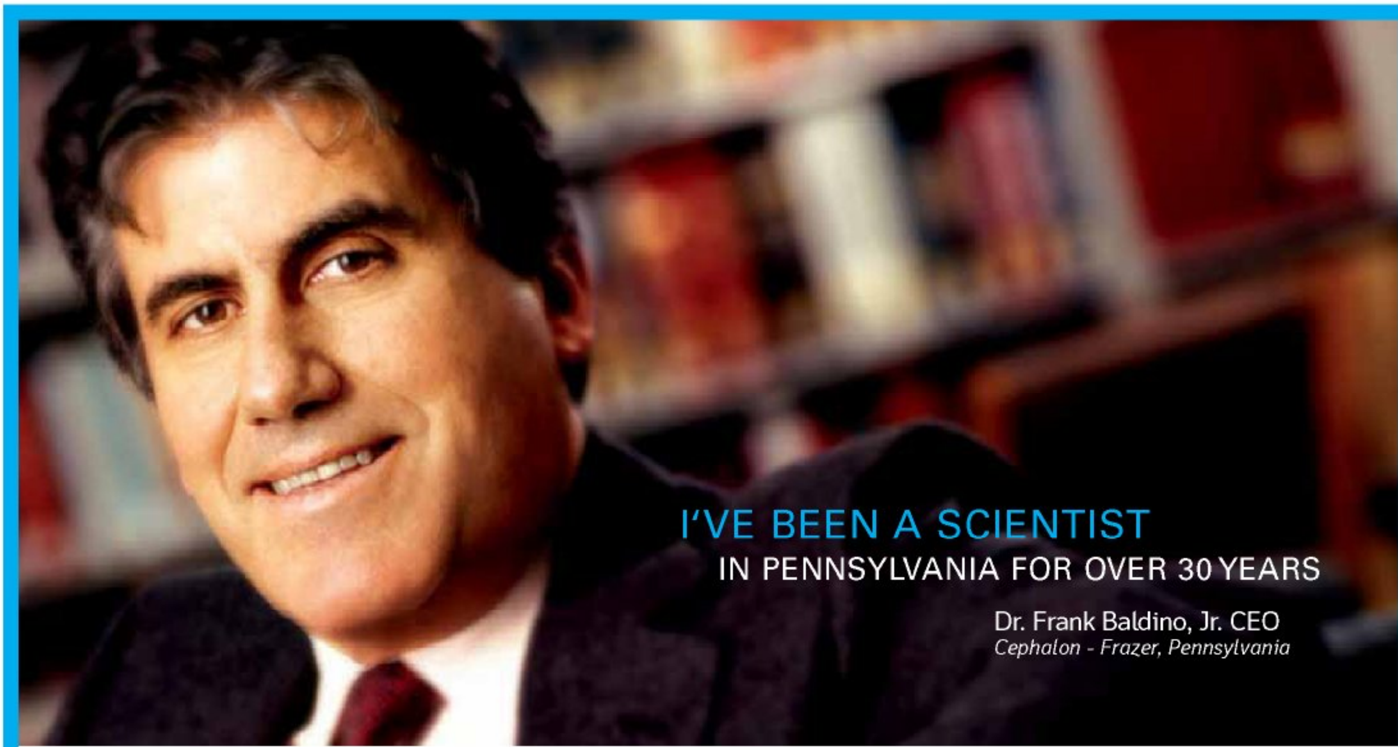
Going to Game

You are a brilliant biochemist doing research at a top Ivy League school. You come upon a substance that seems to do magical things when brought in contact with, say, cancer. You also know that bringing a drug to the marketplace is an arduous road that takes many years–perhaps a decade–and millions of dollars. That phase is about business, not science, and smart researchers know their limits. What's your next move?

Call in the experts. Like whom? At the top of the list would likely be Bruce Babbitt, a principal consultant at Waltham, MA-based PAREXEL Consulting, a service area of PAREXEL International, a leading global bio/pharmaceutical services provider. In the past 20 years, PAREXEL has helped 800 clients launch some of the era's most important medical devices and drugs. Babbitt, personally, has worked with dozens of start-ups and one guiding precept in this work is that there now is little time to waste.

"Companies need to get their substances into human trials very, very quickly today," says Babbitt. A decade ago, drug development involved what now looks like leisurely experiments involving animals. Today, the call is to fast-track testing on humans. That's what venture capitalists in particular want to see, says Babbitt, and doing this kind of testing safely, responsibly, intelligently–and in ways that will satisfy both VCs and the FDA–takes rich skills that, mainly, are possessed by specialists such as Babbitt. "We act as middlemen, in helping start-ups deal with the FDA and others," says Babbitt.

This scenario illustrates two trends converging: The first is the proliferation of what experts call "virtual companies." These companies usually are working on the outer limits of breakthrough research but are often just an MIT assistant professor with a packet of good ideas and a mail drop in Somerville, MA. The second trend is the emergence of an industry of consultants who specialize in assisting these virtual companies. Companies like PAREXEL are staffed with middlemen, expediters, even hand-holders and guides who know how to chart the course from the lab to the marketplace. The good news: Because of PAREXEL and other similar firms, the discoveries by the virtual companies can indeed make it down the winding road that leads to the marketplace.



I WAS ONE OF THOSE KIDS WHO WANTED A MICROSCOPE INSTEAD OF A BIKE FOR CHRISTMAS

I was a biology major at Muhlenberg College in Allentown, and I attended Temple University in Philadelphia to study Pharmacology and later received my Ph.D. As a scientist, I realized the advantages of the Greater Philadelphia Region. It really is ideal for the biotech industry. That's why it's no surprise so many major life science companies are located here.

BETTER TALENT, MORE MEDICAL SCHOOLS AND A STRATEGIC LOCATION

The talent pool is incredible. Did you know there are more medical schools in the Greater Philadelphia Region than in any other area? That means we're able to attract the best people to our company without disrupting their personal lives. Then of course, there's the difficult task of raising money in an industry that is so heavily regulated. Our strategic location between major financial centers in New York — and regulatory agencies in Washington, DC — often helps to make that effort significantly easier.

PENNSYLVANIA'S LEADERSHIP INVESTS MILLIONS IN THE LIFE SCIENCES

A few years ago the Pennsylvania legislature had the wisdom to invest some of the tobacco settlement money — over 100 million dollars — into creating programs designed to fund new life sciences projects throughout the Commonwealth. The three innovative Life Science Greenhouses established through the settlement help new and existing companies get the monies they need to research and create new drugs.

When you look at everything Pennsylvania has to offer — the talent pool, the location, the funding, the leadership — we're destined to become the #1 biotech region in the country. I believe that. And I'm proud to be part of it.

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Harvard Business Review

Scanning the Periphery

by George S. Day and Paul J.H. Schoemaker

The biggest dangers to a company are the ones you don't see coming. Understanding these threats – and anticipating opportunities – requires strong peripheral vision.

BETWEEN 2001 AND 2004, Mattel lost 20% of its share of the worldwide fashion-doll segment to smaller rivals such as MGA Entertainment, creator of a hip new line of dolls called Bratz. MGA recognized what Mattel had failed to – that preteen girls were becoming more sophisticated and maturing more quickly. At younger ages, they were outgrowing Barbie and increasingly preferring dolls that looked like their teenage siblings and the pop stars they idolized. As the target market for Barbie narrowed from girls ages three to 11 to girls about three to five, the Bratz line cut rapidly into the seemingly unassailable Mattel franchise. Mattel finally moved to rescue Barbie's declining fortunes, launching a brand extension called My Scene that targeted older girls, and a line of hip dolls called Flavas to compete head-on with Bratz. But the damage was done. Barbie, queen of dolls for over 40 years, lost a fifth of her realm almost overnight – and Mattel didn't see it coming.

Companies often face demographic shifts, new rivals, new technologies, new regulations, and other environmental changes that seem to come out of left field. How can they see these changes sooner and capitalize on them as MGA Entertainment did? How can they avoid being blindsided as Mattel was? The challenges faced by companies like Mattel often begin as weak signals at the periphery, the blurry zone at the edge of an organization's vision. As with human peripheral vision, these signals are difficult to see and interpret but can be vital to success or survival.

Managers are used to interpreting data that are set before them, but they also need to be able to recognize when part of the picture is missing – to answer the question, "What don't we know that might matter?" Drawing on research in strategy, organization and decision theory, and other disciplines, as well as our decade-long study of emerging technologies at Wharton's Mack Center for Technological Innovation and our work with organizations around the globe, we have developed a "strategic eye exam." It serves as a diagnostic tool for evaluating and sharpening companies' peripheral vision. We have administered the exam to senior executives in more than 150 companies around the world and have consulted with companies across industries – including agricultural equipment, media, energy, and software – to help them bring the periphery into focus.

As this article shows, improving peripheral vision begins by asking the right questions.

Defining Scope

How good does a company's peripheral vision need to be? For many businesses, the status quo isn't good enough. Our survey of global senior managers found that 81% perceived their future need for peripheral vision to be greater than their current capacity. A survey of 140 corporate strategists conducted by the Fuld-Gilad-Herring Academy of Competitive Intelligence found that fully two-thirds had been surprised by as many as *three* high-impact competitive events in the past five years. In addition, 97% of the respondents said their companies lacked an early warning system.

This doesn't mean, however, that every company needs to boost its surveillance of the periphery. It's important to match capability with need. Companies in complex, rapidly changing environments require well-developed peripheral vision; those in relatively simple, stable environments have less of a need. In fact, companies that have too much peripheral vision can end up being neurotic, wasting resources by focusing on unimportant signals. (To assess your company's need and capability for peripheral vision, see the exhibit "How Is Your Peripheral Vision? A Strategic Eye Exam.")

Once an organization has defined the scope of the peripheral vision it needs, it then must determine how to scan within this field of vision. What are the questions it should address?

Asking the Right Questions

When a company examines its main areas of focus, its questions are targeted and the answers precise: What is our market share? What are our profits? Have our sales volumes increased? What is our employee turnover? What are our rivals up to?

But the questions used to examine the periphery need to be much more open-ended and the answers far less precise. For example, as part of Johnson & Johnson's strategy process, the organization's executive committee and members of a strategy task force asked themselves, What will the demographics of 2010 look like? What will a typical doctor's office look like? What role will governments play? What role will payers play?

The following questions can help guide scarce scanning resources to those places most likely to reveal hidden opportunities or threats. The questions, tested in more than 50 strategy development sessions and strategy postmortems globally, are organized around the past, present, and future. This has proved to be a natural and thorough way to cover the vast terrain.

Learning from the Past. While the past may not be the most reliable predictor of the future, it can point out blind spots in your company or industry, as well as lessons from other industries. Those who fail to learn these lessons will be slow to see future opportunities and threats.

What have been our past blind spots? What is happening in these areas now? Start a few decades back and systematically list all the social, technological, economic, environmental, and political changes that occurred in and around your industry. Which ones did management miss that have had major consequences for the organization? The purpose of this profiling is to see how well your company has responded to external changes (were you behind, abreast of, or ahead of them?) and to identify persistent blind spots in certain areas. Maybe you were well attuned to political changes, for instance, but repeatedly missed key competitive developments.

Consider DuPont's experience in the 1990s. Early in the decade, DuPont executives began seeing a disturbing pattern of slowed growth across its businesses, in the old stalwarts like Dacron polyester and in newer businesses such as nylon engineering resins. As sales declined and competition intensified, large segments of the markets for these businesses were unwilling to pay a price premium for DuPont's superior products. Each of DuPont's businesses independently decided to focus on the more profitable high ends of their markets, conceding the low-price markets to new rivals emerging from the periphery. These low-end entrants were able to parlay increased volume into ever lower costs.

DuPont's systemic myopia about the significance of low-end competitors, and its resulting strategic retreats from markets, led to sagging capacity utilization and increased unit costs. This, in turn, made the company even more vulnerable to low-price competition. To learn from the past and better prepare for further attacks from below, a group of business managers got together to evaluate this new threat and the company's successful and unsuccessful responses. As they came to understand the threat and why the multiple business units had missed it, they developed processes for anticipating low-end competitive threats early and for developing preemptive strategies. This group of managers became the nucleus of an organization-wide learning network that went on to

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Organizing for Scanning

Whose job is it to ask questions about the periphery? In many organizations, the periphery is everybody's responsibility – and nobody's. There are several ways companies can focus their eyes on the margins and create accountability. All of these ways, it must be emphasized, start with a mandate from the top.

• Assign the responsibility to an existing functional group.
Groups such as corporate development, competitor intelligence, market research, or technology forecasting can be given the task of scanning. The risk is that these midlevel groups may limit themselves to collecting and processing data from the domains they know best rather than scanning broadly and educating others about what they have learned.

• Mobilize ad hoc issue groups.
The CEO or executive committee, along with the board, identifies the most important questions to address and forms separate task forces to pursue each question. This process is often guided by a scenario analysis that identifies key uncertainties to be understood and monitored.

• Create a high-level lookout.
IBM has an ongoing capability called Crow's Nest, a team that scans specific topics at the periphery, such as customer diversity and collaborative networks, and shares its insights with top management. The group's responsibility is to rise above functional and product blinders and act as lookouts for new land and dangerous reefs ahead.

• Start new initiatives.
To focus managers' attention on the periphery, Royal Dutch/Shell began its GameChanger program in 1996. It was designed to encourage managers to envision and test hypotheses about new opportunities beyond the core. In its first six years, the program screened 400 ideas, commercialized more than 30 technologies, and created three new businesses.

• Invest in start-up ventures.
Most large companies in the technology sector have a pool of capital to invest in promising start-ups. These investments may be modest stakes but sufficient enough to get a clear view of any emerging technologies and their markets. If a start-up succeeds, then an option to acquire can be exercised.

• Outsource.
The organization can also outsource responsibility for peripheral vision to consultants, who can help predict what factors could transform the firm's business. While these outside partners can provide fresh perspectives, the company needs to pay careful attention to coordination to ensure that the insights of these "private eyes" are incorporated into strategic decision making.

These and other ways to structure scanning activities are often combined. For example, the U.S. Central Intelligence Agency has brought together a Crow's Nest–type group to identify potentially important technologies and a venture fund (In-Q-Tel) to seek out and invest in such technologies. To ensure it is taken seriously by the agency's other departments, the scanning group reports to the director. Its primary activity is to link agency management and In-Q-Tel, an internal but separate group. By bringing together the scanning group and the venture fund, the organization can more effectively search out and respond to opportunities created by emerging technologies. And because In-Q-Tel has access to Tier 1 venture capital companies, the CIA can get involved during a technology's earliest stages, when it's possible to shape it to the agency's needs.

identify and eliminate the root causes of the company's collective blind spot.

Is there an instructive analogy from another industry? Find an analogous industry or market situation where companies have been blindsided from the periphery or have exploited an emerging opportunity. Consider nanotechnology. This emerging technology has shown abundant promise–as did genetically modified foods in Europe before activists fanned the fears of consumers and retailers began resisting. What can nanotech developers learn from the GMO (genetically modified organism) debacle? The potential social, legislative, and ethical issues raised by nanotechnology have some similarities to those that have bedeviled GMOs.

Preliminary toxicity studies, for example, have already raised alarm about the possible health hazards from nanoparticles. What's more, the potential use of nanotech-based sensors and tracers for food labeling raises privacy concerns. And nanotech developers are large, global firms whose motives are often regarded with suspicion – a fact that could be exploited by activists trying to attract media attention and financing. Finally, there are no uniform rules governing the release and control of nanomaterials, which could invite scrutiny and regulatory oversight.

The opposition to GMOs took root in large part because the public could easily imagine GMO hazards but could not see clear benefits from the technology. It follows that if the nanotech industry expects consumers to accept risks, it must also demonstrate tangible benefits. Are there analogies to the introduction of other controversial technologies, such as nuclear power, that might also be instructive for nanotechnology? Are there analogies to technologies that were more successful, such as the biotech and PC revolutions? Searching for suitable analogies helps managers see their situations through new lenses and can reveal unexplored risks and opportunities.

Who in your industry is skilled at picking up weak signals and acting on them ahead of everyone else? If an organization in your industry has repeatedly done a good job of detecting and acting on signals from the periphery before others, you may want to emulate some of its practices. Did your competitor succeed because some key leaders asked the right questions, or did the organization's knowledge management system flag unusual occurrences? For example, Anheuser-Busch was one of the pioneers in the low-carb category, launching Michelob Ultra in September 2002. It rapidly became the leader, capturing 5.7% of the light-beer market by March 2004. The company jumped on this wave early and rode the upsurge of the low-carb trend. Coors, in contrast, didn't enter until March 2004, when Michelob Ultra began eroding share for Coors Light, 18 months behind Anheuser-Busch. The new Coors brand, Aspen Edge, was too little, too late, despite the company's $30 million investment in the launch. Sales peaked at just 0.4% of the beer market in July 2004 before sliding.

What did Anheuser-Busch see that Coors didn't? Although the concept of light beers had been around for decades (Anheuser-Busch first began considering lower-calorie beers in the early 1960s), company research in the 1980s showed that consumers would be interested in a "healthier" beer. Over the years, the company discussed a variety of ways to create such a product, including adding vitamins. So when the low-carb trend emerged, the groundwork Anheuser-Busch was already doing allowed it to pick up the low-carb signal at a time when other brewers were promoting their beers' brand associations.

Benchmarking against the past is at best a starting point, a way to catch up and reduce your vulnerability to surprises. But to truly benefit from the periphery in a competitive sense, you will also need to examine the present and future.

Examining the Present. Research shows that we filter and ignore large amounts of information that reach our senses. While this filtering often serves us well by cutting through the clutter of irrelevant stimuli, it can also exclude essential information from our perception. The following questions will help you focus on important information

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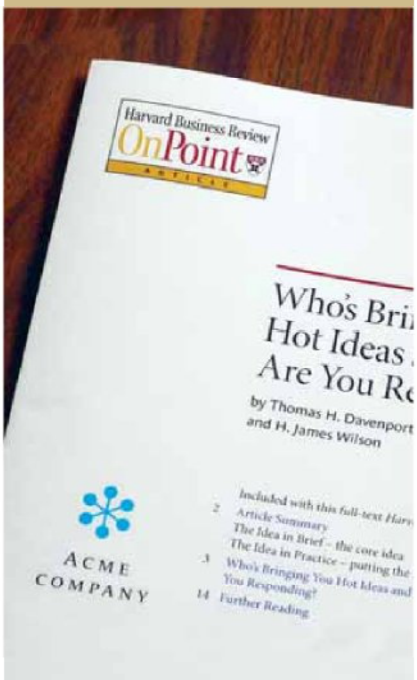

Harvard Business Review

To order your custom reprints, call Rich Gravelin today at 617-783-7626 or e-mail him at rgravelin@hbsp.harvard.edu that you may be missing as you evaluate your environment.

What important signals are you rationalizing away? Nearly all surprises have visible antecedents. However, people have a powerful tendency to ignore warning signals that contradict their preconceptions. Such rationalization may have delayed Mattel's recognition of the threat from the Bratz line; the company may have believed its Barbie franchise was invulnerable. Similarly, Coors was slow to react to the low-carb diet revolution because it failed to consider that a diet trend could be important in the alcoholic-beverage industry. And the assumption that falling foam insulation posed no serious threat to the space shuttle–an attitude the Columbia Accident Investigation Board called the "normalization of deviance"–unfortunately had catastrophic results.

In assessing the current environment, managers must separate signals from noise. It is not practical for them to assess each weak signal, and there is no simple formula for sharpening intuition. But managers should entertain the notion that they are missing important signals, seek insights about those signals throughout the organization, and make important judgment calls about the degree of attention the signals demand. Managers should invite employees and senior executives, as well as those outside the company who can offer relevant perspectives – such as channel partners, vendors, and industry mavens – to identify signals that may warrant a closer look. (For example, the rise of the Atkins diet book on the best sellers' list might have been a signal that Coors employees or others could have brought to management's attention.) The emphasis should be on developments that are outside the organization's main area of focus but potentially threatening to the core.

But how do you identify important signals? A good way, we've found, is to select a signal and fast-forward its development using scenario planning or other future-mapping techniques. For example, we used a scenario-planning process in the funeral services business

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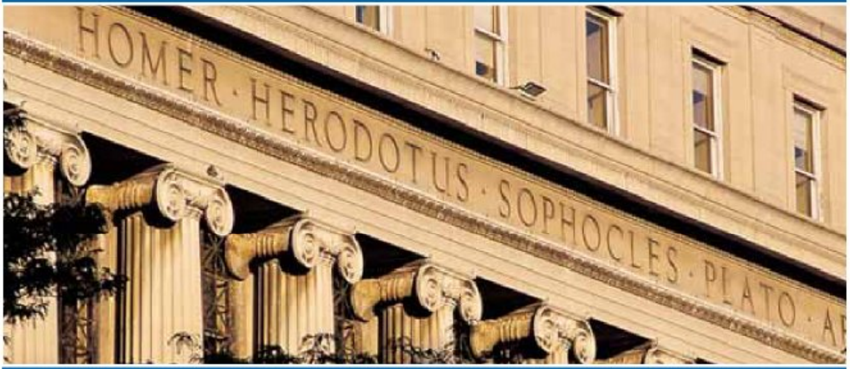

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to systematically identify a variety of weak signals that could transform the business. This industry, which consists of small local funeral homes and corporate entities that operate hundreds of funeral parlors across the country, faces a large number of uncertainties. There has been an increase in cremation, a shift from mourning to celebrating life, more remote service participation via video or the Internet, and a tendency to unbundle services (such as casket viewing and burial) with separate pricing of components. The implications of the shift toward celebrating life, for example, could change the role of a funeral director from one who *directs* a conventional funeral service to one who *facilitates* a highly personalized ceremony.

Though funeral directors surely are aware of life celebration memorials, it's easy to see how this weak signal could be rationalized away by a professional whose mental model of the business assumes that funeral activities revolve around mourning. To identify the relevant signals, the National Funeral Directors Association invited about 80 people to spend two days in a scenario-building workshop to map trends and uncertainties in their business. The participants were then asked to examine which combinations of these trends and changes might alter the playing field. The combinations varied by region and market, but each funeral director left with a clear list of signals to monitor in his or her locale. As a result of this exercise, for example, one director of a group of funeral homes created a new "family life center," designed for more personalized memorial services. It integrated a 50-inch, flat-screen television to display photos and videos during the service and live video streaming over the Web to allow remote participants to watch and send e-mail comments in real time from anywhere in the world. The funeral home also hired an event planner to support customized memorial services.

What are your mavericks and outliers trying to tell you? Most organizations have maverick employees with insights about the periphery, but they rarely tap these individuals. Find informed people, either inside or out, who reject the conventional wisdom about your businesses. Maybe they are congenitally unhappy with the direction of the business, or maybe they are talented outliers with insights into new customers and technologies that give them an idea for a new business. What shifting winds are they feeling that the rest of the organization is missing? As Andy Grove notes in his book *Only the Paranoid Survive,* these

Most organizations have maverick employees with insights about the periphery, but these individuals are rarely tapped.

mavericks usually have a difficult time explaining their visceral feelings to top management, who are usually the last to know.

It is also critical to talk to the rank and file and listen carefully to what these employees are saying. Wisdom doesn't always flow from the top down, of course, and so listening for weak signals from within the organization is important, too. Effective leaders have wide internal as well as external networks. Some CEOs, for example, schedule periodic meetings with employees multiple levels below them specifically to listen for weak signals.

Consider how drugmaker Organon recognized the potential for a new antidepressant. The clinical trials for the company's new antihistamine failed to prove its efficacy as a treatment for hay fever and other allergies. But a secretary helping to administer the trials noted that some of the volunteers were particularly cheerful. This weak signal, which would have remained isolated at the periphery in many organizations, was brought to the attention of managers involved in the trial by the secretary who recognized its potential significance. Through chance and further research, the company discovered that this new drug was, in fact, an effective treatment for depression. Organon successfully developed the drug and, in 1974, marketed it as Tolvon.

There are many other examples of accidental drug discoveries in the pharmaceutical industry, from Alexander Fleming's penicillin to Pfizer's Viagra. Interestingly, Fleming discovered the penicillin mold in 1928, but he didn't fully grasp its significance. It was not until 1938, when Oxford University pathologist Howard Florey happened upon Fleming's paper, that penicillin's true value was appreciated. And it was another three years before Florey's team completed human tests that revealed penicillin's astonishing therapeutic power. The weak signal Fleming picked up went unexploited for more than a decade.

What are peripheral customers and competitors really thinking? Most managers feel they have a good grip on the realities of their markets, but they are usually focused on their current customer base rather than the broader pool of all potential customers. Naturally, they are especially attentive to the customers contributing the most to current earnings.

But there's much to be learned from complainers and defectors. Both groups are expressing–albeit in different ways–that you're not meeting their needs. Ask yourself why you are losing customers. This is a fertile source of insights about the periphery, since most companies experience between 12% and 18% "churn," or defections, each year.

Lost-sales reports and postmortems on contracts won by competitors can be

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revealing, but only if those doing the pathology are open to digging deeply and sharing their learning. Organizations also need to encourage customer-contact people to share insights about customer dissatisfaction from their direct interaction with the market. Companies can also learn about customer dissatisfaction by monitoring blogs, chat rooms, and Web sites, such as www.ihatemicrosoft.com, devoted to panning a product or company. By trolling Internet chat rooms, for instance, Procter & Gamble discovered unsubstantiated rumors in December 1998 that its fabric deodorizer Febreze was harmful to pets. The company responded immediately, gathering support from the American Society for the Prevention of Cruelty to Animals and other respected authorities to defuse the rumor and avert a large-scale consumer backlash.

By focusing only on direct rivals, companies may obscure less immediate threats from the periphery. In industry after industry, from airlines and chemicals to mainframes, the long-run threats have typically come from those companies that offer cheaper rather than more sophisticated products or services (as DuPont's experience dramatically shows). The real competition for United Airlines, for example, proved to be regional players such as Southwest rather than the other legacy airlines such as American. Incumbents should ask what low-end producers could enter their price-sensitive markets from the periphery. Similarly, managers should ask what threatening moves their business partners might be making. Can they integrate forward or backward?

Envisioning New Futures. Asking questions about the past and present provides crucial information but only a partial picture of what lies ahead. The following questions focus specifically on the future and so provide further guidance about how to effectively scan the periphery today.

What future surprises could really hurt (or help) us? Start by asking yourself, What future surprises might affect our business in the same way that significant past surprises have? For example, in financial services, what change would be as big as the introduction of credit cards or the repeal of Glass-Steagall? If you are in a business related to home cooking, what inventions could rival the introduction of the refrigerator or microwave?

Sometimes managers picture an idealized future to envision the surprises that could give rise to it. In the 1970s, researchers at Bell Labs were asked to imagine that the entire Bell phone system had been destroyed. They were then challenged to envision the telephone of the future without worrying about present constraints or limitations. Unshackled from the past, the group dreamed up features such as voice mail, call forwarding, automated dialing, and voice commands. Although we take these features for granted now, they were radical concepts at the time. These ideas went far beyond what AT&T knew how to deliver, but they became the inspiration for developing new capabilities.

Managers can also reveal weak signals by asking themselves how they would attack their own businesses as a new market entrant, either by setting up an internal team or bringing in outsiders. Recently, a team of consultants imagined a new-generation car company by challenging the car industry's conventional approach. In effect, it imagined a next-generation carmaker that would sell mobility, not vehicles. This "virtual" carmaker would outsource almost all activities, from design to logistics to leasing to service. Parts would be made by a network of suppliers in low-wage countries. Assembly would be done in microfactories that would distribute low volumes of cars as close as possible to the local market. The company would lease the cars to customers and retain ownership for the life of the vehicle. Elements of this model – weak signals – already exist in a variety of industries.

What emerging technologies could change the game? Companies are proficient at tracking developments in existing technologies that could affect their business. But this focus can deflect attention from emerging technologies that could be important in the future. To track these innovations, Clay Christensen has suggested focusing on the customer conditions that might drive their development. These conditions may be signaled by the needs of three groups of customers: those who are overserved and consider the existing solutions to be more than they need; those who are underserved by these solutions; and those on the fringe who lack the skills and resources to benefit from these solutions. If the music industry had

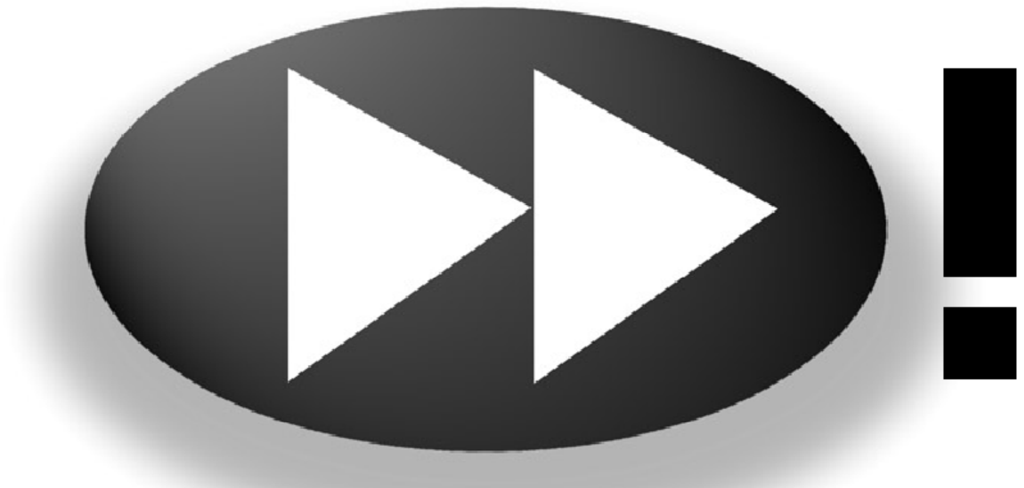
How Is Your Peripheral Vision?

A Strategic Eye Exam

Whether your organization needs better peripheral vision depends on your current capability for it as well as your strategy, the nature of your business, and your industry environment. The following exam on p. 144 can help you assess your organization's need and capacity for peripheral vision:

- Ask each member of the senior management team to take the exam.
- Have them score each item from 1 to 7.
- On p. 148, add up the totals for sections I, II, and III to arrive at a score for "need." Add up sections IV, V, VI, VII, and VIII to arrive at a score for "capability."
- Look for differences in scores among team members, and discuss why these might have occurred.
- Arrive at a consensus on the most accurate scores for "need" and "capability" for your organization.
- Using "The Peripheral Vision Scoring Tool," determine whether your organization is vulnerable, vigilant, focused, or neurotic.

You can receive benchmarking data about how your scores compare with those of more than 150 other companies by taking the electronic version of this survey at www.thinkdsi.com.



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Assess Your Need for Peripheral Vision

I NATURE OF YOUR STRATEGY

(circle a number)

A Focus of your strategy									
	Narrow (protected niche)	1	2	3	4	5	6	7	Broad (global)
B Growth orientation									
	Modest	1	2	3	4	5	6	7	Aggressive
C Number of businesses to integrate									
	Few	1	2	3	4	5	6	7	Many
D Focus on reinvention									
	Minor	1	2	3	4	5	6	7	Major (50% of revenue must come from new products in three years)

Total (add numbers) ☐

II COMPLEXITY OF YOUR ENVIRONMENT

A Industry structure									
	Few, easily identifiable competitors	1	2	3	4	5	6	7	Many competitors from unexpected sources
B Channel structure									
	Simple and direct	1	2	3	4	5	6	7	Long and complex
C Market structure									
	Fixed boundaries and simple segmentation	1	2	3	4	5	6	7	Fuzzy boundaries and complex segmentation
D Enabling technologies									
	Few and mature (simple systems)	1	2	3	4	5	6	7	Many converging (complex systems)
E Regulations (federal, state, etc.)									
	Few or stable	1	2	3	4	5	6	7	Many or changing rapidly
F Public visibility of industry									
	Largely ignored	1	2	3	4	5	6	7	Closely watched by media or special-interest groups
G Dependence on government funding and political access									
	Low: operates largely independent of government	1	2	3	4	5	6	7	High: sensitive to politics and the funding climate
H Dependence on global economy									
	Low: affected principally by domestic conditions	1	2	3	4	5	6	7	High: affected by global conditions

Total (add numbers) ☐

III VOLATILITY OF YOUR ENVIRONMENT

A Number of surprises by high-impact events in past three years									
	None	1	2	3	4	5	6	7	Three or more
B Accuracy of past forecasts									
	High: small deviations from actual forecasts	1	2	3	4	5	6	7	Low: results differ greatly from forecasts
C Market growth									
	Slow and stable	1	2	3	4	5	6	7	Rapid and unstable
D Growth opportunities									
	Have decreased dramatically in past three years	1	2	3	4	5	6	7	Have increased dramatically in past three years
E Speed and direction of technological change									
	Very predictable	1	2	3	4	5	6	7	Highly unpredictable
F Behavior of key competitors, suppliers, and partners									
	Very predictable	1	2	3	4	5	6	7	Highly unpredictable
G Posture of key rivals									
	Live-and-let-live mentality	1	2	3	4	5	6	7	Hostile (aggressive)
H Susceptibility to macroeconomic forces									
	Low sensitivity to price changes, currencies, business cycles, tariffs, etc.	1	2	3	4	5	6	7	High sensitivity to price changes, currencies, business cycles, tariffs, etc.
I Dependence on financial markets									
	Low	1	2	3	4	5	6	7	High
J Customer and channel power									
	Low	1	2	3	4	5	6	7	High
K Sensitivity to social changes (fashion and values)									
	Low: mostly gradual change from the past	1	2	3	4	5	6	7	High: good chance of major disruptions and changes in business models
L Potential for major disruptions in the next five years									
	Low; few surprises expected mostly things we can handle	1	2	3	4	5	6	7	High: several significant business shocks are expected, without knowing which in particular

Total (add numbers) ☐

analyzed these customer conditions circa 1996, when the Web was emerging, it might have seen peer-to-peer music file sharing early on and realized that it met an underserved need: the desire for online access to a large catalog of unbundled tracks. With that understanding, legitimate file-sharing models might have emerged sooner and headed off the free-for-all of illegal file swapping ignited by Napster.

The choice of which technologies to track depends on the company and industry, but there should be someone in the organization looking creatively at how new technologies could affect the business. This is what GE did with its "destroyyourownbusiness.com" initiative, in which business units were asked to apply Internet business models to destroy their current businesses. This moves the consideration of new technologies from a scientific curiosity to an explicit examination of the implications for the business. How far should managers go in looking at the horizon? Should they look at far-out ideas such as therapeutic cloning or mind-machine interfaces? What about Star-Trek-like matter transporters? Consider that most of the technologies that will affect the business in the short run – say, within a decade or so – are in a laboratory or

Assess Your Capability for Peripheral Vision

IV YOUR LEADERSHIP ORIENTATION

A Importance of the periphery in the business leader's agenda									
	Low priority	1	2	3	4	5	6	7	High priority
B Time horizon overall									
	Emphasis on short term (two years or less)	1	2	3	4	5	6	7	Emphasis on long term (more than five years)
C Organization's attitude toward the periphery									
	Limited and myopic: few people care	1	2	3	4	5	6	7	Active and curious: systematic monitoring of periphery
D Willingness to test and challenge basic assumptions									
	Mostly defensive	1	2	3	4	5	6	7	Very willing to test critical premises or widely held views

Total (add numbers) ☐

V YOUR KNOWLEDGE MANAGEMENT SYSTEMS (ESPECIALLY COMPETITIVE INTELLIGENCE AND CUSTOMER DATABASES)

A Quality of data about events and trends at the periphery									
	Poor: limited coverage and often out-of-date	1	2	3	4	5	6	7	Excellent: broad coverage and timely
B Access to data across organizational boundaries									
	Difficult: limited awareness of what is available	1	2	3	4	5	6	7	Relatively easy: wide awareness of what is available
C Use of database for existing business									
	Limited	1	2	3	4	5	6	7	Extensive
D Technologies for posing queries to databases									
	Old and difficult to use	1	2	3	4	5	6	7	State-of-the-art inquiry systems

Total (add numbers) ☐

journal somewhere right now, perhaps even in the company's own labs. It's unlikely that people will be beaming from place to place by 2015–this theoretical technology is a long way from the lab. But electrode implants are already allowing subjects to connect their brains with computers–and thus, presumably, with the Internet. That's a weak signal the gaming and telecommunications industries should probably be watching.

Is there an unthinkable scenario? To see the full effect of potential future surprises, managers should develop at least one "unthinkable" scenario that, while remotely plausible, is so unlikely that it's easily dismissed as not worth considering. By explicitly entertaining these unthinkable possibilities – positive and negative–you can begin to recognize the many ways to interpret the signals in the current environment.

Without conscious intervention, the mind will naturally force fit any faint inclinations into preexisting mental models. When subjects are shown a red spade in a deck of cards, for example, they often identify it as a heart because they force this anomalous card into the well-known model of the standard four suits. But a viewer who has entertained the possibility of a red spade may be able to see it.

VI YOUR STRATEGY MAKING

A Experience with uncertainty-reducing strategies (e.g., real options)								
Limited	1	2	3	4	5	6	7	Extensive
B Use of scenario thinking to guide strategy process								
Never	1	2	3	4	5	6	7	Frequent
C Number of alliance partners								
Few	1	2	3	4	5	6	7	Many
D Flexibility of strategy process								
Rigid, calendar driven	1	2	3	4	5	6	7	Flexible, issues oriented
E Resources devoted to scanning the periphery								
Negligible	1	2	3	4	5	6	7	Extensive
F Integration of customer and competitor information into future technology platforms and new-product development plans								
Poorly and sporadically integrated	1	2	3	4	5	6	7	Systematically and fully integrated

Total (add numbers) ☐

VII YOUR ORGANIZATIONAL CONFIGURATION (STRUCTURE AND INCENTIVES)

A Accountability for sensing and acting on weak signals								
No one is responsible	1	2	3	4	5	6	7	Responsibility is clearly assigned to project team or dedicated group
B Early warning systems and procedures								
None	1	2	3	4	5	6	7	Extensive and effective
C Incentives to encourage and reward wider vision								
None	1	2	3	4	5	6	7	Recognition from senior management and direct rewards

Total (add numbers) ☐

VIII YOUR CULTURE (VALUES, BELIEFS, AND BEHAVIORS)

A Readiness to listen to reports from scouts on the periphery								
Closed: listening discouraged	1	2	3	4	5	6	7	Open: listening encouraged
B Willingness of customer-contact people to forward market information								
Poor	1	2	3	4	5	6	7	Excellent
C Sharing of information about the periphery across functions								
Poor: information ignored or hoarded	1	2	3	4	5	6	7	Excellent: ongoing information-sharing at multiple levels

Total (add numbers) ☐

Calculate Your Totals Here

Need

I

II

III

Total =

Capability

IV

V

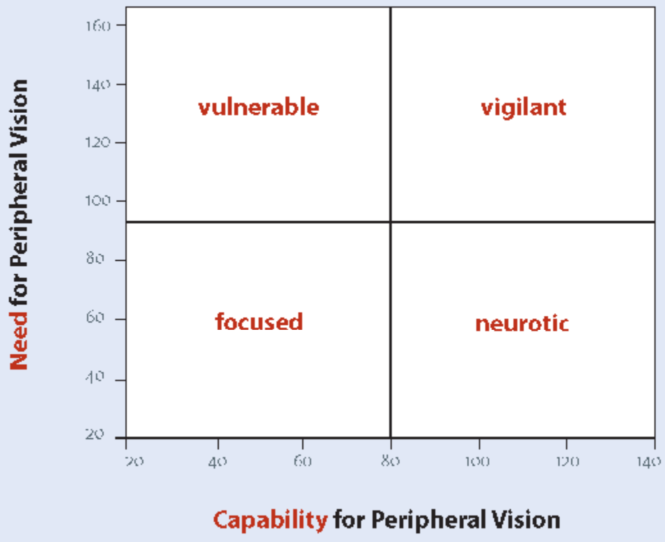
VI

VII

VIII

Total =

The Peripheral Vision Scoring Tool



Locate your total "need" score on the Scoring Tool's vertical axis; locate your total "capability" score on the horizontal axis. Plot a point in the quadrant where the need and capability scores intersect. For example, a "need" score of 130 and a "capability" score of 50 place a company at the center of the "vulnerable" quadrant. If your organization is vigilant or focused, you don't need to do anything different from what you're already doing, although you should stay alert for changes in the environment that may increase your need for peripheral vision. If your organization is neurotic, you should look for ways to narrow its focus. If it's vulnerable, you should actively cultivate better peripheral vision, beginning with the guiding questions outlined in this article.

In the early 1990s, one of us was helping the Venezuelan oil company Petróleos de Venezuela SA (PDVSA) construct future scenarios. The usual unknowns, from oil prices to export markets, received much of management's attention. But what actually transpired in Venezuela was never envisioned in any of the scenarios. The emergence of the populist leader Hugo Chavez, who would take on the establishment, declare martial law, nationalize the oil company, and fire all the top executives one Sunday afternoon during a national TV address, was an "irrational" scenario. Could managers have seen the warning signs in the political landscape? In retrospect, yes, but this scenario was unthinkable, at least in the minds of PDVSA's leaders. Similarly, the fall of the Berlin Wall was an irrational scenario that was not taken seriously by many politicians and organizations.

By contrast, when the federal credit union for Enron was developing scenarios in 1999, managers reluctantly considered the outrageous possibility that its corporate parent might collapse. At the time, Enron was being praised around the world by investors, the press, and business gurus. But when this "unthinkable" scenario actually came to pass, the Enron Federal Credit Union was better able to react quickly and survive in part because it had entertained the possibility. Often the early warnings of pending turmoil are faintly visible at the periphery. Nonetheless, the credit union field has seen many cases where corporate sponsors suddenly vanished, usually not because of fraud but because of mergers and acquisitions, and the attached credit union often went down with the mother ship. If you mine for these warning signs and then combine them into seemingly far-fetched scenarios, you may see the threats and opportunities at the periphery more clearly. Otherwise, you may simply dismiss or absorb the anomalies into your current worldview.

• • •

While the complexity of peripheral vision may defy simple recipes, our work has made it clear to us that such vision can be strengthened. These guiding questions are an important first step. Like being aware that a sudden outflow of the tide is a sign of a coming tsunami, recognizing these warning signs early can be a matter of life or death. Organizations with good peripheral vision can gain tremendous advantages over rivals. They can recognize and act on opportunities more quickly. They can avoid being blindsided. It takes skill to do this well, but as the environment changes more quickly and becomes more uncertain, the payoffs from peripheral vision may be greater than ever. As Charles Darwin said, "It's not the strongest of the species who survive, nor the most intelligent, but the ones most responsive to change."

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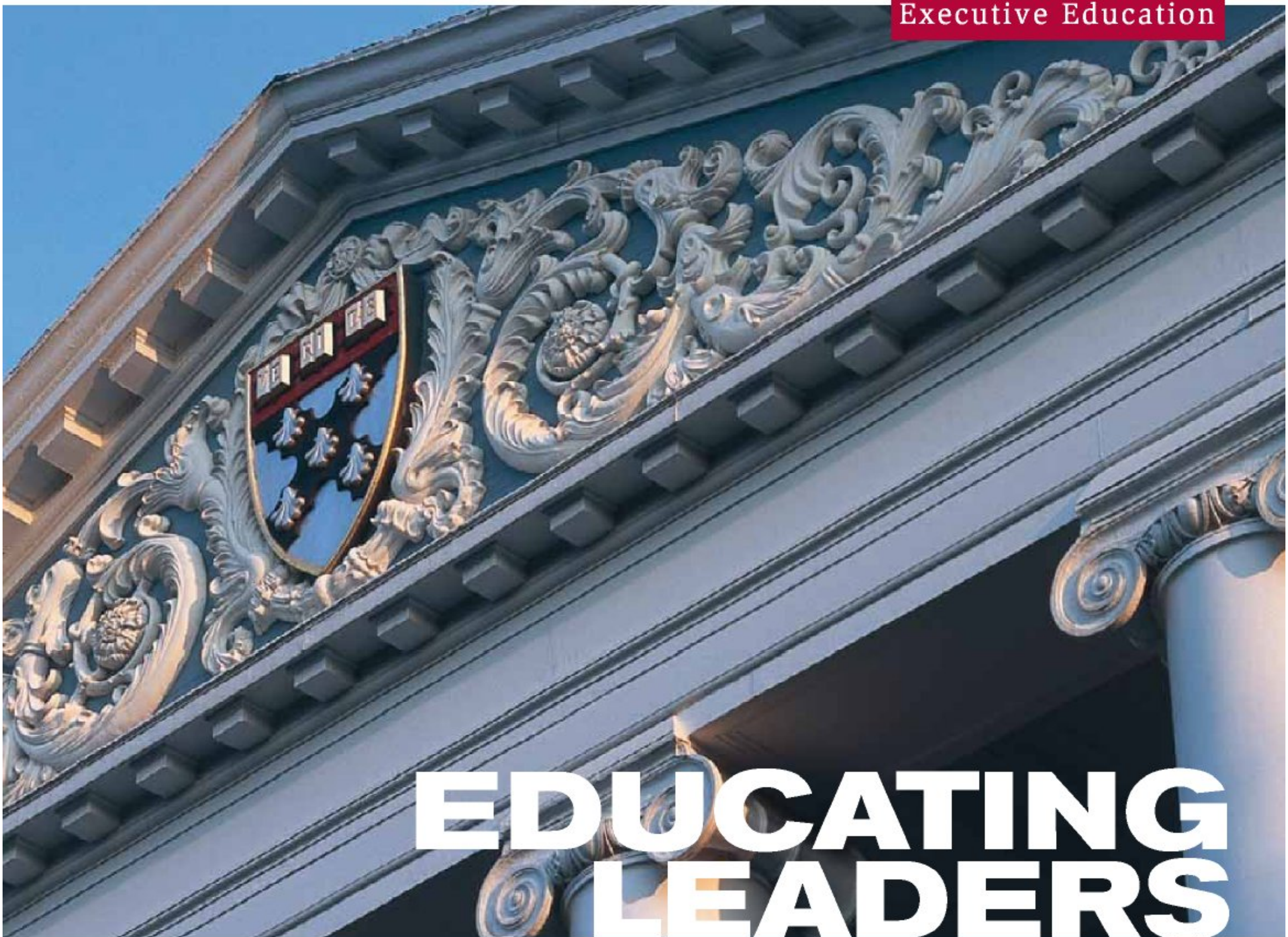

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Defensive Marketing

How a Strong Incumbent Can Protect Its Position

by John H. Roberts

Facing deregulation, the Australian telephone company Telstra developed a marketing strategy that blunted the attack of a potentially powerful new rival.

MARKETING IS TYPICALLY SEEN as a tool for growth. A company can use it to successfully launch a product, make inroads into a new market, or gain share with existing products in its current market. But for nearly every new product launch, market entrant, or industry upstart grabbing market share, there is an incumbent that must defend its position. If the defender can't hang on to what it has, it loses the foundation on which to build its own growth.

While there has been much research on marketing as an offensive tactic, there has been remarkably little on how strong incumbents can use marketing to preemptively respond to new or anticipated threats, whether they arise because of deregulation, patent expiration, changing technology, or rivals' shifting competitive advantage. And that's a shame, because many of the marketing challenges defenders face have distinct characteristics. For example, an incumbent usually has an installed base of customers, which means the company has detailed information about the customers it wants to keep and how it might keep them. But a new entrant has the advantage of being able to cherry-pick valuable customers, raiding the most fertile segments in the market, while the incumbent has to defend across its entire customer base.

When the Australian telecommunications market was fully deregulated in the late-1990s, state-owned Telstra faced competition for the first time. And its new rival, a joint subsidiary of American company BellSouth and UK company Cable & Wireless, promised to be a formidable contender. Telstra knew it was going to lose significant market share to the newcomer, called Optus; its goal was to both minimize and slow the rate of that loss while retaining its valuable customers.

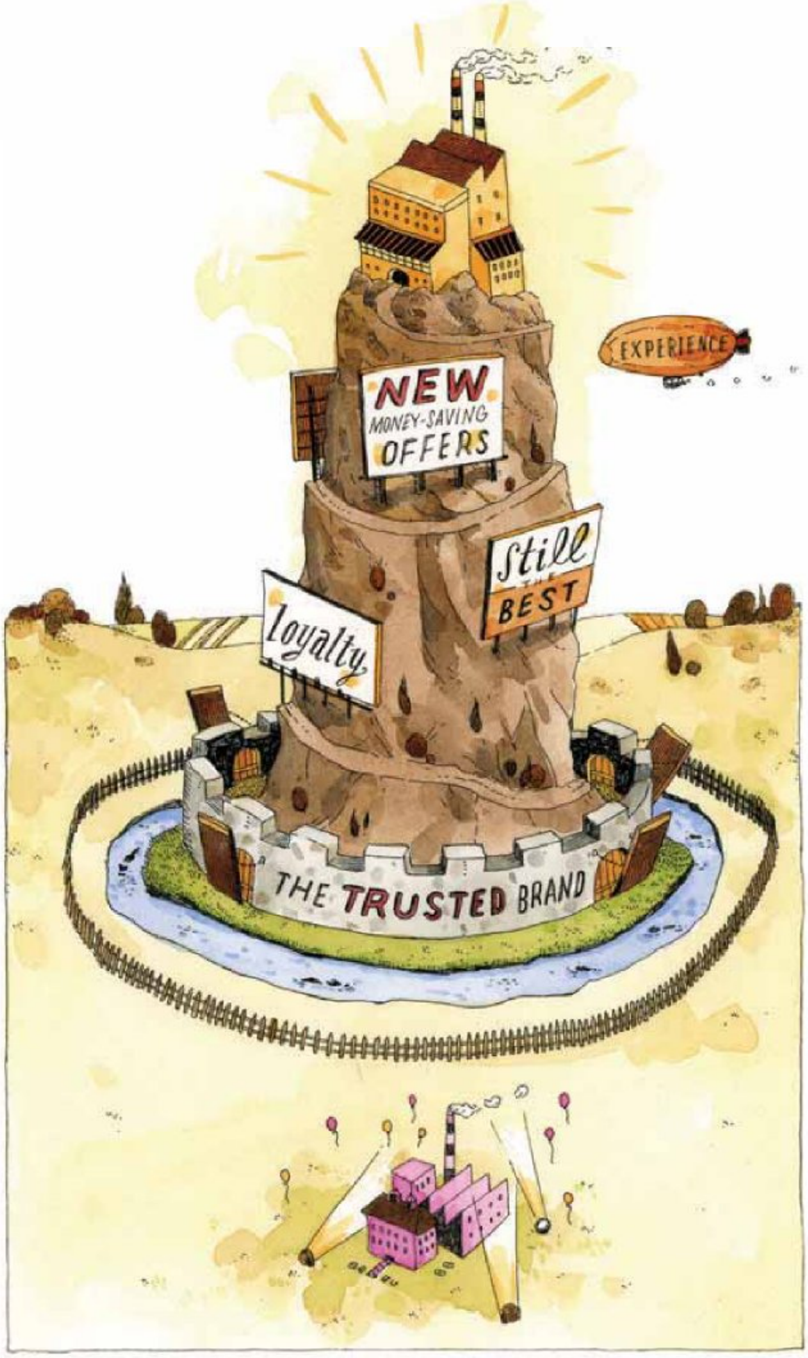
Telstra adopted a defensive marketing method that allowed it to do just that. Using a model to predict consumers' responses to the rival service (a model that marketing analyst Charles Nelson, marketing professor Pamela Morrison, and I helped develop as consultants to

Telstra), the company was able to select from a variety of strategies that ultimately helped to blunt Optus's attack. Telstra's defense was particularly effective because the company initiated it even before Optus began doing business.

In some cases, the method led Telstra to make sharp changes in strategic direction. The company rethought its pricing strategy, for instance, to counter an Optus strength that the customer response model unexpectedly revealed, helping Telstra to retain several points of market share it otherwise would have lost. The strategies described here, though specific to Telstra's situation, offer lessons for any company facing new and potentially damaging competition.

Deciding What to Fight With

Defensive marketing begins with an assessment of the weapons you have available to protect your market position. These include your brand identity, or how customers perceive you; the mix of products and services supporting that identity, including their pricing; and the

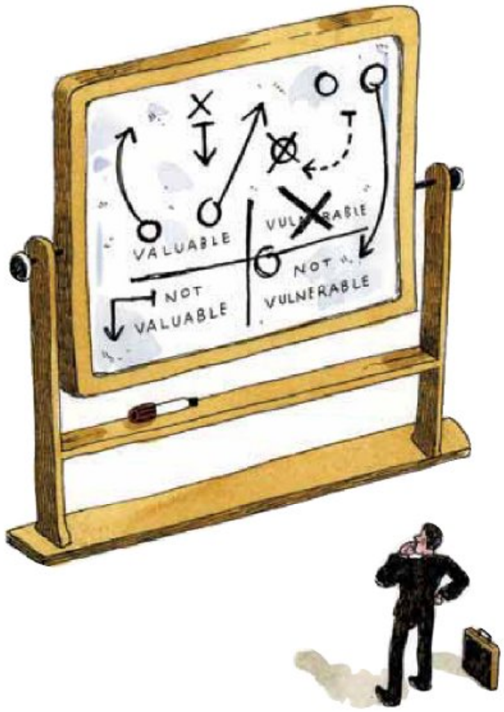


JOHN HENDRIX

means of communicating your identity, such as advertising.

The effectiveness of these weapons will depend on several factors, including your status as an incumbent. For example, you may decide that your brand identity needs to be modified if you are to retain customers or delay their defection. But this may prove difficult: While consumers' perceptions of a new entrant are likely to be malleable, their image of an incumbent is likely to be well formed. The defender may own the perception of "heritage" in the customer's mind – but may also be stuck with that label despite massive advertising outlays aimed at changing it. Meanwhile, a new entrant can relatively quickly and easily adopt an image – say, "breath of fresh air" – from an array of branding alternatives.

In other cases, a weapon such as advertising may be *more* effective in the hands of a defender because of the incumbent's size. For example, if the incumbent has ten times the revenue of the new entrant and each puts the same percentage of revenue into advertising, the defender will be able to outshout the newcomer by an order of magnitude, giving it an obvious advantage – at least when communicating messages that aren't intended to entirely reposition a well-established brand.



The defender may own the perception of "heritage" in the customer's mind – but may also be stuck with that label despite massive advertising outlays aimed at changing it.

An assessment of the strengths and weaknesses of your arsenal will help you choose from four types of defensive marketing strategies. A customer defects when the benefits of staying with an incumbent are outweighed by those of switching to a new entrant. And that doesn't necessarily happen right away; an incumbent may be able to delay a customer's switch. Consequently, to hold on to customers, the incumbent can try to increase its perceived advantages in their eyes (a *positive strategy*). In the case of customers who will ultimately switch, the incumbent can try to at least slow the rate of their departure (an *inertial strategy*). Similarly, the incumbent can try to reduce its perceived drawbacks relative to the new rival, again either to retain customers (a *parity strategy*) or to decelerate the loss of them (a *retarding strategy*). With the first two types of strategies, you establish and communicate your points of superiority relative to the new entrant; with the second two, you establish and communicate strategic points of comparability with your rival. (See the exhibit "Choosing the Right Defensive Strategy.")

Telstra identified its areas of superiority and weakness relative to Optus by conducting an economic analysis of the competitive landscape and by using the model for predicting customer responses to both companies' moves. Take the issue of pricing. Telstra had originally planned to meet an anticipated Optus pricing challenge head-on, relying on its greater financial resources to weather a price war. But an economic analysis suggested that pricing was in fact likely to be a source of weakness for Telstra because it had a cost disadvantage. While government regulations stipulated that Telstra charge Optus only the marginal cost of providing capacity to the newcomer on the Telstra network, the incumbent had to bear the entire fixed costs of maintaining the network. Despite Telstra's deep financial resources, a price war clearly wouldn't be a good way to retain customers.

If Telstra had gone ahead and decided, despite its cost disadvantage, to compete with Optus on price, the strategy would have been doubly flawed, as the customer response model revealed. The model allows an incumbent to accurately gauge consumer reactions to both its and the new entrant's market-

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ing actions – and thereby focus its efforts on areas that will be most effective in minimizing the level and rate of market share loss to the new entrant. (For a detailed description of the model, go to www.agsm.edu.au/cam-defence.)

In the area of pricing, the model revealed that Telstra's customers, although likely to respond favorably to Optus's low prices, didn't view lower Telstra prices as a strong incentive to stay with the company – possibly because a Telstra price decrease would only raise questions in consumers' minds about why the company hadn't dropped its prices before it had competition.

Realizing its dual weaknesses in this area – hindered from offering better pricing because of its higher cost structure and now realizing that its customers wouldn't value its price cuts as much as Optus's – Telstra adopted a parity strategy in which it created strategically chosen, but quite limited, points of price superiority over Optus. That is, while Optus on average offered lower prices, Telstra's prices were lower on some routes and at certain times of day. This meant that the lower-priced carrier for a given customer depended on that individual's specific calling patterns – a muddied situation in which consumers were less likely to take the big step of switching phone companies on the basis of price.

The success of Telstra's pricing strategy, supported by aggressive advertising, was evident in survey results – when asked whether Telstra or Optus offered cheaper service, many people said they didn't know or "it depends" – and in an assessment by the Australian Consumers' Association, publisher of *Choice* magazine, which declined to recommend either Telstra or Optus as the outright cheapest provider.

Another area of weakness that Telstra needed to counter, this one with a retarding strategy, concerned what might be called the "punishment factor." The model suggested that people would switch more quickly to Optus if they were angry with Telstra and wanted to "teach Telstra a lesson." Telstra moved swiftly to assuage these people with a television advertising campaign that implicitly acknowledged the company's service shortcomings but emphasized its vow to improve. The anthemic jingle proclaimed, "Good, better, best. We will never rest. Until our good is better. And our better best." In mounting this campaign, Telstra leveraged the incumbent's typical advantage of advertising clout: Six months after Optus entered the market, Telstra still had a market share 12 times that of its rival and could afford a major advertising effort.

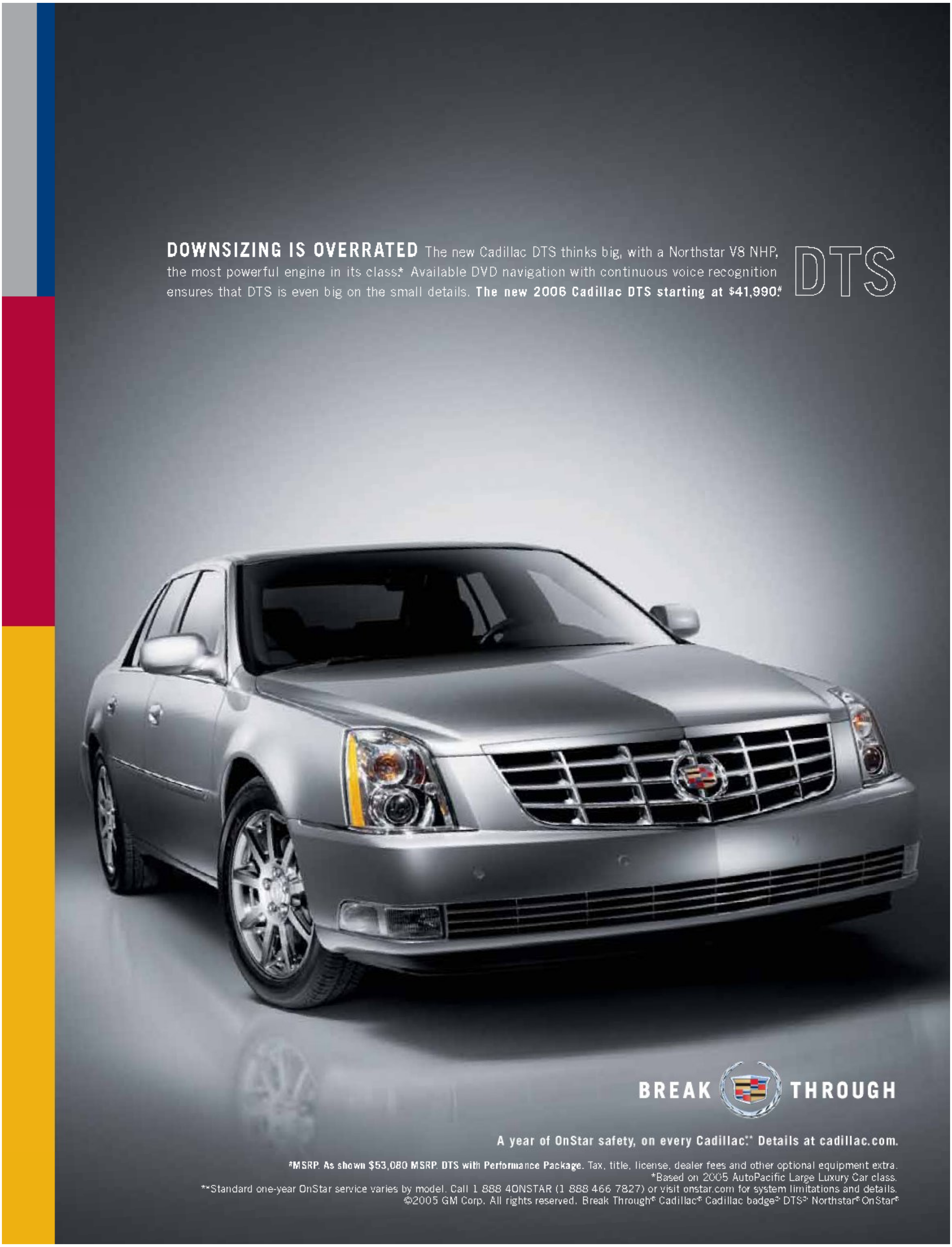
But this retarding strategy wouldn't have worked if Telstra hadn't backed up its message with improved service. The customer response model indicated that nearly 60% of customers thought that "most people had a major service problem with Telstra." (Interestingly, only 19% reported having experienced a problem themselves – an indication that Telstra, while disappointing a significant number of customers, was actually doing a better job of providing service than it was in communicating its record to customers.) Consequently, Telstra launched a high-profile effort to upgrade and publicize its service efforts – particularly in the area of billing, a hot spot for criticism – as a way to improve customers' experiences and perceptions.

Telstra considered and rejected one inertial strategy. The customer data suggested that consumers' perceptions of reliability were an important driver in the rate of share loss: "Using Optus might be risky" was one of the strongest factors in people's decisions about whether to switch quickly to the new provider. Telstra wondered if it could leverage this risk aversion, as well as its long-established reputation for dependability, to slow customers' defections to Optus. But the market research also showed that customers felt they could easily switch back to Telstra if Optus did not live up to its promise, so Telstra decided not to make any marketing moves based on customers' differing perceptions of reliability.

Choosing the Right Defensive Strategy

Defensive marketing strategies can be categorized by their aims – that is, whether a strategy is designed to retain customers or merely to slow the rate of their switching to a new rival. They can also be categorized by the means to achieve those aims – that is, whether a strategy focuses on the incumbent's strengths or on the rival's perceived strengths.

	Leverage your strengths	Mitigate your rival's strengths
Retain customers	**Positive strategies:** Hold on to customers by emphasizing the perceived advantages of your product, service, or company.	**Parity strategies:** Hold on to customers by matching, neutralizing, or blunting the perceived advantages of the new entrant's product, service, or company.
Slow the rate of customer loss	**Inertial strategies:** Acknowledge that some customers will leave despite your strengths, but offer product or service enhancements that will delay their defection. Emphasize that benefits lost in the switch may be major ones.	**Retarding strategies:** Acknowledge that some customers will leave because of the new entrant's perceived advantages, but offer product or service enhancements that will delay their defection. Emphasize that benefits gained in the switch may be only minor ones.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An inertial strategy that the company did use is one available, in some form, to many incumbents. Based on consumers' positive perceptions of Telstra as a homegrown company, the incumbent (in its advertising copy, press releases, and product support) played up its Australian roots – and, by implication, Optus's foreign owners and recent arrival in the Australian market. This, combined with the established relationship consumers had with Telstra, allowed a somewhat nostalgic feeling of "better the devil you know" to influence consumers' judgments.

Deciding Whom to Fight For

After having looked at the marketing strategies you can adopt and the weapons you can wield to defend your share, you need to take a closer look at your customers. Individual consumers will differ both in the likelihood that they'll switch to a rival and in the reasons that would prompt them to do so. Furthermore, there are clearly some customers you'd hate to lose more than others.

Therefore, you need to segment your customers based on two variables: their value to you and their vulnerability to being poached by the new entrant. (See the exhibit "Value and Vulnerability.") You can identify the customers you are at greatest risk of losing, or the *vulnerables,* by using the customer response model. You can identify the customers you would most like to retain, or the *valuables,* by assessing their direct and indirect effect on your profitability. In Telstra's case, this included, for example, the degree to which customers used the network during nonpeak hours, when there was plenty of system capacity. Incumbents have the advantage of knowing which customers they want to keep because of existing data – for Telstra, its current customers' calling patterns. (At the same time, however, Telstra couldn't easily walk away from the mass market. Unlike Optus, it couldn't select only the most profitable customers, the ones it had identified as valuables.)

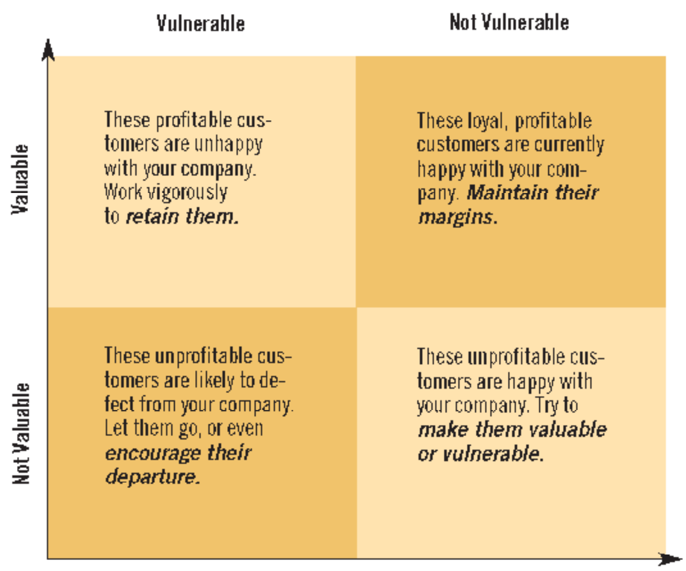
So what challenges do you face with each of these customer segments? In the case of customers who are vulnerable but not valuable, none at all: In fact, you *hope* they switch to the new entrant. For customers who are not vulnerable and not valuable, you try to make them more valuable by reducing the cost of serving them or getting them to increase their purchase of higher-margin products or services. If that isn't successful, you may actually try to increase their vulnerability to the blandishments of your rival by, say, reducing the services you currently offer that are unprofitable for you. For example, deregulation typically permits companies to eliminate such practices as rate averaging, which in effect subsidizes certain customers at the expense of others through discounts and concessions like extended payment plans.

The big challenge comes with your valuable customers, whether they're vulnerable or not. The goal is to give the valuable-vulnerables a reason to stay without offering the valuable–not vulnerables a benefit that isn't needed to ensure their loyalty. Telstra had to figure out how to price its services in a way that would defend the valuable-vulnerables against efforts by Optus to lure them away without cutting the rates of the valuable–not vulnerables, customers perfectly happy with the current services at the current prices. It is unethical, and sometimes illegal, to offer different deals to different customers, unless the pricing discrepancy is based on the different costs of serving them. But what if Telstra could get the two groups to self-select the desired pricing plan?

To do this, Telstra analyzed the traits of the two segments. One important finding: The valuable-vulnerables were particularly knowledgeable about the services they were paying for, and they were more likely than the valuable–not vulnerables to research alternatives in order to get a good deal. With this in mind, Telstra launched Flexiplans, add-on services costing between $2 and $10 per month, which allowed customers to, say, extend the hours in which they could make calls at the low weekend rate. The packages targeted particular Optus price plans, as well as times of the

Value and Vulnerability

Classifying your customers based on their value to you and their vulnerability to being poached by a new rival helps determine who is worth keeping and how you should go about doing so.



day and days of the week that were desired calling times for consumers and times of spare capacity for Telstra. This way, Telstra would always have some routes and times of day in which its services were cheaper than Optus's.

The typical reaction of the inquisitive valuable-vulnerables was to do the math and say, "Yes, I'll be a lot better off even after paying the additional monthly charge." The reaction of the valuable–not vulnerables was to say, "I'm paying enough already, and I don't need any extra services"–even if they would have saved money overall with one of the plans. The extra charge didn't generate much additional revenue for Telstra. What it did do was get only those keen on saving money to apply for the Flexiplan packages – and thereby give them a reason to stick with Telstra.

The Spoils of War

Telstra's defensive analyses and strategies helped the company better prepare for Optus's assault by providing accurate estimates of Telstra's potential market share loss. The customer response model indicated that, even given Telstra's use of several defensive strategies, share loss after six months would be more than twice what Telstra's management had originally planned for–nearly 9% rather than the anticipated 4%. The forecast helped the company better allocate its human and capital resources. For example, Telstra reduced its engineering expenditures so they were in line with the lower physical plant requirements resulting from the reduced market share.

More important, the defensive strategies Telstra employed prevented the share loss from being even worse and helped the company contain any losses to strategic areas it had deemed less important. The company's analysis found that the Flexiplan pricing strategy helped Telstra hold on to roughly 4% of the market – representing $28 million in annual revenue – that the company otherwise would have lost. Telstra's "Good, better, best" advertising campaign, designed to prevent the rapid flight of customers angry with the company's past performance, helped it hold on, at least initially, to an additional 3.5% of the market. Changes in the way the company managed its large corporate accounts, the cell phone market, and its international calling services also produced significant savings.

Viewing marketing through a defensive lens helped turn what might have been a rout by Optus into a closely fought battle that left Telstra with some losses but the lion's share of the market. Telstra was ready to fight another day. Its preemptive strategy, implemented prior to Optus's launch, had blunted Optus's initial momentum. And once that happened, it was a lot easier for Telstra to defend its customer base in the long, slow trench warfare that followed.

Reprint R0511J
To order, see page 170.

Learning in the Thick of It

I read with much interest Marilyn Darling, Charles Parry, and Joseph Moore's article, "Learning in the Thick of It" (July–August 2005), about the Army's after-action review (AAR) and its applicability to business. As someone who has served on active duty in the Army, I am familiar with the AAR and have often wondered how it could be applied to business, specifically in a manufacturing or service environment.

The AAR was developed as a tool to aid in training. At the lowest levels, Army units, an AAR is followed by a replay of the training scenario or mission. This replay is the key benefit of the AAR. Not only do you have a detailed discussion of what was supposed to happen, what actually happened, and how it could have been done better, but you get to put the lessons to the test shortly afterward, while the discussion is fresh in your mind. The opportunity to act on the lessons learned immediately, either within the next hour or the next day, in either the same or a very similar scenario, is the reason why AARs at the platoon or section level are effective. In turn, the lessons learned from these AARs can be used at the company, battalion, and brigade levels to anticipate problems with communication, planning, and control.

It should be noted that AARs are not always scheduled. If things get out of hand during an exercise, the action is stopped and an impromptu AAR is conducted on the spot. This is where the AAR concept breaks down in a business setting, and why it tends to degenerate into postmortems. In many AARs, the Opposing Force (OPFOR) unit (the group playing the "bad guys") shares its perspective on how the "good guys" approached the mission. In addition, someone external to the unit doing the training exercise is observing and evaluating how it is unfolding. There is no counterpart for that in business. There's no one saying, "OK, let's replay the scenario again and see how we perform."

The authors have hyped the AAR as a tool applicable to business without adequately considering the Army's unique culture and structure, which make such a tool effective in that environment. Without first acknowledging these differences, it would be foolish to think civilians could make AARs work in their organization.

Richard Rodriguez
Corporate Quality Engineer
Silgan Plastics Corporation
Norcross, Georgia

Moore responds: Richard Rodriguez raises an important question that we

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We welcome letters from all readers wishing to comment on articles in this issue. Early responses have the best chance of being published. Please be concise and include your title, company affiliation, location, and phone number. E-mail us at hbr_letters@hbsp.harvard.edu; send faxes to 617-783-7493; or write to The Editor, Harvard Business Review, *60 Harvard Way, Boston, MA 02163. HBR reserves the right to solicit and edit letters and to republish letters as reprints.*

are faced with constantly: How do you take a practice that was born of a unique culture in which the motivation to learn is life or death and translate it into the more mundane environment of civilian organizations?

What he is perhaps unaware of is that the AAR long ago stopped being just a facilitated training tool. Many AARs are conducted throughout the Army without the benefit of a training environment that provides facilitators, rich data, or an OPFOR to train against. Now, many units, including my own, use AARs as their primary feedback mechanism for everything from human resource management to maintenance and supply processes to resolving issues during extended projects. Today, such AARs are being used daily in places like Iraq and Afghanistan.

Before the AAR was introduced, the Army suffered from many of the cultural norms that plague corporate cultures today. We had few honest mechanisms for self-criticism. Our success was based on inspections and checklists that rarely correlated to future success – in the garrison or in the field. Many leaders hid their mistakes and widely advertised, if not exaggerated, their successes. The invention of the AAR led to the creation of the army culture Rodriguez describes in his letter, not the other way around. And our experiences tells us that the AAR can do the same thing for the culture of corporate America.

AARs do not prevent mistakes from happening. But they do speed the process for correcting them like no other system in our experience. We invite your team to give the BAR-Action-AAR cycle we outlined in our article a try. Make a "do three" commitment and apply it to activities or programs you deem important. Teams that use the tool and actually see their performance improve after a few tries are the source of the kind of cultural transformation we experienced in the Army.

Managing for Creativity

Richard Florida and Jim Goodnight's "Managing for Creativity" (July–August 2005) clearly articulates SAS's success in attracting and retaining creative workers by developing a management philosophy that contributes to rather than deters the creative process and foments a working relationship both within the organization and between SAS and customers that breaks down traditional restrictive silos. It is refreshing to see a company understand that dollars spent on making employees happy – that is, intellectually challenged, emotionally undistracted, and physically nurtured – is one of its wisest investments.

However, the authors rather quickly gloss over the primary condition that allows this creative environment: SAS is a privately held corporation. Having led the global treasury services business for a major financial institution, I can attest that the relationships that can be forged with privately held corporations such as Cargill and SAS differ greatly from those with typical publicly traded, quarterly measured corporations.

Google's leaders clearly understood the potential impact upon their organization's creativity of being sucked into the prevailing stockholder-maximizing, employee-minimizing management philosophy: they instilled two-tier ownership to retain control. In a letter included in the initial Google stock registration, founders Larry Page and Sergey Brin insist that their employees are "everything" and that they will "reward and treat them well" and will "add benefits rather than pare them down over time."

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WHY WOULD A MAN WITH INTERNATIONAL RESPONSIBILITY FOR ONE OF THE WORLD'S BIGGEST COMPANIES ADMIT TO A MAJOR ATTRACTION FOR FRANCE?

Nani Beccalli explains why GE can't do without French high-tech.

(see next page)

SAS, like Google and Cargill, understands the value of creative workers, creative work environments, and creative alliances with customers and other external factions. I would like to see publicly traded corporations reach the same understanding; more important, I would like to see us train our analysts and institutional investors so that they expect – no, demand – such value.

Deb Talbot
Chair
Creative TampaBay
Tampa, Florida

Toward a Theory of High Performance

Julia Kirby writes in "Toward a Theory of High Performance" (July–August 2005) that we are at the point when management researchers are able to build on one another's work about high-performance organizations. Let us hope so.

For my new book, *Big Winners and Big Losers* (Wharton School Publishing), I reviewed the prior work on high-performing organizations. I found that nearly all of the books fell into one of two camps. Either they stressed finding a sweet spot and being agile, or they stressed discipline and focus. When I examined the behaviors and characteristics of winning and losing firms, I found that the winners did it all. They found a sweet spot, and they had agility, discipline, and focus. They succeeded because they combined these traits in unique patterns that were hard to copy. In contrast, the losers found themselves simultaneously in a sour spot, immobile, inept, and unfocused.

In her article, Kirby looks for a breakthrough book that truly builds on other people's work. I think I have made this breakthrough with my theory that consistent success depends on combining the contrary characteristics of being in a sweet spot and agile, on the one hand, and having discipline and focus, on the other.

Alfred Marcus
Spencer Chair of Strategic Management and Technological Leadership
University of Minnesota Carlson School of Management and the Center for the Development of Technological Leadership
Minneapolis

KENNETH R. ANDREWS (1916–2005)

As chief editor of the magazine from 1979 to 1985, Kenneth Andrews helped to create the modern *Harvard Business Review* – which our editors today describe as a bridge between the world of research and the world of practice. Andrews, who had a long and distinguished career as a professor at Harvard Business School, believed strongly that every company faced unique challenges. He saw that the concepts, ideas, and case studies of scholars could help executives in the field reflect on their own experiences, clarify their purposes, and think through their distinct situations. HBR's tradition of close collaboration between author and editor, with the editor serving as reader advocate, received a significant boost under his leadership.

That's not to say that Professor Andrews simply told executives what they wanted to hear. The early 1980s were a time of great challenges for American business, and HBR published bold, provocative articles on global competition. The article "Managing Our Way to Economic Decline" pulled no punches, while "The Globalization of Markets" pushed executives toward new opportunities.

Professor Andrews left his mark on HBR through his eclectic writings as well as his editorial philosophy. He wrote 15 articles on subjects ranging from management training to board governance. Andrews also cofounded the concept of corporate strategy in the 1960s, and during his editorship, HBR published seminal articles on that subject. In later years, he extended his early thinking on strategy and moral purpose, and wrote presciently on what organizations can do to promote ethical behavior. That foundational effort in ethics helped spawn a range of writings by other HBS professors, which also made their way into HBR. In all of his work, Kenneth Andrews hoped to give executives the awareness necessary to carry out their responsibilities more effectively.

Steven C. Wheelwright
Chairman
Harvard Business School Publishing
Boston

Collaboration Rules

Philip Evans and Bob Wolf present a compelling discussion of corporate collaboration in their article, "Collaboration Rules" (July–August 2005). The practices they recommend, however, will cause intellectual property to die. As a new corporate standard, collaboration is not wrong; but early adopters must understand how different a concept it is and the long-term legal and societal consequences of its adoption. Collaborative teams will not emerge with defensible intellectual property rights. To protect inventions and other creative output, there must be certain sacrifices of freedom and individual expression: All work cannot be kept visible, shared by everyone, freely combined and recombined.

Intellectual property has become a critical measure of company value. The vibrant synergies of collaboration may

Nani Beccalli, President & CEO, GE International says France has a talent for innovation.

GE is as American as apple pie. What's it like doing business with the French?

GE today is a truly global company with a long history in Europe. There is a way of doing business which France and the United States have in common. Look at our 50/50 joint venture with SNECMA producing jet engines in France [CFM International]. It's an outstanding and extremely successful partnership. It has existed for 30 years and will probably be around for 30 more.

What qualities does France have to offer?

The French have a passion for engineering and technology, for research and solutions that push back the boundaries. The Ecole Polytechnique is one of the best engineering schools in the world and French technology tends to be very sophisticated. I'm a car fanatic, and I can still remember when the Citroën DS was introduced in the mid 50s. It was incredibly advanced, way ahead of its time.

Has France kept that edge?

A lot of European countries have either limited or even non-existent portfolios of technology products. France is different. They still have a pharmaceutical industry, aviation, space, a helicopter industry, a train industry…

GE in France

- Established in France for more than 50 years
- 9,500 employees, 3 R&D centers, 6 production sites
- GE's partnership with SNECMA gave them a lead in the aircraft engines industry

Does that make it attractive for a foreign investor?

Yes, especially if you're trying to make a technological product. In France, GE has one of the world's most technologically advanced units for producing turbines as well as the technology center for our medical business. The French are very creative. They have a great capacity for dreaming and they're not afraid to launch large-scale projects. TGV is a perfect example.

The French also value tradition. Does that make them conservative?

Respect for tradition doesn't mean you're afraid of change. I've brought my fair share of change to GE, but I have tremendous respect for tradition. You can tell by the way I dress. I'd say France strikes the right balance between tradition and innovation.

"The French have a passion for engineering and technology, for research and solutions that push back the boundaries."

GE is a major player in financial services. How do you rate France in that department?

France is an advanced and sophisticated country where it's natural for financial services to be thriving.
It has 60 million consumers. That's a rich community of people that has to save money, spend money, buy houses, buy cars, take out mortgages and borrow.

Would you live there?

Absolutely. Paris is my favorite city. I'm Italian, but I prefer Paris to Rome by a factor of 100. Paris is a place which combines tradition with modernity.

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one day result in organic growth that renders the concept of conventional intellectual property moot. Until then, without secure intellectual property rights, inventions and other creative output cannot be measured by conventional standards and cannot be assigned an actual numeric value on balance sheets or financial statements.

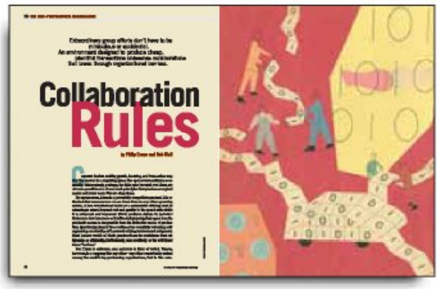
Communal sharing, particularly across enterprise lines and among competitors, means there is no individual or defined group to claim invention or authorship; individuals and enterprises cede authorship to the whole. When work is openly and freely shared with everyone, particularly across or between organizations, there is by definition no secure intellectual property. Collaborative teams will emerge with a tenuous grasp on who contributed what, when, and where. At the end of the process, it will be too late to ask whether the community intended to have smaller, closed teams that were guaranteed secure intellectual property. IP will have effervesced into communal value; intellectual property lawyers will not be able to secure value for the team or for the enterprise.

Without secure intellectual property rights in the form of patent, trademark, copyright, or trade secret, no barriers to competitors' market entry may exist beyond the lag time it takes to copy and produce someone else's invention. There may be no need for cease and desist letters or lawsuits for infringement. However, such lawsuits may be the only means of recapturing the profits lost when a competitor begins monetizing the pirated value that would have been the inventors' due. If all competitors are joint inventors, the first of these competitors to successfully produce will profit the most and the rest will profit only in so far as the tide rises.

Sigrid Caroline Schroder
Attorney and Counselor
The Schroder Law Firm
Houston

Evans and Wolf respond: Sigrid Schroder correctly points out that intellectual property is a crucial aspect of modern business strategy. However, there is much more to strategy than issuing cease and desist letters.

Over a 20-year period, Toyota component suppliers have grown their productivity at the same rate as Toyota itself. By the same metric, U.S. automotive suppliers have dropped further and further behind their OEMs. The difference is largely due to the open sharing of process knowledge across the supply chain. That trusting context made the spectacular response to the Aisin fire possible. Imagine how long recovery would have taken had it been arranged through the lawyers!



IP strategy may end with cease and desist, but it should not begin there. Instead, it begins with the choice of a collaborative network, which may include suppliers, customers, and even (sometimes) competitors. Within that network, IP rules (among other mechanisms) can ensure low transaction costs. IP rules can also protect the network from external predation: The viral nature of Linux's General Public License, for example, prevents outsiders from appropriating code. Indeed, in IP terms, Linux can be seen as a large patent pool in which hardheaded companies such as IBM and HP collaborate with their own employees, end users, and hobbyists to lower the cost of software.

Such strategies will not cause intellectual property to die. Once an organization has created and protected a collaborative network, there will be plenty of value for Schroder and her colleagues to defend.

Fixing Health Care from the Inside, Today

Steven Spear's article "Fixing Health Care from the Inside, Today" (September 2005) offers an overdue prescription for an ailing patient: American health care. Alas, much more than a prescription is needed. Health care has a stubborn and chronic illness, and a clear-cut diagnosis and long-term treatment plan is requisite.

Now that government payments drive all hospital budgets, free enterprise in health care is dead. Instead, health care in America has become a compliance-driven business in which he who has the gold makes the rules. Failure to comply means no payment.

The resulting culture of fear and compliance runs contrary to the principles that Spear offers as hope for a better prognosis. What health care needs is a culture of improvement. But until a fundamental cultural shift occurs, Spear's examples will remain outside the control of mainstream health care.

Anthony J. Joseph, MD
President and Chief Executive Officer
AMC Registry
Columbus, Ohio

I was pleased to read Steven Spear's article promoting the health care industry's adoption of best practices from other industries. It's exciting to think about the prospect of health systems no longer groaning that government and regulation hold them back and instead taking ownership for what they can manage.

Too often our knowledge management remains in silos, and we do not take advantage of what can be transferred across artificial organizational boundaries. Now that we have some clear case studies that exemplify excellence, I hope that many health care institutions will follow the lead and take action.

Elizabeth Merry
Partner
Patient Safety Core Lab Network
Sanbornton, New Hampshire

Spear responds: Health care is determined by evidence-based science; treatments are deployed for which there is clinical evidence of efficacy. The hospitals discussed in "Fixing Health Care from the Inside, Today" demonstrate that there are effective treatments for delivery systems' problems in terms of patient safety, quality of work, and efficiency. As Elizabeth Merry points out, myriad obstacles prevent the integration of disciplinary knowledge within organizations. The obstacles can be removed by making problems quickly evident, solving them when they first appear, sharing knowledge through collaborative problem solving; and developing broad-based capabilities in work design, improvement, and knowledge sharing.

Anthony Joseph is correct that cultural change is necessary, but here, too, a medical analogy is appropriate. Ultimately, the efficacy of any treatment depends on patient behavior. From eating less and exercising more to following sophisticated treatment plans, patients have to commit to prescribed regimens if they are to have effect; the same is true of curing ill work systems.

People behave as the system would have them behave. If that means tolerating ambiguity in objectives, responsibility assignments, handoffs of information, services, and products, and individual work methods, they will. If it means repeatedly working around problems while underlying causes remain unremediated, they will. On the other hand, when given the opportunity to design work processes that are reliable and to solve problems as they arise, frontline employees do so because they benefit. Their work gets easier, and their ability to do something of value for someone else increases.

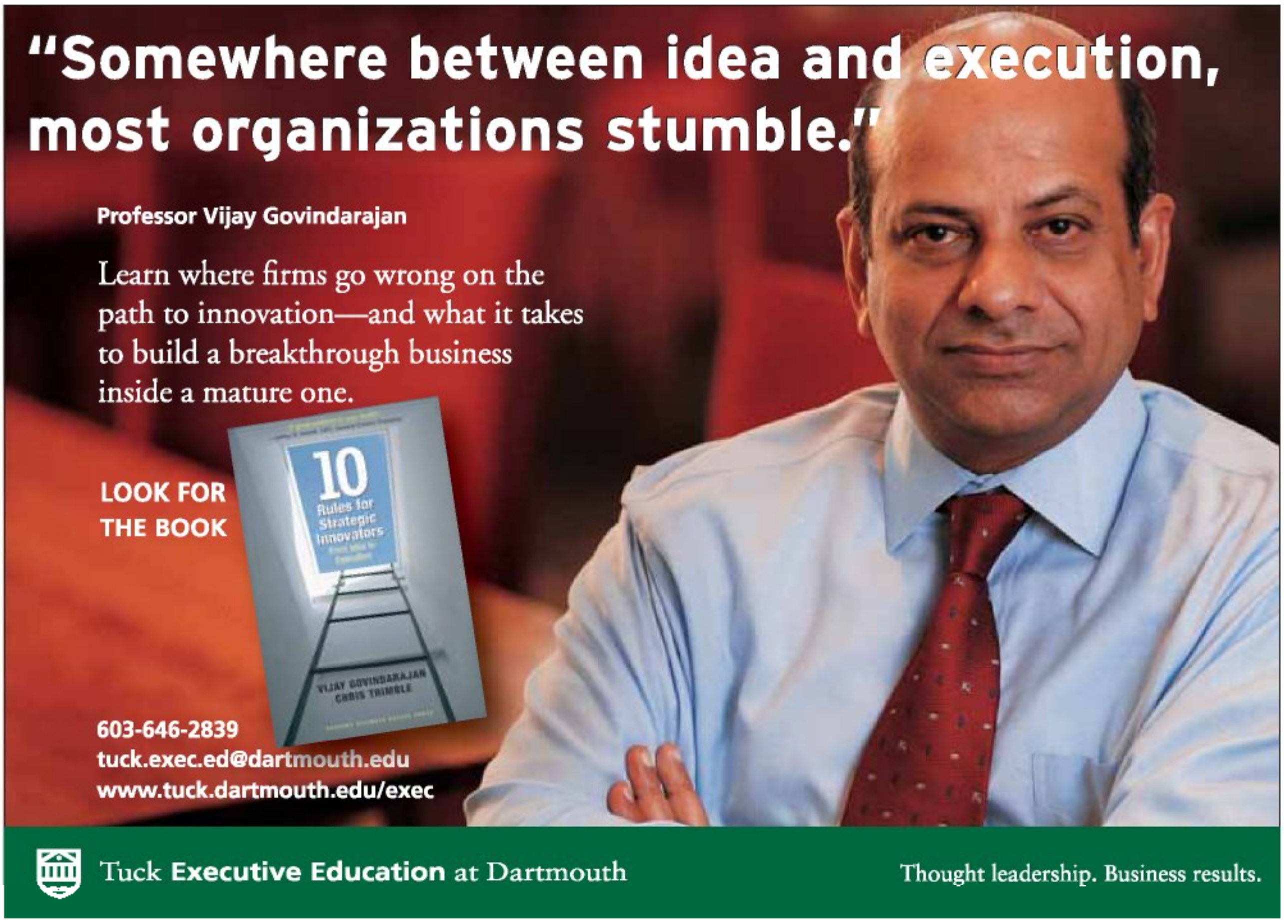
Ultimately, what distinguishes the organizations in this article from low-performing organizations is that senior leadership behaves differently. They model what to do, teach others to do the same, and provide the resources and time to make rapid, continuous improvements possible without hiding behind the excuses of regulation and compensation.

Fat Chance

I read the case study "Fat Chance" (May 2005) and the Letters to the Editor (September 2005) about it with great interest. I have conducted a 20-year longitudinal study regarding salespeople and how "fat" – that elusive criterion – plays into sales success.

Here are the results of my study: Fat people who did not work hard were outperformed by skinny and average-sized people who did. When I reversed the study, skinny people and average-sized people who did not work hard were outperformed by fat people who did. I have come to the conclusion that people – no matter what size – either work hard at their jobs or they don't. This is the main factor in sales success or failure.

Joe Murphy
Senior Vice President and General Manager
CTG
Buffalo, New York



EXECUTIVE SUMMARIES

November 2005

> "What's the number of product or service offerings that would optimize both your revenues and your profits?"
> —page 62

COVER STORY

62 | Innovation Versus Complexity: What Is Too Much of a Good Thing?

Mark Gottfredson and Keith Aspinall

What's the number of product or service offerings that would optimize both your revenues and your profits? For most firms, it's considerably lower than the number they offer today. The fact is, companies have strong incentives to be overly innovative in new product development. But continual launches of new products and line extensions add complexity throughout a company's operations, and as the costs of managing that complexity multiply, margins shrink. To maximize profit potential, a company needs to identify its innovation fulcrum, the point at which an additional offering destroys more value than it creates.

The usual antidotes to complexity miss their mark because they treat the problem on the factory floor rather than at its source: in the product line. Mark Gottfredson and Keith Aspinall of Bain & Company present an approach that goes beyond the typical Six Sigma or lean-operations program to root out complexity hidden in the value chain.

The first step is to ask, What would our company look like if it made and sold only a single product or service? In other words, you identify your company's equivalent of Henry Ford's one-size-fits-all Model T—for Starbucks, it might be a medium-size cup of coffee; for a bank, a simple checking account—and then determine the cost of producing that baseline offering. Next, you add variety back into the business system, product by product, and carefully forecast the resulting impact on sales as well as the cost implications across the value chain. When the analysis shows the costs beginning to overwhelm the added revenues, you've found your innovation fulcrum.

By deconstructing their companies to a zero-complexity baseline, managers can break through organizational resistance and deeply entrenched ways of thinking to find the right balance between innovation and complexity.

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FORETHOUGHT

18 | Get Aggressive About Passivity If managers always acted on their values, heroic whistle-blowing might never be required. But, research shows, people don't think that doing the right thing is part of their jobs. **Reprint F0511A**

The Trouble with CFOs Because of high turnover, CFOs have less and less time to learn the ropes – yet they're shouldering more and more responsibility. A realloca-tion of time is in order. **Reprint F0511B**

Crap Circles The most dubious business plans can appear solid, even smart, when illustrated with snappy circle-and-arrow graphics. Look closely, though, and you'll see that many of these diagrams are full of it. **Reprint F0511C**

Leading from the Factory Floor Fixing a dysfunctional plant isn't easy, but it can be done if you involve everyone in the overhaul. **Reprint F0511D**

Banana War Maneuvers How Dole beat Chiquita by working around a restrictive EU trade policy instead of struggling against it. **Reprint F0511E**

Oil and Troubled Waters When a crisis forces outside directors to navigate major changes, investors and directors must adopt new roles. The case of Royal Dutch/Shell provides useful lessons. **Reprint F0511F**

What? Me, Worry? Espionage expert H. Keith Melton shows how executives can best guard their company secrets. **Reprint F0511G**

The Department of Mobility By centralizing oversight of business travel and transportation, companies can improve efficiency, raise employee satisfaction, and reduce costs. **Reprint F0511H**

If You Want to Lead, Blog Sun Microsystems president and COO Jonathan Schwartz explains how blogging has enhanced public perception of his company and fostered loyalty within. **Reprint F0511J**

Is There a Patient in the House? The best solution to the looming shortage of nurses and doctors may be to move chronic disease monitoring and care out of hospitals and into people's homes. **Reprint F0511K**

Book Reviews HBR reviews four books.

HBR CASE STUDY

39 | Riding the Celtic Tiger

Eileen Roche

John Dooley, BioSol's vice president of strategic research, has been making a name for himself at the biotechnology company's offices in Ireland. He's been doing so well, in fact, that the firm has offered him a promotion to director of strategy at headquarters – in California.

He's lived abroad before. In the 1980s, making a living in Ireland was tough: Jobs were scarce and unemployment was high. So John and his wife, Fiona, moved to Massachusetts, where John attended MIT. They were not alone; many of their friends and family members also moved out of Ireland then. John and Fiona enjoyed their time in Boston; they became active in a large expatriate community and established reputations in their professional fields.

By 1999, however, the Celtic Tiger was running at full speed. The Irish economy was booming and the whole country seemed to be bursting with possibility. When John was offered a job at BioSol's Dublin subsidiary, he and Fiona moved home and never looked back – until now. The new promotion would give his career a huge boost, but accepting it would mean uprooting his family and becoming an expat again. Ireland's economy is going strong now, but what if it doesn't last? Should John cast his lot with his country or his company?

Commenting on this fictional case study are Raj Kondur, the CEO of Nirvana Business Solutions in Bangalore, India; James Citrin, a senior director at Spencer Stuart in Stamford, Connecticut; Maurice Treacy, the director of biotechnology at Science Foundation Ireland in Dublin; and Arno Haslberger, who teaches HR management at Webster University Vienna in Austria, and Sharman Esarey, also based in Vienna, editor of the annual report of the Organization for Security and Co-operation in Europe.

Reprint R0511A

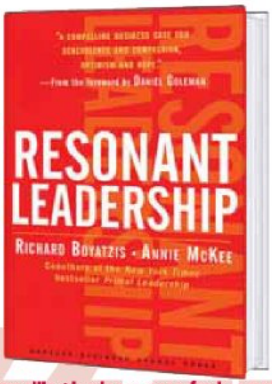
53 | Are You Working Too Hard? A Conversation with Mind/Body Researcher Herbert Benson

Stress is an essential response in highly competitive environments. Before a race, before an exam, before an important meeting, your heart rate and blood pressure rise, your focus tightens, you become more alert and more efficient. But beyond a certain level, stress overloads your system, compromising your performance and, eventually, your health.

So the question is: When does stress help and when does it hurt? To find out, HBR talked with Harvard Medical School professor Herbert Benson, M.D., founder of the Mind/Body Medical Institute. Having spent more than 35 years conducting worldwide research in the fields of neuroscience and stress, Benson is best known for his 1975 best seller *The Relaxation Response*, in which he describes how the mind can influence stress levels through such tools as meditation. His most recent research centers on what he calls "the breakout principle," a method by which stress is not simply reduced but carefully controlled so that you reap its benefits while avoiding its dangers. He describes a four-step process in which you first push yourself to the most productive stress level by grappling intently with a problem. Next, just as you feel yourself flagging, you disengage entirely by doing something utterly unrelated – going for a walk, petting a dog, taking a shower. In the third step, as the brain quiets down, activity paradoxically increases in areas associated with attention, space-time concepts, and decision making, leading to a sudden, creative insight – the breakout. Step four is achievement of a "new-normal state," in which you find that the improved performance is sustained, sometimes indefinitely.

As counterintuitive as this research may seem, managers can doubtless recall times when they've had an "aha" moment at the gym, on the golf course, or in the shower. What Benson describes here is a way to tap into this invaluable biological tool whenever we want.

Reprint R0511B



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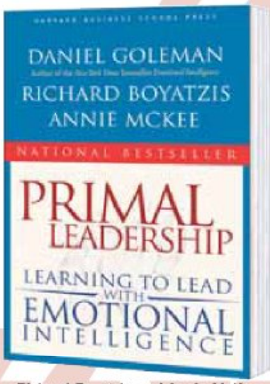

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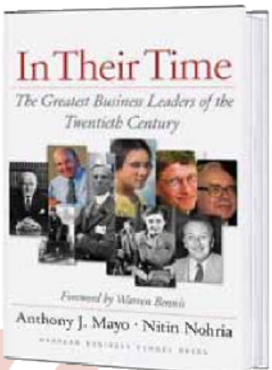

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DIVERSITY

74 | Leadership in Your Midst: Tapping the Hidden Strengths of Minority Executives

Sylvia Ann Hewlett, Carolyn Buck Luce, and Cornel West

All companies value leadership–some of them enough to invest dearly in cultivating it. But few management teams seem to value one engine of leadership development that is right under their noses, churning out the kind of talent they need most. It's the complicated, overburdened but very rich lives of their minority managers.

Minority professionals–particularly women of color–are called upon inordinately to lend their skills and guidance to activities outside their jobs. Sylvia Ann Hewlett, who heads the Center for Work-Life Policy, and her coauthors, Carolyn Buck Luce of Ernst & Young and Cornel West of Princeton, present new research on the extent to which minority professionals take on community service and other responsibilities outside the workplace and more than their share of recruiting, mentoring, and committee work within the workplace. These invisible lives, argue the authors, can be a source of competitive strength if companies can learn to recognize and further cultivate the cultural capital they represent. But it's hard to convince minority professionals that their employer respects and values their off-hours responsibilities. A lack of trust keeps many people from revealing much about their personal lives.

The authors outline four ways companies can leverage hidden skills: Develop a new level of awareness of minority professionals' invisible lives; appreciate the outsize burdens these professionals carry and try to lighten them; build trust by putting teeth into diversity goals; and, to finish the job of leadership development, help minorities reflect on their off-hours experiences, extract and generalize the lessons, and apply what's been learned in other settings.

Reprint R0511D; HBR OnPoint 2211; OnPoint collection "Required Reading for White Executives, 2nd Edition" 2203

FINANCE

84 | You Have More Capital than You Think

Robert C. Merton

Senior executives typically delegate the responsibility for managing a firm's derivatives portfolio to in-house financial experts and the company's financial advisers. That's a strategic blunder, argues this Nobel laureate, because the inventiveness of modern financial markets makes it possible for companies to double or even triple their capacity to invest in their strategic assets and competencies.

Risks fall into two categories: either a company adds value by assuming them on behalf of its shareholders or it does not. By hedging or insuring against non-value-adding risks with derivative securities and contracts, thereby removing them from what the author calls the *risk balance sheet*, managers can release equity capital for assuming more value-adding risk.

This is not just a theoretical possibility. One innovation–the interest rate swap, introduced about 20 years ago–has already enabled the banking industry to dramatically increase its capacity for adding value to each dollar of invested equity capital. With the range of derivative instruments growing, there is no reason why other companies could not similarly remove strategic risks, potentially creating billions of dollars in shareholder value. The possibilities are especially important for private companies that have no access to public equity markets and therefore cannot easily increase their equity capital by issuing more shares.

The author describes how derivative contracts of various kinds are already being employed strategically to mitigate or eliminate various risks. He also shows how companies can use the risk balance sheet to identify risks they should not bear directly and to determine how much equity capacity they can release for assuming more value-adding risk.

Reprint R0511E

100 | Hiring for Smarts

Justin Menkes

Yes, it's nice when a leader is charismatic and confident. And a great résumé can tell you a lot about a person's knowledge and experience. But such assets are no substitute for sheer business intelligence, and they reveal very little about a leader's ability to consistently reach the "right" answer.

How can hiring managers flag individuals with such smarts? Historically, the only reliable measure of brainpower has been the standard IQ test, which is rarely used in business settings because of the specific subjects it tests for – math, reading, and spatial reasoning – and because of its multiple-choice format.

Despite its shortcomings, the standard IQ test is still a better predictor of managerial success than any other assessment tool companies currently use, Justin Menkes argues. It's true that there isn't a version of IQ testing that applies to the corporate world, but in rejecting IQ tests altogether, hiring managers have thwarted their own attempts to identify true business stars.

The author defines the specific subjects that make up "executive intelligence" – namely, *accomplishing tasks, working with people*, and *judging oneself*. He describes how to formulate questions to test job candidates for their mastery of these subjects, offering several examples based on real situations. Knowledge questions, such as those used in standard behavioral interviews, require people to recite what they have learned or experienced; intelligence questions call for individuals to demonstrate their abilities. Therefore, the questions in an executive intelligence test shouldn't require specific industry expertise or experience; any knowledge they call for must be rudimentary and common to all executives. And the questions should not be designed to ask whether the candidate has a particular skill; they should be configured so that the candidate will have to demonstrate that skill in the course of answering them.

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MARKETING

112 | The Perfect Message at the Perfect Moment

Kirthi Kalyanam and Monte Zweben

Marketers planning promotional campaigns ask questions to boost the odds that the messages will be accepted: Who should receive each message? What should be its content? How should we deliver it? The one question they rarely ask is, *when* should we deliver it?

That's too bad, because in marketing, timing is arguably the most important variable of all. Indeed, there are moments in a customer's relationship with a business when she *wants* to communicate with that business because something has changed. If the company contacts her with the right message in the right format at the right time, there's a good chance of a warm reception.

The question of "when" can be answered by a new computer-based model called "dialogue marketing," which is, to date, the highest rung on an evolutionary ladder that ascends from database marketing to relationship marketing to one-to-one marketing. Its principle advantages over older approaches are that it is completely interactive, exploits many communication channels, and is "relationship aware": that is, it continuously tracks every nuance of the customer's interaction with the business. Thus, dialogue marketing responds to each transition in that relationship at the moment the customer requires attention.

Turning a traditional marketing strategy into a dialogue-marketing program is a straightforward matter. Begin by identifying the batch communications you make with customers, then ask yourself what events could trigger those communications to make them more timely. Add a question or call to action to each message and prepare a different treatment or response for each possible answer. Finally, create a series of increasingly urgent calls to action that kick in if the question or call to action goes unanswered by the customer.

As dialogue marketing proliferates, it may provide the solid new footing that Madison Avenue seeks.

Reprint R0511G; HBR OnPoint 219X; OnPoint collection "CRM – the Right Way, 3rd Edition" 2173

STRATEGY & COMPETITION

135 | Scanning the Periphery

George S. Day and Paul J.H. Schoemaker

Companies often face new rivals, technologies, regulations, and other environmental changes that seem to come out of left field. How can they see these changes sooner and capitalize on them? Such changes often begin as weak signals on what the authors call the periphery, or the blurry zone at the edge of an organization's vision. As with human peripheral vision, these signals are difficult to see and interpret but can be vital to success or survival.

Unfortunately, most companies lack a systematic method for determining where on the periphery they should be looking, how to interpret the weak signals they see, and how to allocate limited scanning resources. This article provides such a method – a question-based framework for helping companies scan the periphery more efficiently and effectively. The framework divides questions into three categories: learning from the past (What have been our past blind spots? What instructive analogies do other industries offer? Who in the industry is skilled at picking up weak signals and acting on them?); evaluating the present (What important signals are we rationalizing away? What are our mavericks, outliers, complainers, and defectors telling us? What are our peripheral customers and competitors really thinking?); and envisioning the future (What future surprises could really hurt or help us? What emerging technologies could change the game? Is there an unthinkable scenario that might disrupt our business?).

Answering these questions is a good first step toward anticipating problems or opportunities that may appear on the business horizon. The article concludes with a self-test that companies can use to assess their need and capability for peripheral vision.

Reprint R0511H

MARKETING

150 | Defensive Marketing: How a Strong Incumbent Can Protect Its Position

John H. Roberts

There has been a lot of research on marketing as an offensive tactic – how it can help companies successfully launch new products, enter new markets, or gain share with existing products in their current markets. But for nearly every new product launch, market entrant, or industry upstart grabbing market share, there is an incumbent that must defend its position. And there has been little research on how these defenders can use marketing to preemptively respond to new or anticipated threats.

John H. Roberts outlines four basic types of defensive marketing strategies: *positive, inertial, parity,* and *retarding*. With the first two, you establish and communicate your points of superiority relative to the new entrant; with the second two, you establish and communicate strategic points of comparability with your rival. Before choosing a strategy, you need to assess the weapons you have available to protect your market position – your brand identity, the products and services that support that identity, and your means of communicating it. Then assess your customers' *value* to you and their *vulnerability* to being poached by rivals.

The author explains how Australian telecommunications company Telstra, facing deregulation, used a combination of the four strategies (plus the author's customer response model) to fend off market newcomer Optus. Telstra was prepared, for instance, to reach deep into its pockets and engage in a price war. But the customer response model indicated that a parity strategy – in which Telstra would offer lower rates on some routes and at certain times of day, even though its prices, on average, were higher than its rival's – was more likely to prevent consumers from switching. Ultimately, Telstra was able to retain several points of market share it otherwise would have lost.

The strategies described here, though specific to Telstra's situation, offer lessons for any company facing new and potentially damaging competition.

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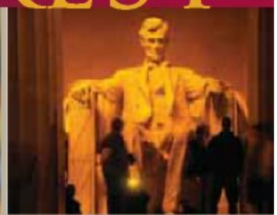

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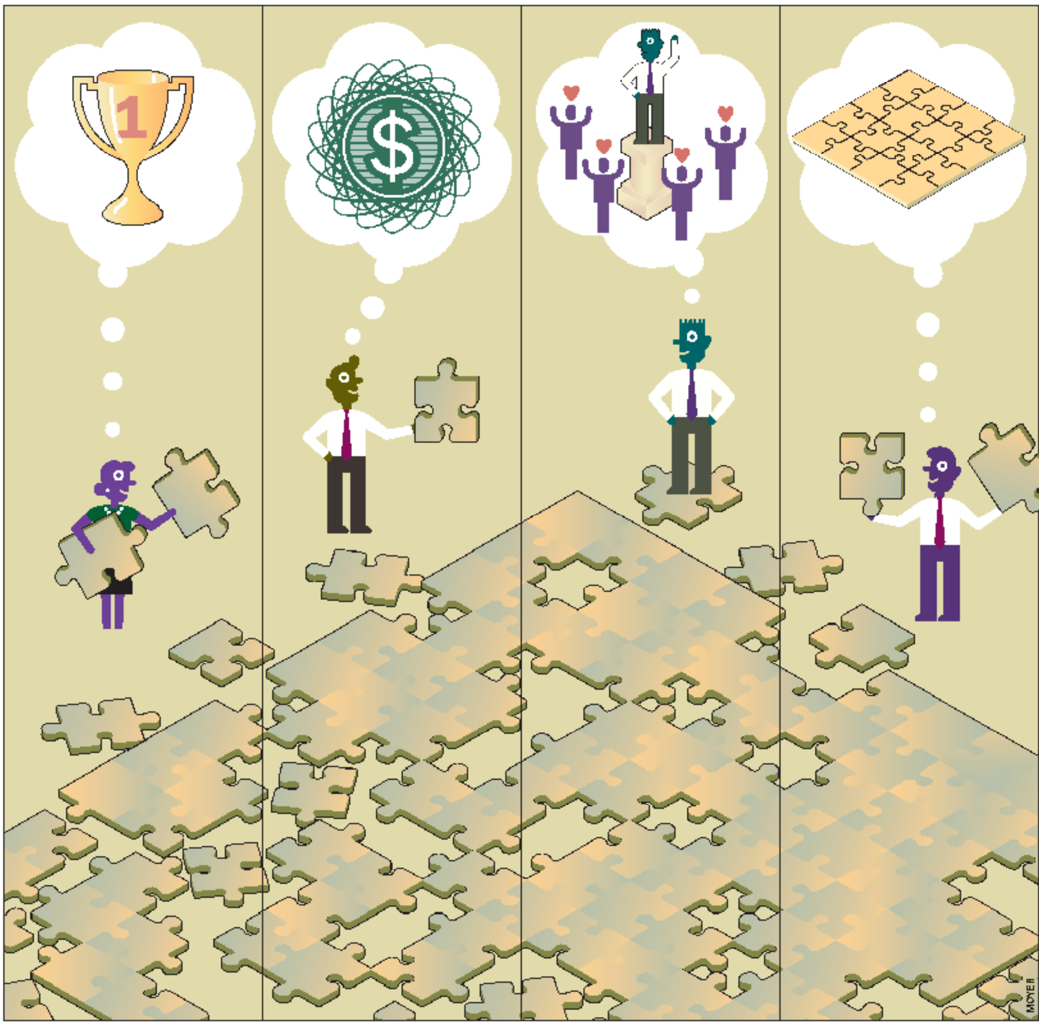
by Don Moyer



Different Strokes

"What is it that you want?" elicits responses as varied as the respondents. For the therapy patient, it's his father's approval. For the actor, it's roaring crowds and stinky greasepaint. For Miss July, it's walks on the beach at sunset.

In companies, of course, a fair wage and non-horrific working conditions are required just to get bodies in the door. But it takes more than that to motivate employees to do the best job possible. Managers assume that "more" means external incentives such as money, titles, and job security. They forget that some employees find greater value in the chance to learn a new skill, the satisfaction of solving a tough problem, or a belief in the organization's mission.

In his book *The One Thing You Need to Know,* Marcus Buckingham urges managers to treat employees as individuals, designing motivations that play off each person's strengths, weaknesses, "triggers," and learning styles. So ask your employees to tell you what itches. Then don't just throw money at them. Instead, take aim and scratch.

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