Harvard Business Review

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July–August 2005

THE HIGH-PERFORMANCE ORGANIZATION


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Features

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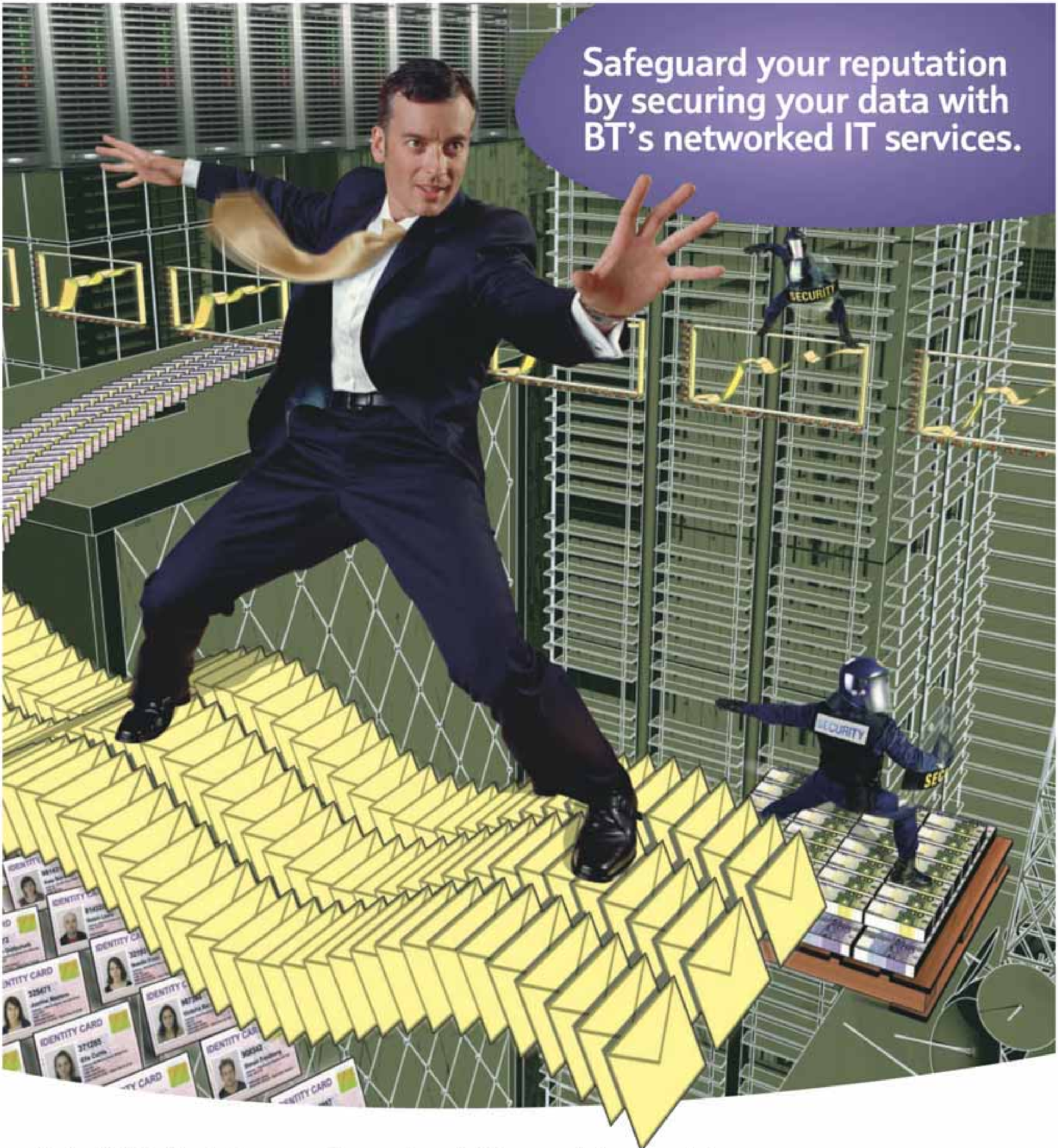

In the digital networked economy, it's more important than ever to keep your data secure. A breach in security can impact your day-to-day operations, affect customer confidence and harm your reputation. In fact, three out of four companies now appreciate the importance of securing critical data.* And with the rise in email and instant messaging, combined with regulatory compliance requirements about protecting and storing data, many companies are rethinking their information management policies.

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*IDD Research, Jan 2005. †Figure based on the top 20 companies in the Fortune 500 as compiled by Fortune magazine.

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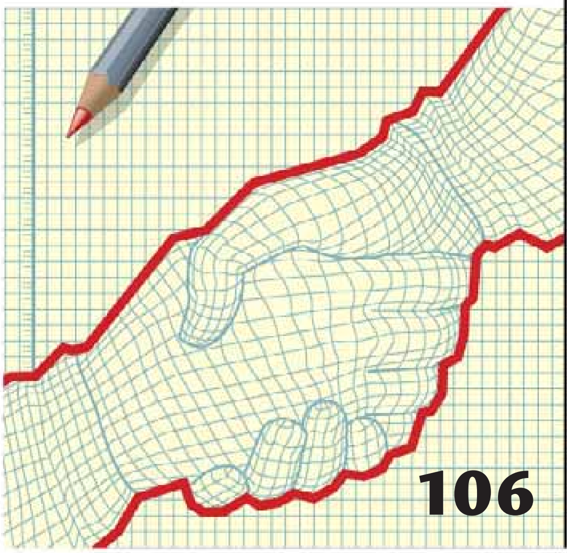
More power to you

Features continued

July–August 2005



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Best of HBR

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New York City 311

High performance delivered for government.

More than 2000 non-emergency city services in 170 languages for 8 million residents—services that once took 14 pages of telephone numbers in New York City—are now available 24/7 with a single call to 311. Working closely with the city's Department of Information Technology and Telecommunication, Accenture took the nation's largest 311 project live in just seven months, introducing not just new applications and technologies, but a new way of doing business. Having surpassed the 8 million-call milestone in its first year, the system is giving the city of New York the agility required for high performance.

Wyeth

High-performance R&D, delivered.

Determined to boost its output of innovative new medicines, Wyeth's research & development leadership teamed with Accenture to reengineer the way the pharmaceutical company discovers new molecular entities and moves them through preclinical development and clinical trials. The companies designed and implemented vast changes to streamline operations and dramatically improve the effectiveness of Wyeth's proven R&D organization. Now, three years into the initiative, the productivity of Wyeth's drug discovery effort has risen 400 percent, early clinical trial cycle times have been cut by 60 percent, and a new high-performance model for outsourcing clinical data management is substantially reducing costs by about 50 percent.


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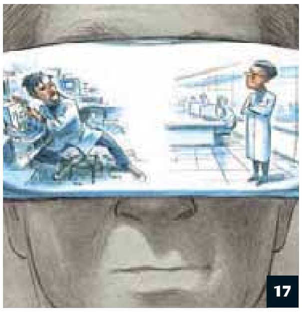

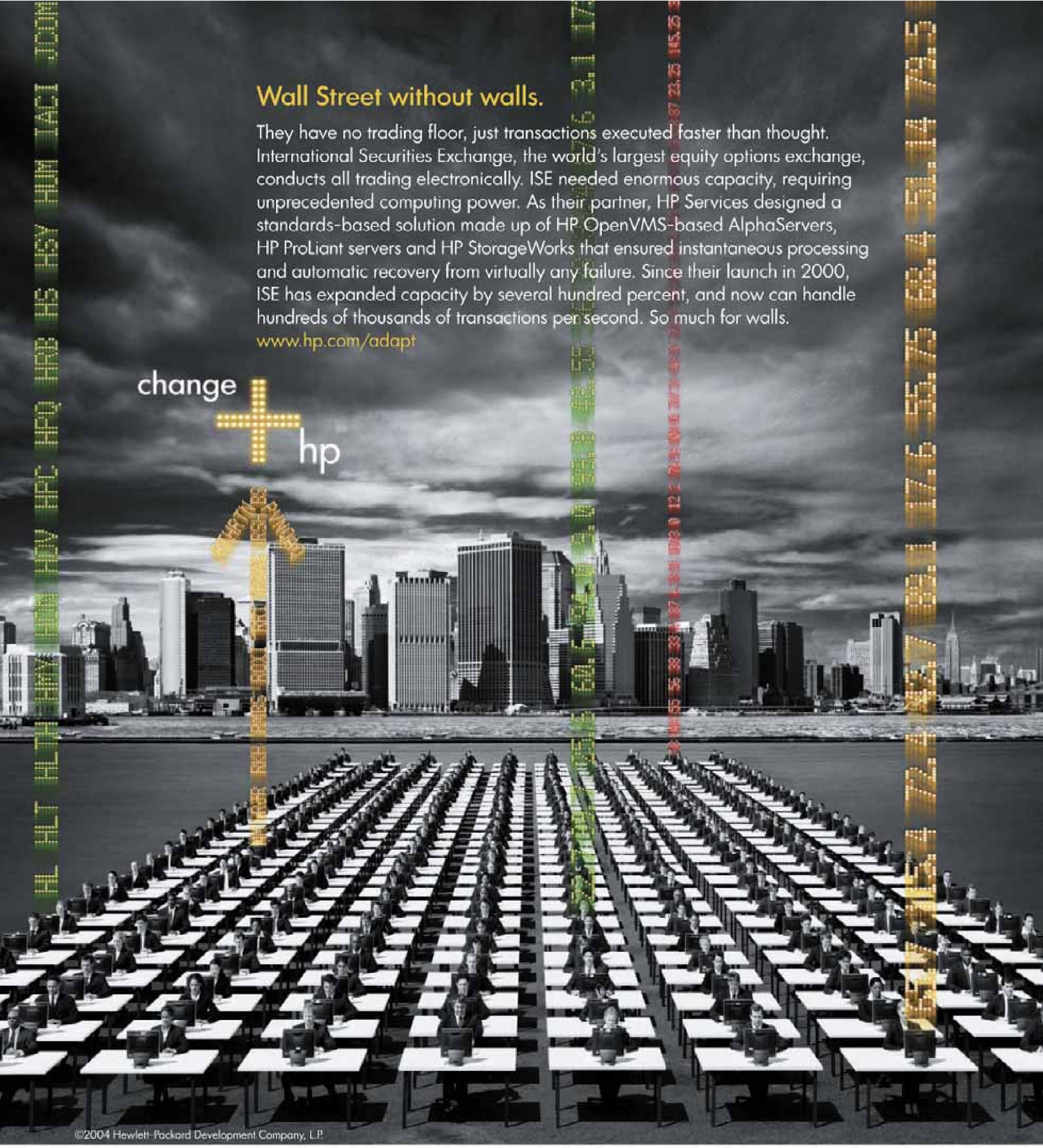
Wall Street without walls.
They have no trading floor, just transactions executed faster than thought. International Securities Exchange, the world's largest equity options exchange, conducts all trading electronically. ISE needed enormous capacity, requiring unprecedented computing power. As their partner, HP Services designed a standards-based solution made up of HP OpenVMS-based AlphaServers, HP ProLiant servers and HP StorageWorks that ensured instantaneous processing and automatic recovery from virtually any failure. Since their launch in 2000, ISE has expanded capacity by several hundred percent, and now can handle hundreds of thousands of transactions per second. So much for walls.
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Raising the Bar

HAPPY COMPANIES ARE ALL ALIKE; each unhappy company is unhappy in its own way. Lots of companies claim to be high-performance organizations. The real thing is rare, however, and instantly recognizable. These groups operate on a different plane. They overcome obstacles that stymie others. When they fail, they look for causes rather than excuses; they fix problems, not blame. They are "real pros."

Every issue of HBR is about how organizations can improve. This special double issue is about the elite circle where exceptional performance is an everyday event. Think of Ferrari's Formula One racing team, the New England Patriots, or the Real Madrid soccer team of the 1950s and 1960s. Recall the early years of Britain's National Theatre or television's *Saturday Night Live.* Consider Franklin Roosevelt's Brains Trust or the World War II code breakers at Bletchley Park. In business, contemporary examples include Toyota, General Electric, Dell, and the Cravath, Swaine & Moore law firm.

We can name them – but can we explain them? We chose the articles in this issue to illuminate that question. When does high performance happen? What does it feel like? Can it be replicated? People understand relatively little about high performance, beyond knowing it when we see it. As senior editor Julia Kirby writes in "Toward a Theory of High Performance," scholars have studied the phenomenon for just a quarter of a century and are only now assembling a coherent theory of how it comes into being.

But we know some key things. We know leadership plays a role. In these pages, consultants Michael Mankins and Richard Steele show how smart leaders keep companies from falling short in executing strategies. You will also, in "Moments of Greatness" by University of Michigan professor Robert E. Quinn, enter into those episodes of personal peak performance that people experience when they're "in the zone," and you will discover how great leaders draw on such episodes to be better every day.

Teams are another factor in high performance. Professor Bill Fischer and Andy Boynton, dean of Boston College's Carroll School of Business, find that spectacularly successful "virtuoso teams" – such as the group that created *West Side Story* – operate by rules that are almost antithetical to conventional wisdom about teamwork. The article "Manage Your Human Sigma" is based on research by the Gallup Organization into the enormous variability in performance among similar work groups, such as the branches of a bank. Using Six Sigma tools to attack the variability can lead to step-change gains.

We know that learning matters. This month's HBR Case Study is about a company that may need to outsource R&D, its font of knowledge; the author is Nitin Nohria, the Harvard Business School professor whose article "What Really Works" (July 2003) is a major contribution to scholarship about high performance. Later in the issue, you can meet what might be the world's premier learning organization, the U.S. Army's OPFOR, the designated opponent in the Army's most-advanced training exercises. If your company uses after-action reviews, you're copying OPFOR – except OPFOR does them better.

We also know that organizational design enables (or disables) high performance. HBS professor Robert Simons's brilliant "Designing High-Performance Jobs" shows how adjusting spans of control and influence can improve an executive's effectiveness. "Collaboration Rules" by consultants Philip Evans and Bob Wolf discovers remarkably similar organizational design in an unlikely pair – programmers in the open-source software community and managers at Toyota. Jim Goodnight, CEO of SAS Institute, and professor Richard Florida describe tough-minded "soft side" design principles that have unleashed creativity and profits in equal measure at SAS.

Finally, we know high performance, like success, feeds on itself. In our special issues, we reprint articles from HBR's incomparable archive. This time we included four of the most famous articles we have ever published: Jim Collins's "Level 5 Leadership"; "Strategic Intent" by Gary Hamel and C.K. Prahalad; Jon Katzenbach and Doug Smith's "The Discipline of Teams"; and "The Balanced Scorecard" by Bob Kaplan and Dave Norton.

Tom Stewart

Thomas A. Stewart

ROBERT MEGANCK

Harvard Business Review

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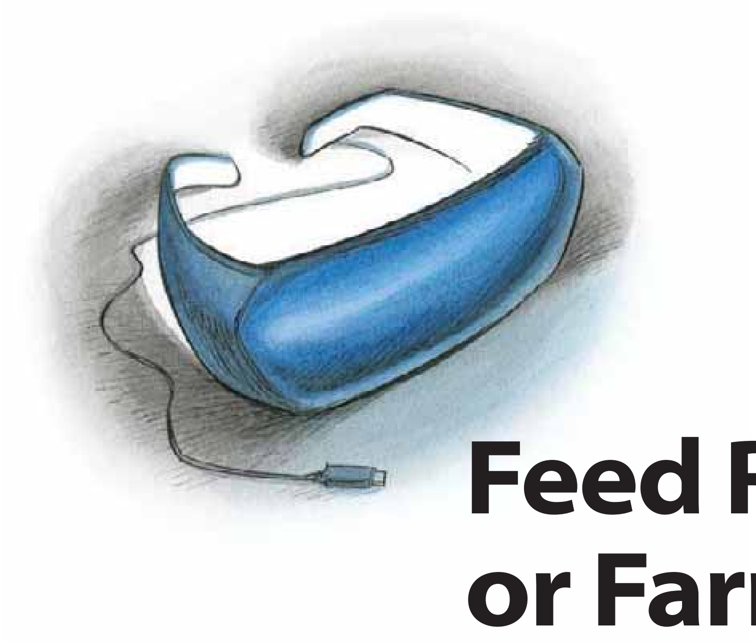


RLK Media built its reputation on brilliant innovation in high-end consumer electronics. But with customers defecting to mass-market products, RLK has to rethink its approach. Will outsourcing R&D save the company or destroy it?

Feed R&D – or Farm It Out?

by Nitin Nohria

"OK, JUST SIT THERE. No, right there, in the La-Z-Boy. Don't move." Lars sank into the battered Naugahyde chair at the edge of the audio-engineering lab, wondering vaguely if there was anything on the cushions that might stick to his suit. As CEO of RLK Media, he gamely participated in these periodic demos. It was a good way to connect with the R&D team–and, besides, sometimes they actually surprised him.

Lars checked his watch and then settled his gaze on Ray Kelner, RLK's founder and chief scientist, who was fidgeting at a workstation. "Ray, can you get this show on the road? I'm out of here in ten!"

"Two seconds, Lars. Two seconds!" Ray cursed under his breath as he snapped a patch cable into an Ethernet switch. A tangle of wires looped from the workstation to a top-heavy rack of audio and video hardware. Duct-taped braids of colored cables snaked across the floor. Lars wearily surveyed the mess. This better be good, he thought. Another gorgeous camcorder nobody wants, and we're sunk.

"Comfortable? Good. Now–put these on." Ray handed Lars a headset with goggle lenses and a ribbed aluminum frame. He slid the headset into place. As the engineering team looked on, Ray snapped a Firewire cable into a port on the goggles. Swiveling around to his keyboard, he tapped in a command and watched a blur of code scroll up the screen. "Showtime," he whispered to himself.

Nothing. Lars sat expectantly for a few seconds and was reaching to take

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

DANIEL VASCONCELLOS

the headset off when a crisp, panoramic image formed before him, a desert scene with distant mountains. Nice graphics, he thought. He had just opened his mouth to speak when the deafening scream of jet engines exploded from the back of the room and rocketed inches over his head on the tails of twin fighters, as they hurtled out in front of him toward the horizon.

"If you can't stop this slow bleed and turn the company around in a year, we're going to bring in someone who can."

"No way!" Lars shouted, ripping the headset off and shooting to his feet. "Where the hell did that come from?" The assembled team burst into whooping applause.

"Neat, huh?" said Ray. "It's directional sound – an entire home theater surround sound system built into the headset frame! And only you can hear it. I told you you should see this before the board meeting."

"I knew you were tinkering with this, Ray, but I had no idea," Lars replied. "This could be huge."

"Yeah, but I'll tell you what's really going to clinch the deal." Ray lifted a paperback-sized device from the rack and held it aloft, wires dangling. "This," he said "is the engine – and it makes the iPod sound like your grandmother's AM radio. Shrink this baby down, crank out the compression code, write the directional sound drivers, and nobody's going to be able to touch us. You can put a thousand movies, HD TiVos, music videos, vlogs, games – anything video – in your pocket and watch them anytime, anywhere with earthshaking surround sound–" Ray paused for dramatic effect. "And you can have it by Christmas 2006. All I need is to double my software team."

In fact, Ray wasn't so sure he could pull it off that soon. The project had been plagued by software snafus, and it was just plain lucky the demo had gone as well as it did. But, he reasoned, if he got a green light to hire the celebrity engineers he had in mind, he'd at least have a decent shot.

As Lars considered the pitch, his executive assistant appeared in the doorway, beckoning furiously. "Look, Ray, I can't stay," he said backing out of the lab. "But we'll talk. This is good. This is really good."

And, he thought, it could make or break the company.

Nitin Nohria (nnohria@hbs.edu) is the Richard P. Chapman Professor of Business Administration at Harvard Business School in Boston. He is a coauthor of the October 2004 HBR article "Seven Surprises for New CEOs."

Out to Lunch

Lars stepped from RLK's cool offices into a blast of July air. Squinting into the sun, he walked hurriedly to his waiting limo. Keith Herrington, RLK's chairman, was in town for an emerging-technologies conference and had invited Lars to lunch on short notice. Lars wasn't looking forward to the meeting. The swordfish, he thought, wouldn't be the only thing getting grilled.

As the car headed down Route 128 toward the Pike, Lars ticked off the high-tech start-ups that had made it big on America's Technology Highway. Not long ago, RLK was running with the same pack.

It was a familiar story: Fresh out of MIT in 1985, Ray Kelner had launched RLK Media in a converted muffler repair shop in Waltham, ten miles west of Boston. The lab's radical speaker designs quickly attracted affluent audiophiles, who would pony up $20,000 for a pair of RLK's custom-made towers. In the 1990s, Ray recruited the company's first CEO, who rapidly parlayed RLK's single-minded focus on pricey, handcrafted, highly branded products into a billion-dollar business. After expanding the company's offerings into other high-end consumer electronics – amplifiers, receivers, and audio- and videodisc players – he had left RLK at the top of its game for a better package at a bigger company.

Lars Inman filled the vacancy in 1998, moving east from a Silicon Valley peripherals business. Soon after taking the helm, he had led the acquisition of Opticon LCD Labs, positioning RLK to compete at the high end of the emerging home theater market. But he'd underestimated the ability of the Japanese consumer electronics giants to lure away RLK's core customers with their increasingly high-quality, competitively priced products. Unable to compete in the fast-growing, high-volume home theater business, RLK, Lars knew, had to refocus its energies on its core competence: innovation.

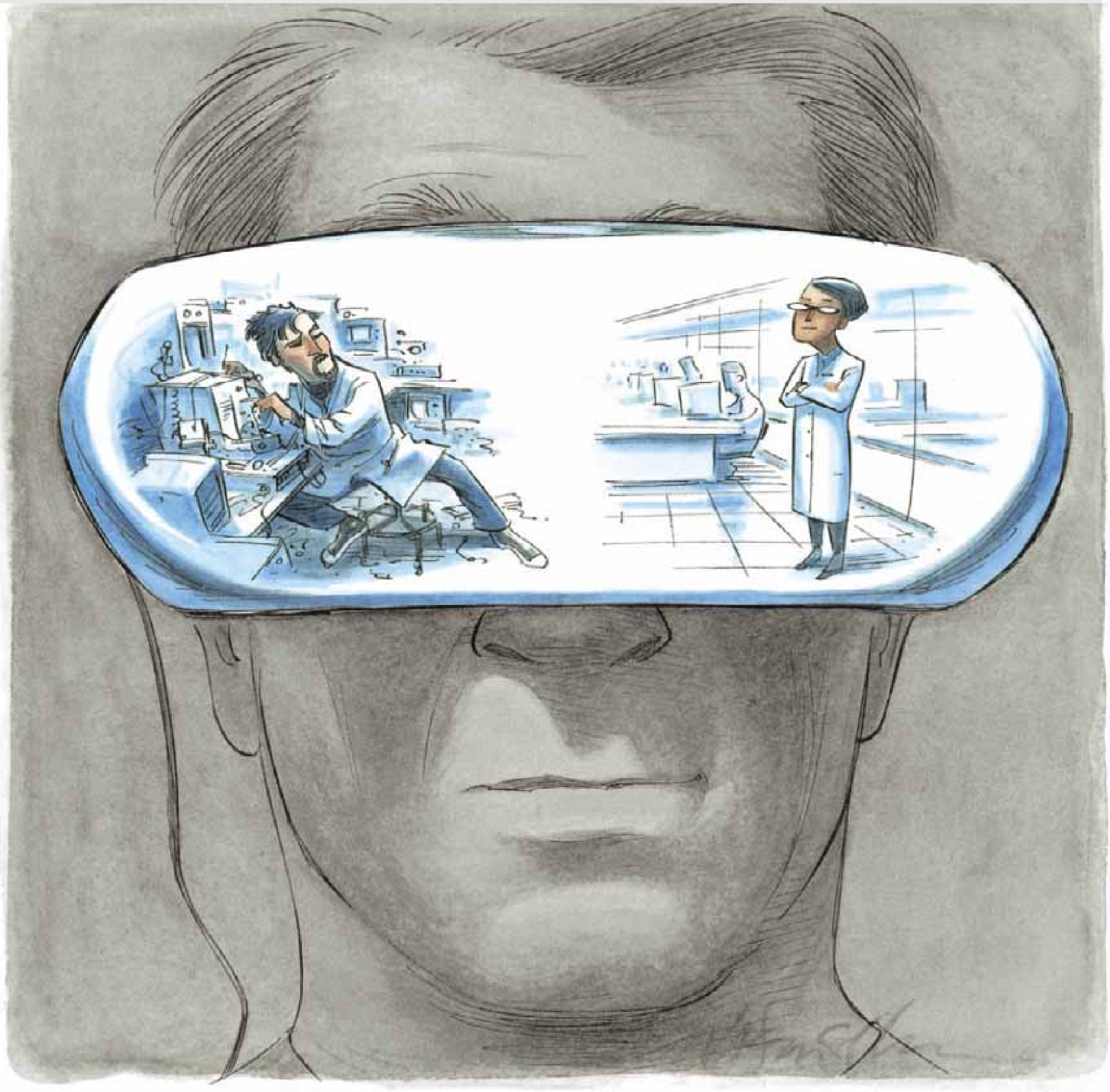
When Lars arrived at Olivier's Bistro, Keith was already seated. The maître d' ushered him to a table by the window overlooking Newbury Street.

"Lars. Good to see you." Keith extended his hand across the table. "Glad you could make it." As a waiter circled with water and menus, the two exchanged pleasantries. Lars was just beginning to relax when the chairman leaned forward and fixed him with a let's-get-down-to-business look. "Lars, I know you've been working like a dog. Do you even go home on weekends?"

"Sometimes," Lars lied.

"Here's the problem. To be frank, it doesn't really matter if you're working hundred-hour weeks. Your margins have evaporated. You're missing your numbers. The problem is not that you guys aren't working – the whole damn place is like a bunch of college kids pulling all-nighters. The problem is people aren't buying the old product – no matter how good it is – and you don't have anything new. Even Sony's doing an end run around you."

"I'm aware of that, Keith," Lars said testily. "But we've still got brand equity.



People still recognize the quality. RLK is synonymous with high-end audio-video design. And they get that we design and build our own products in our own facilities right here in the U.S."

"But they're still not buying. What I want to know, Lars, is what's the plan? Brand equity isn't going to save the brand. What, exactly, are you going to do? Invent the iPod? It's a little late for that, don't you think?"

"Well, we have a very promising product in the pipeline," Lars ventured, unsure of how much he wanted to say about Ray's prototype. "Actually, it's a new direction for us, a new technology, and it's going to completely change the game." Lars figured he might as well go for broke. "I haven't done the arithmetic yet. But we'll need to expand R&D –"

Keith thrust out his hand. "Hold it. You need to what?"

"Ray's been developing this video headset with directional sound," Lars explained.

"Directional sound? What's that?" Keith was clearly annoyed by the trajectory of the conversation. "Let me get this straight. While every damn company around you is downsizing and outsourcing R&D, you want to expand? What you need to do, Lars, is stop tinkering in the lab and do some marketing!

Find out what the customers want and give it to them. I don't want to put too fine a point on it, but if you can't stop this slow bleed and turn the company around in a year, we're going to bring in someone who can."

The waiter glided up to the table and turned attentively toward Lars. "Have you had a chance to decide on your order, sir?"

Lars considered for a second. "I'll have the grilled swordfish," he said. "Well done."

Doing the Numbers

Lars turned the iVid headset over in his hands and glanced at the boxy engine sitting on his desk. It wasn't exactly beautiful – it was ugly, in fact – but he knew what it could become. Over the years, Lars had marveled at how Ray's engineering and design teams could collaborate like bees in a hive to deliver one gorgeously built product after another. It may look chaotic down there, he thought, but the deliverables were always stunning.

There were two quick raps at the door. "Come on in, guys," Lars said. The door swung open, and Ray, in his signature jeans and long-sleeved T, strode in and dropped into a chair. Denise Tan, RLK's CFO, followed him in.

"Thanks for coming up, Denise, Ray. Grab a seat." He gently put the headset down. "I'll get right to the point. We all know we're not the only ones working on iVid technology. Pycosonics, among others, is fairly far along. But we've got unique product development expertise located under one roof, a prototype that's proof of concept, and an audio technology that no one else, as far as we know, is integrating into the product. The question is, How do we put this," he hefted the engine for emphasis, "into a package that'll fit into your shirt pocket and get it in Best Buy before Pycosonics or anyone else?"

"Packaging isn't really the issue," Ray replied. "I've got the best mechanical and electrical engineers and designers in the business. What I don't have is the software firepower I need. When I started this company, you didn't need software engineers to make consumer electronics. Today, you can't get out of the starting gate without them. We haven't kept up. If you want to put an Omnimax theater into a four-ounce headset, we can do that – but I need ten of the best embedded-software engineers on the planet, starting with Gary Bell and Lucy Velman at VerisData."

Lars turned to Denise. "What would a crew like that cost, fully loaded – salary, benefits, hiring bonus, options?"

"Well, if you're talking about Gary Bell –" Denise did a quick calculation, "You're talking a minimum of $250K salary, 30% benefits on top of that, 50 grand signing bonus, probably another $250K in options. First year, for ten of those? Over $6 million."

Lars wrinkled his brow. "Denise – do we have $6 million around here somewhere?"

"If we had to, we could find the money. But we'd have to deliver the product in, I'd say, 12 months – absolutely no more than 18 – and it would have to be an instant hit. If Ray can't deliver, or the product stalls on launch, we're bankrupt." No one spoke. "But what if we outsourced this? That could save us time and money we don't have."

"Whoa there, Denise. Time out!" Ray wheeled around in his chair. "First, we're not talking about writing inventory code here. Nobody's ever written anything like what we need. This *is* rocket science, and we're starting from scratch. You can't farm this out to a bunch of high school grads in Bangalore –"

"Cut it out, Ray," Lars interrupted. "You know better than that. You've been fighting outsourcing tooth and nail for years. But it's not 1995. There are boutique software shops in Gurgaon that have more PhDs per capita than you do downstairs, and they're not writing code for coffeemakers. These guys are doing embedded avionics software. And the price advantage is one to five. Sometimes one to ten."

"OK. Even I buy that. But here's the thing: My designers and engineers don't work in cubicles. They're spread around. They sleep on the floor. They talk to each other. They fight with each other. They keep each others' creative juices flowing. We've got an ecosystem down there. That's the ecosystem that invented the multichannel headset, the auto space-tuning speaker, and the RLK AVRouter. And it's the one that created the iVid prototype that, if we do this right, will put RLK back on the map. If you put my software group in Bangalore – I don't care how good those guys are – *it just won't work.* Trust me. Outsource this, and you can kiss the iVid goodbye."

The Deal in Delhi

Lars peered out the cabin window as the plane descended through the gritty haze over India's sprawling capital. Ray had put up a spirited fight – as he had for years – against the outsourcing option, but the harder Lars looked at the numbers, the less viable RLK's insulated R&D culture seemed. His competitors were outsourcing increasingly more-sophisticated engineering and design work, in some cases quietly handing off virtually every aspect of product development to Asian engineers. On the other hand, RLK's competitors didn't tie their brand to American design, and they didn't have RLK's unique creative culture to contend with.

A driver with a hand-lettered sign was waiting for Lars when he cleared customs. He led Lars through the mid-morning throngs to a cab parked at the curb not far from the airport's main entryway. Lars had been warned about the ride from Delhi to Gurgaon, but as the cab careened south on the NH-8, he clenched the hand rest tighter with each near miss. Gurgaon, an exploding metropolis of glass and steel high-rises, was home to Inova Laboratories, a small R&D-outsourcing firm with a reputation for exacting standards – among other things. Lars had approached Rajat Kumar, the lab's young chief executive, about the iVid project, and the proposal he'd received a few weeks later had convinced him that he needed to visit the labs himself.

"Lars Inman! Welcome to Inova." Rajat clasped Lars's hand in both of his. "It's a pleasure to put a face with the voice on the phone. Your flight went smoothly, I trust?"

"Smooth as could be," Lars said, as he took in the gleaming lobby. "But the drive from the airport–"

I know!" Rajat laughed. "It always gives visitors a fright. Here, come to my office. Let me get you a spritzer, and we can chat. Then I'll take you on a tour."

Unlike some of the sprawling job shops that India was famous for, Inova was small and particular. With a ten-person executive team and 100 elite engineers, it had built a reputation for speed, precision, and specialized knowledge of video and audio compression and displays. The company also had a reputation, Lars reminded himself, for being headstrong, as evidenced most recently by its breakup with consumer electronics giant Pycosonics. Inova had delivered the client's gaming headset software, as required by contract, but pulled out of negotiations for future work, citing – at least as the trade press reported it – creative differences. Inova may be fickle, Lars thought, but when it severed ties with Pycosonics, it kept a lot of intellectual property. Even with noncompete terms in effect, IP leakage from the Pycosonics work to the iVid project would be inevitable. That made Inova the obvious shop for the job.

Rajat ushered Lars through a smoked-glass door and into the spacious main lab. Under bright fluorescent lights, rows of cubicles stretched the length of the room. Flat-panel monitors glowed in each pod, and the soft buzz of clicking keys drifted upward. Somehow, Lars thought, it seemed more like a library than a lab.

"This is where it all happens," Rajat said, with a sweeping gesture. "But let me introduce you to Vinita Nair, our chief scientist. She's the woman that makes the trains run on time." Rajat steered Lars down a corridor between the pods to an open area of workstations at the far end, where four engineers were gathered around a monitor. "Vinita," Rajat tapped the nearest on the shoulder. "Lars Inman's here. From RLK."

"Just a moment," Vinita responded, holding an index finger aloft as she studied the monitor. She tapped the screen. "There's your problem. You didn't decode the iframe when you inserted the clip." She straightened and turned toward Lars and Rajat. "Mr. Inman," she said, shaking Lars's hand. "I'm a great fan of your RLK 20s. I have a pair in my home. They still sound superb. The technology has aged well indeed."

Rather a backhanded compliment, Lars thought, as they headed for the elevator. The tour circled through Inova's three floors of software development, testing labs, and offices. At each stop, as Vinita explained the functions of her teams, Lars was struck by the pervasive order. Even in the systems integration labs, where hardware and racks of test equipment crowded the benches, each item had its place.

"There are boutique software shops in Gurgaon that have more PhDs per capita than you do downstairs, and they're not writing code for coffeemakers."

Back in Rajat's office, Lars pulled Inova's dog-eared proposal from his briefcase and clasped his hands on the table in front of him. "You have a disciplined group here, Rajat," Lars said.

"And a creative one, I hope you would agree."

"Yes, creative and, to be blunt, rather famous for its autonomy."

"You are referring to the dustup with Pycosonics. That was unfortunate, but they didn't seem to grasp where our business began and theirs ended."

"Let me explain," said Vinita. "My engineers are the best in the world. Twenty of the 100 you saw have doctorates. We have one of the lowest turnover rates in the business and a global reputation for innovation. We don't just write code, Mr. Inman. We invent it. We're disciplined, process oriented, fast, and, yes, independent. We're an R&D lab, not a job shop."

"But you *do* do contract work."

"Yes," Rajat jumped in. "And if we join with you to develop the iVid technology, we will exceed your expectations. We will give your engineers ideas they might never have thought of. It's a give-and-take process. We will teleconference with your team as often as necessary to get the job done and work hand in hand with your mechanical- and electrical-engineering people to create a perfectly integrated system.

"But we are equal partners in the product development process, and, as such, as you saw in our proposal, we're willing to put our money where our mouth is. We are so confident we can deliver, we charge much less than our competitors do but take a 5% royalty on the products we develop with you. Contract with us, and in two weeks you'll have a fully staffed software-engineering function working 24/7 on your iVid. And if your team can keep up with us, you'll be volume manufacturing in under 12 months. Pycosonics won't know what hit it."

• • •

Stirring his drink as the plane cruised west over the Atlantic, Lars ran the numbers again in his head. He could procure the software skills he needed from Inova for one-fifth what they'd cost in the States. But there were transaction costs and royalties to consider.

If he hoped to beat Pycosonics to market, outsourcing to Inova, rather than bringing people in, seemed to be his best bet – if the two teams could get along. If the marriage failed, not only would he lose the race to market, he could irrevocably damage the R&D culture that had been RLK Media's soul from the start.

Should Lars outsource R&D? • Five commentators offer expert advice.

Larry Huston (huston.la@pg.com) is the vice president for innovation and knowledge at Procter & Gamble in Cincinnati.

RLK's CEO, Lars Inman, sees innovation as the salvation of his company. Its chairman, Keith Herrington, sees the solution in divining customers' needs. They're both right. Instead of asking, "Should we outsource to get the iVid to market ahead of competitors?" Lars needs to go back to basics and ask, "What do our consumers want, and what are our strengths and assets?"

Ultimately, Lars's strategy must connect what's needed with what's possible. Certainly RLK should exploit its brand equity as an innovator and the innovation capabilities it does have. But Lars needs to abandon the notion that what's possible is narrowly defined by what chief scientist Ray Kelner – with or without outsourcing – can deliver.

Lars has to open up RLK's innovation process and invite the world in. He must aggressively solicit ideas wherever they are. RLK's future offerings may already exist as prototypes or ready-to-launch products in an inventor's garage, they may be sitting on a VC's desk in Silicon Valley or on a lab bench in an engineering school in India, or they may be with an ex-employee or even a competitor.

Reaching out this way may seem like a tall order for a company like RLK, but consider how it's worked at Procter & Gamble. In 2000, CEO A.G. Lafley set the goal of bringing in 50% of P&G's innovations from external sources – what we call our "connect and develop" strategy (to complement "research and develop"). P&G employs 7,500 people in R&D. Through connect and develop, we've added the equivalent of thousands of innovators to the function, largely through networks. We were a pioneer user of InnoCentive, an online network of 75,000 chemists. We helped launch YourEncore, a network of high-performing retirees from 150 companies, as well as NineSigma, which helps companies source innovation globally. And we built our own internal network of 50 technology entrepreneurs who seek out opportunities for us around the world. Today, we estimate that 35% of our innovations come from outside sources. As a result of this and other efforts, our R&D productivity – sales per R&D person – is up 40%.

RLK is obviously very different from P&G. But there is no reason that this same strategy can't scale to meet RLK's needs. Connect and develop requires a change in corporate mindset, focused and visible leadership, and disciplined execution. Lars needs to lead a massive culture change at RLK and create an environment where external ideas are invited to compete with, or supplement, internal ones. To do this, he has to change the metrics by which performance is measured, rewarding people not for the innovativeness of the ideas they find or develop but for the success of those ideas in the marketplace. Gee-whiz technology ideas are a dime a dozen. Proven concepts, successfully commercialized, are not.

Lars needs to lead a massive culture change at RLK and create an environment where external ideas are invited to compete with internal ones.

The biggest potential obstacle to this essential change may be Ray, who has long resisted outside involvement in his R&D operation. He's not going to take well to a flood of external ideas competing with his own. Probably Lars's best bet is to appeal to Ray's devotion to the company and try to convince him that RLK's survival depends on radical change. If Ray can get behind the new strategy, he should be pulled out of the day-to-day operations of the R&D labs and put into an executive role to help implement it. If Ray can't fully embrace the new strategy, he should be moved into a role that takes him out of the management ranks but still taps his considerable expertise. Ray won't be happy about the reassignment, but Lars should do what he can to keep Ray's skills in the company.

WENDY WRAY

By outsourcing, RLK will engage in collaborative learning, never a smooth process but one that has a huge potential upside – productive friction.

John Seely Brown

John Hagel III

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Lars risks falling into the trap that many Western executives encounter when they evaluate offshore outsourcing options. Too often, they think narrowly of outsourcing as a way to achieve near term operating results like cost savings. Instead, they should evaluate this option from a strategic perspective: Lars should ask whether outsourcing will help RLK accelerate the building of its own distinctive capability. And he should determine whether *both* parties will end up developing deeper capabilities, if the relationship ends after this project, than they would have had they chosen other partners or not collaborated at all. The promise of great mutual benefit creates incentives for both parties to remain in the relationship and, at a minimum, reduces exit costs.

So Lars needs to decide where RLK's distinctive edge will be in the future and structure any outsourcing relationship with that in mind. To regain leadership in product innovation, one option would be to focus on product design and seek world-class capabilities in software engineering outside. Another would be to develop a distinctive capability in software design, in which case Lars ultimately will want to bring the software-engineering talent in. In either case, there are good reasons to outsource to a software firm like Inova for the iVid project.

An outsourcing relationship will give RLK insight into the specific software capabilities it will need, one way or another, down the road. And by outsourcing, RLK will engage in collaborative learning, never a smooth process but one that has a huge potential upside – productive friction. It takes careful management to turn the potentially destructive friction of learning into a force that drives innovation. Well-managed teams that work together with high levels of productive friction, we've found, share several attributes: a clear, common goal; aggressive performance targets; "action points" – junctures where actions must be taken and disagreements resolved; a prototype or other device as a common basis for communication and problem solving; relevant and equivalent skill sets; and mutual respect among members.

Many of the ingredients for productive friction appear to be in place in an RLK-Inova partnership. The iVid prototype can help the teams communicate in engineering and design negotiations. There is a clear goal and implied action points in the aggressive deadline for product launch. The two teams have complementary skills and an equivalent level of skill – although Lars will want to do more due diligence regarding Inova's capabilities, since he'll need to be very compelling in selling them to his own R&D team. What's uncertain is whether such dissimilar teams can muster the mutual respect that productive friction requires. It's encouraging that Inova describes the relationship as a give-and-take process. But unless the RLK team adopts the same approach, friction is all they'll get.

Although both teams' skill sets are world class, the skills themselves are different. So are their work styles and national cultures. And they're separated by enormous geographic distance. Technology can help bridge the miles, but it will be little help in bridging the rest. Lars will have to ensure that the two teams spend time up front building common ground and establishing trust. Even though the schedule is aggressive, going slow at the outset will enable the teams to go much faster in the months ahead.

Given the stakes and the challenges of bringing two proud groups together across great distance, Lars and key members of his R&D team had better plan on spending many hours on planes to India and white-knuckling the drive to Gurgaon (having been on similar drives in India, we'd recommend they review their auto insurance policies), especially in the early stages of the project. Lars simply cannot afford to hand this one off.

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Lars has repeatedly failed to understand his business and, crucially, its culture.

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Ray Kelner leads a "hot group," an assemblage of smart, creative, impassioned individuals totally dedicated to – even in love with – their task. As Hal Leavitt and I found, hot groups willingly work 24/7, with an intensity that ordinary teams or working groups rarely reach. Hot groups are turned on by cutting-edge problems and seemingly impossible challenges, and they believe that achieving their goal will change the world. But, as Lars seems about to discover, hot groups are fragile and require exceedingly careful management.

Lars's disastrous venture into the home theater market persuaded him to return to the company's core competency: innovation. Clearly, he needs his hot group now more than ever. Yet, he is all thumbs when it comes to the process and culture of hot groups. Facing the threat of his own ouster, Lars is on the verge of assuring it by stifling the hot group's creativity or, possibly, provoking the members' en masse departure to create their own start-up, with Ray as their leader.

Several issues are entangled here. First, Lars myopically sees Inova as a cheap and speedy solution. He does not foresee the longer term risks. Introducing new members into an established hot group takes a delicate touch. That's better left to the hot group members, who usually can identify appropriate and compatible individuals. (Indeed, Ray has already identified two outstanding and presumably well-matched U.S. software engineers, and he could probably quickly recruit others.) If Lars outsources software engineering to Inova, he will abruptly introduce unknown – and not obviously compatible – personalities into the hot group and force its members into a distasteful joint custody arrangement for "their baby." The built-in difficulties of such forced handoffs could easily destroy the hot group's morale and its enthusiasm for this – and future – projects.

Second, Inova's and RLK's organizational cultures are radically different: one tightly disciplined, the other freewheeling. The larger Indian/American cultural disparity, not to mention time zone differences and distance, will further complicate RLK's task. The lack of face-to-face interaction may dampen the brainstorming and debate that pump the life juices through hot groups. Clearly, successful virtual hot groups do exist, and there are ways to integrate the participants from different locales; however, when time is critical, experimenting with new relationships takes its toll.

Another cultural issue looms, one that relates to RLK's branding. Ray founded RLK Media with "a radical speaker design" well received by a market that appreciated "handcrafted, highly branded products." So, much of RLK's brand equity stems from consumers' expectations of high-level products, designed and produced in the United States. That expectation is also central to RLK's culture – to which RLK's outstanding creative engineers and designers are deeply committed. Outsourcing to Inova would violate this valued cultural and branding expectation, further destabilizing the hot group, sowing anxiety about job security throughout the firm, and depriving customers of an important basis for differentiating RLK's products.

Finally, outsourcing poses a threat to RLK's intellectual property. Contractual arrangements rarely completely protect IP, as Inova's questionable interaction with Pycosonics demonstrated. Lars's presumption that important Pycosonics IP remained with Inova after the breakup raises the possibility that RLK could suffer a similar loss if the relationship with Inova went sour.

Lars is in a bet-the-company situation and has only one chance to get it right. Even if he unexpectedly makes the smart decision to keep his hot group intact, he has repeatedly failed to understand his business and, crucially, its culture. It's pretty clear, whatever happens, Lars needs to spend more time with his "family."


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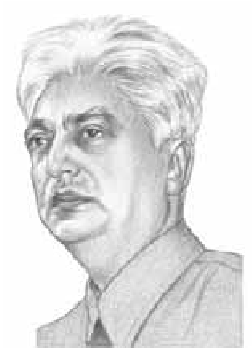


***Azim Premji** is the chairman and managing director of Wipro, an IT services, product design, and business services and consulting firm based in Bangalore, India.*

Lars has gotten himself into a tough situation. It seems that his company's survival depends on the success of a single product that it doesn't have the expertise to develop. He's right that RLK needs to recruit that expertise – and fast – but he's making a mistake in thinking that the only solution is to either outsource the whole of software development or bring the entire function in-house. Neither choice is optimal.

Outsourcing software development can be highly effective. But it's very risky to outsource for the first time when your company's survival hangs in the balance. Inova's capability and talent aren't at issue here: It's done cutting-edge work for RLK's main rival, Pycosonics. What is at issue is whether RLK, with no prior outsourcing experience, can make the relationship work. Not only is the chief scientist hostile to such collaboration, the R&D team lacks the process-oriented mind-set that's necessary for smooth collaboration. How, exactly, would the processes, governance, and escalation of the collaboration work?

That said, it would also be risky to give Ray carte blanche to hire his own staff of software engineers. Ray's cloistered approach to innovation may have worked in the 1980s and 1990s, but the world has changed. No company can afford to wall off its R&D from the creative thinking of innovators dispersed across the globe. If Ray brings in a software team and slams the door shut behind it, he will have some new capability, but it will be absorbed into a closed R&D culture that is becoming increasingly outmoded. RLK might see a short-term gain, but this is a dicey long-term strategy.

So, how to make a collaboration work and minimize risk? Lars first needs to get Ray on his side. Ray obviously cares about his company and team, but he seems to be unaware that his closed and unstructured research approach is putting RLK in jeopardy. Lars needs to show Ray what's at stake, bring him into the strategy loop, and offer him a collaborative R&D model that he can accept.

Unfortunately, Lars didn't invite Ray to accompany him on his initial visit to Gurgaon. He should have. The sooner Lars introduces Ray to the reality of collaboration, the better. Lars should give Ray the green light to hire two or three elite software engineers to strengthen RLK's long-term in-house capabilities and aid in future collaborations; at the same time, Lars should transfer a few of his R&D leaders to Gurgaon for the intensive 12-month iVid development process, both to monitor Inova and to facilitate communication. While Ray may balk at first, he should also appreciate that this model expands his team and puts insiders at the heart of the outsourced portion of the project.

For all its innovativeness, Ray's R&D group could probably benefit from some discipline, both creatively and operationally. Collaboration, particularly across time zones and cultures, requires crystal clear communication. The very act of fleshing out ideas so that both teams understand them forces precise thinking. And multilocation development requires disciplined processes and documentation that make the process efficient.

Lars is making a mistake in thinking that the only solution is to either outsource the whole of software development or bring the entire function in-house.

Lars is smart to contract with Inova because its reputation and track record with Pycosonics show that it can meet RLK's challenge. However, it's clear Inova understands the value of the intellectual property it creates and is not averse to walking away from an unsatisfactory partnership. Lars should make sure that any contract with Inova aggressively protects his company's IP.

Reprint R0507A
To order, see page 195.

What does it mean to be a high-performance company? Twenty-three years after *In Search of Excellence,* we're still searching – and, just maybe, getting closer to answers.

Toward a Theory of High Performance

by Julia Kirby

MICHAEL SCHELL KNOWS a thing or two about measuring high performance. A baseball statistician par excellence, he's put together a convincing argument for declaring the "all-time best sluggers" in the history of the game. To people outside baseball, it might seem curious that the task would be a hard one, much less that Schell's argument would require 400-plus pages to defend (his book was published by Princeton University Press earlier this year). What could be so complicated about counting hits? But Schell knows different. What he's claiming to have accomplished is so ambitious – the variables so legion, the data so asterisk laden – that he calls it the holy grail of baseball statistics. Plenty of people with other methods will try to show he's wrong.

And so it goes, too, with declaring the greatest players in business. Except that it's even harder. Consider, first, that we business spectators don't even have the benefit of an agreed-upon scoreboard. Are the winners the ones with the highest market caps, the ones with the greatest sales growth, or simply the ones that remain standing at the end of the game? (And when's the end of the game?) Then, too, there's the impossibility of holding anything constant in terms of context. Are you better if you boomed in bust years or if you *really* boomed in boom years? Hardest of all is the follow-on task most business stat masters set for themselves: discovering not only who's the greatest but why.

The challenge of measuring companies' relative performance across industries and eras, declaring the top performers, and finding the common drivers of their success is so daunting that it might seem a fool's errand to attempt. In fact, no one did for the first thousand or so years of business history.

WHITNEY SHERMAN

A scan of *Harvard Business Review*'s contents over 83 years suggests that the quest didn't even occur to anyone until around 1980, when Tom Peters and Bob Waterman got down to work researching and writing *In Search of Excellence.* That probably explains why the book became such a publishing sensation. As management consultants, Peters and Waterman sat at the intersection of scholarship and practice, and their work cast down a gauntlet in each direction: They challenged managers by claiming that varying managerial actions and attitudes could account for the difference between winners and losers. At the same time, they challenged researchers by claiming that the problem of isolating the drivers of high performance was tractable. Did they get the answers right? Probably not. Famously, a number of their "excellent" companies have ceased to be so, which may or may not mean those businesses had the right stuff at the time. In the end, the impact of *In Search of Excellence* is less that it solved a problem than that it put the problem on the table.

To be sure, many management researchers continue to believe it's a quixotic quest, but several first-rate scholars have been unable to resist pursuing it. (See the chart "Doctors Differ: Ten Research Teams Discover the Keys to High Performance.") And that seems to be a good thing, because with each new effort, methodological issues are reconsidered, new data become available, and the findings become more defensible and robust. To understand the progress we've made toward a theory of high performance, it's useful to review the research design questions that have had to be addressed in each outing.

***Julia Kirby** (jkirby@hbsp.harvard.edu) is a senior editor at HBR.*

What's the Unit of Analysis?

The difficulties of studying high performance begin with determining where it chiefly resides. Is it in the individual, the team, the business unit, or the corporation? Plenty of theorists have focused on the individual level, churning out the managerial equivalents of self-help books for Welch wannabes and the time-management challenged. Jim Loehr and Tony Schwartz, with their Corporate Athlete Training System, make perhaps the most explicit promise of high performance, but all offer keys to getting to the top of your personal game. At the team level, likewise, there are analysts like J. Richard Hackman of Harvard University and Susan Lucia Annunzio of the Hudson Highland Center for High Performance (and in this issue of the magazine, Gallup's John Fleming, Curt Coffman, and James Harter) who study high-performing work groups and the conditions that give rise to them. For many, the business unit is the right thing to focus on, as the Strategic Planning Institute's famous PIMS (Profit Impact of Market Strategy) studies have. One reason to pick a business unit (or a business, for that matter) is that it has a bottom line – a generally agreed-upon measure of results that acts as a kind of weighting mechanism for the myriad factors that constitute performance. Perhaps for this reason, CEOs themselves are especially prone to focusing on this level, some by promoting internal rivalry among units as to who adds the most value to the business. Of course, at each level – individual, team, profit center – the variables multiply, and the problem of parsing high performance becomes more complex.

text continued on page 36

Doctors Differ:
Ten Research Teams Discover the Keys to High Performance

They say…	**Thomas J. Peters and Robert H. Waterman, Jr.,** in *In Search of Excellence: Lessons from America's Best-Run Companies* (Harper & Row, 1982)	**John P. Kotter and James L. Heskett** in *Corporate Culture and Performance* (Free Press, 1992)	**James C. Collins and Jerry I. Porras** in *Built to Last: Successful Habits of Visionary Companies* (HarperBusiness, 1994)
You should emulate…	43 companies, including 3M, Atari, Boeing, Data General, DEC, Delta Air Lines, Hewlett-Packard, IBM, Lanier, McDonald's, NCR, United Technologies, and Wang	American Express Travel Related Services, Bankers Trust, British Airways, ConAgra, First Chicago, General Electric, ICI, Nissan, SAS, and Xerox	3M, American Express, Boeing, Citicorp, Ford, General Electric, Hewlett-Packard, IBM, Johnson & Johnson, Marriott, Merck, Motorola, Nordstrom, Philip Morris, Procter & Gamble, Sony, Wal-Mart, and Walt Disney
Because these organizations…	Consistently beat their competitors over a 20-year period according to six financial yardsticks: > compound asset growth > compound equity growth > ratio of market value to book value > return on capital > return on equity > return on sales	Were top performers across an 11-year span (in a field of 207 blue chip companies in 22 industries) in terms of annual growth in net income, average returns on invested capital, and appreciation in stock prices	Rose to iconic stature and maintained their stellar performance for five, ten, or 15 decades. (To discern which firms had achieved this stature, the authors surveyed "a carefully selected sample of CEOs from large and small companies.")
By doing the following…	> Having a bias for action > Staying close to the customer > Fostering autonomy and entrepreneurship > Gaining productivity through people > Having hands-on, value-driven management > Sticking to the knitting > Having a simple form and lean staff > Having simultaneous loose-tight properties (autonomy in shop floor activities plus centralized values)	> Establishing cultures that emphasize attention to all constituencies (customers, stockholders, and employees) > Demanding leadership from managers at all levels	> Becoming clock builders, not time tellers > Choosing A and B rather than A or B > Preserving the core and stimulating progress > Seeking consistent alignment

Arun Kumar Jain in *Corporate Excellence* (Excel Books, 1998)	**Jon R. Katzenbach** in *Peak Performance: Aligning the Hearts and Minds of Your Employees* (Harvard Business School Press, 2000)	**Richard Foster and Sarah Kaplan** in *Creative Destruction: Why Companies That Are Built to Last Underperform the Market–and How to Successfully Transform Them* (Currency, 2001)	**Karl E. Weick and Kathleen M. Sutcliffe** in *Managing the Unexpected: Assuring High Performance in an Age of Complexity* (Jossey-Bass, 2001)
20 Indian companies, including Infosys Technologies, Larsen & Toubro, Nirma, Ranbaxy, Sundaram Fasteners, and Wipro Technologies	25 enterprises, including Avon Products, BMC Software, Hambrecht & Quist, Hill's Pet Nutrition, Home Depot, KFC, Marriott International, NASA, Southwest Airlines, and the U.S. Marine Corps	Corning, Enron, General Electric, Johnson & Johnson, Kleiner Perkins Caufield & Byers, Kohlberg Kravis Roberts, and L'Oréal	Power grid–dispatching centers, air traffic control systems, ER units in hospitals, firefighting units, nuclear aircraft carriers, nuclear power plants, and hostage-negotiating teams
> Experienced average growth rates of 20% per annum over four years on sales and profits, and doubled their market capitalization value over the same period > Allowed researchers to carry out field studies and develop case studies > Were selected by an independent, three-member panel of experts from among the 56 companies found to meet the above criteria	Are usual suspects, or recommendations by colleagues, that have proven their financial or market superiority over several years	Did the virtually impossible: sustained market-beating performance for more than 15 years	Are designed to perform reliably and efficiently under extreme stress and pressure; they succeed in dealing with the unexpected
Emphasizing: > collective decision making > communication of core values and purpose > a guiding vision and stretch goals > development of new competencies > entrepreneurship and innovation > constant learning from the balancing of all these factors > employee empowerment and sense of ownership > courage and "fire in the belly" > global benchmarks of excellence	Consistently pursuing one or more of five distinct paths: > mission, values, and pride > process and metrics > entrepreneurial spirit > individual achievement > recognition and celebration	Transforming rather than incrementally improving their companies through: > creating new businesses > selling or closing slow-growth businesses or divisions > abandoning outdated structures and rules > adopting new decision-making processes, control systems, and mental models	Creating a collective state of mindfulness

continued on next page

Doctors Differ: *continued*

Ten Research Teams Discover the Keys to High Performance

They say…	**Chris Zook with James Allen** in *Profit From the Core: Growth Strategy in an Era of Turbulence* (Harvard Business School Press, 2001)	**William Joyce, Nitin Nohria, and Bruce Roberson** in *What Really Works: The 4+2 Formula for Sustained Business Success* (HarperBusiness, 2003)	**R. Timothy S. Breene and Paul F. Nunes** in Accenture-published materials
You should emulate…	Anheuser-Busch, Biogen, Coca-Cola, Dell, EMC, Hilti International, Intel, Microsoft, and Nokia, among others	160 companies across 40 different industries, including Dollar General, Flowers Industries, Home Depot, Nucor, Schering-Plough, Target, and Wal-Mart	50 companies, including BMW, Dell, Dow Chemical, Johnson Controls, Kone, Microsoft, Procter & Gamble, Royal Bank of Scotland, Samsung, Tata Steel, and Zara
Because these organizations…	Experienced *sustained growth,* meaning growth in both revenues and profits over an extended period of time, while generating total shareholder returns in excess of the cost of capital	Were the top performers in their "quads" over a ten-year period. That is, the researchers created sets of four competitors within an industry. In each, there was a "winner" that outperformed rivals, a "loser" that underperformed, a "climber" that improved over time, and a "tumbler" that deteriorated over time. Assessments were based on total shareholder returns over the research period.	Beat competitors in terms of profitability, growth, longevity and consistency of outperformance, and positioning for the future – each of which was measured by prevailing industry-standard metrics
By doing the following…	Building unique strength in a core business and mining that core for its full growth potential, mostly by expanding into logical adjacencies	Using a 4+2 formula, involving simultaneous superior performance in four primary areas (strategy, execution, culture, and structure) and in any two of four secondary areas (talent, leadership, innovation, and mergers and partnerships)	Balancing, aligning, and renewing three key building blocks: > market focus and position, resulting in better decisions > distinctive capabilities, resulting in better practices > high-performance anatomy, resulting in better mind-sets

And this culminates at the highly complicated level of the corporation; the efforts spotlighted in the "Doctors Differ" chart are all aimed at this level.

Who Gets Called a Winner?

The essence of the scientific method to which all these broad-based studies aspire is finding the fittest entities across the business landscape and subjecting them to close analysis. But figuring out who stands tallest is far from straightforward; it depends upon which yardstick you use. For the most part, there is agreement that success shows up in cash and that cash comes to businesses in various forms. So, for instance, professors John Kotter and James Heskett, looking for the links between strength of organizational culture and economic success, define that success in terms of annual growth in net income, average returns on invested capital, and appreciation in stock prices. Chris Zook, a consultant, goes in for a similar mix, including companies that have grown both revenues and profits and produced total shareholder returns in excess of the cost of capital. In both cases, importantly, they apply their screens more rigorously than Peters and Waterman, who, despite naming six different financial metrics, seem to have applied those measures unevenly–even conveniently. Almost 20 years after *In Search of Excellence,* Peters wrote in *Fast Company,* "For what it's worth, okay, I confess: We faked the data." According to his account, the book's earliest readers asked about research methodology. "The big question was, How did you end up viewing these companies as 'excellent' companies?" His answer reads like something out of the *Journal of Irreproducible Results:*

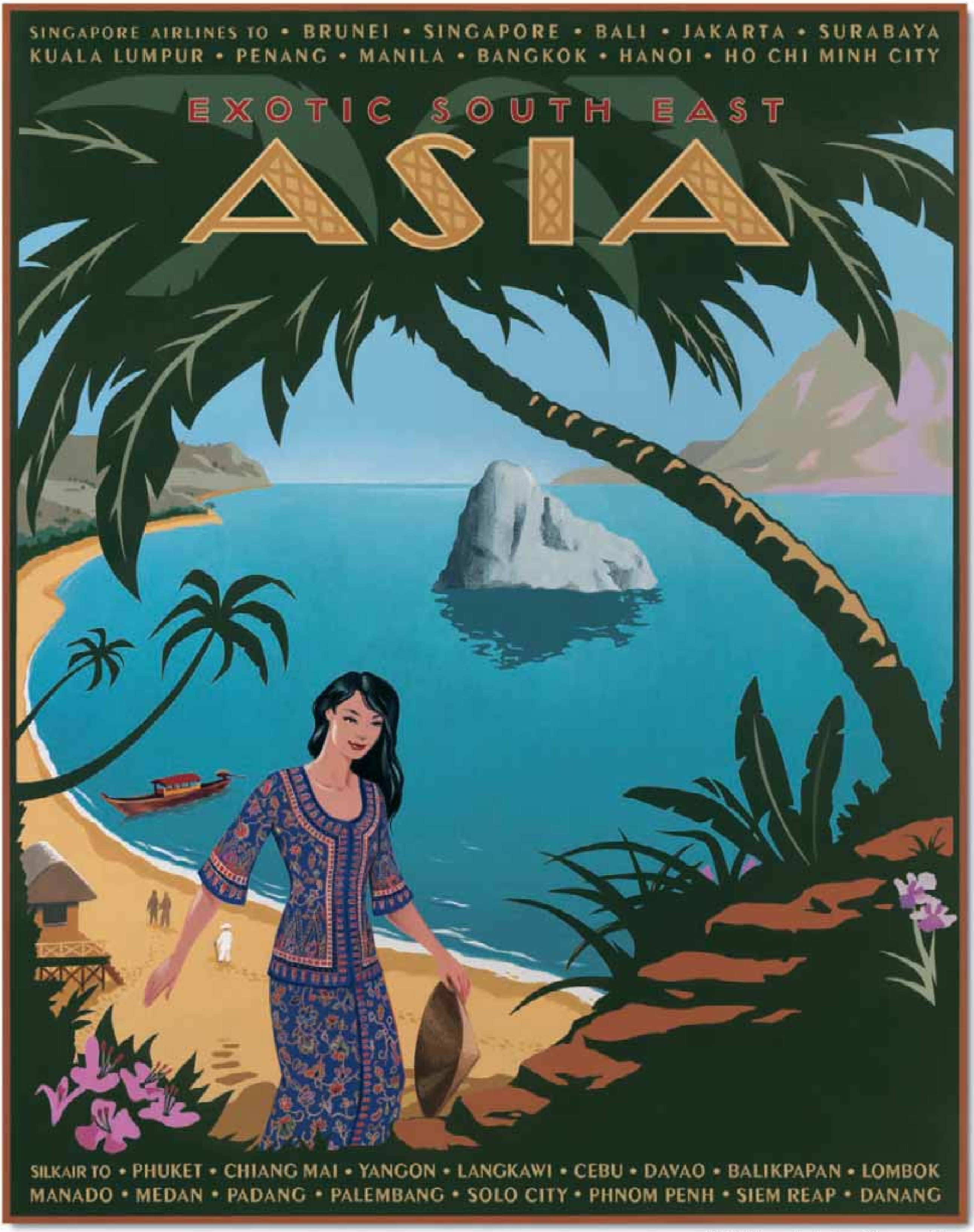
> How did we come up with them? We went around to McKinsey's partners and to a bunch of other smart people who were deeply involved and seriously engaged in the world of business and asked, Who's cool? Who's doing cool work? Where is there great stuff going on? And which companies genuinely get it? That very direct approach generated a list of 62 companies, which led to interviews with the people at those companies. Then, because McKinsey is McKinsey, we felt that we had to come up with some quantitative measures of performance. Those measures dropped the list from 62 to 43 companies. General Electric, for example, was on the list of 62 companies but didn't make the cut to 43–which shows you how "stupid" raw insight is and how "smart" tough-minded metrics can be.
>
> Were there companies that, in retrospect, didn't belong on the list of 43? I only have one word to say: Atari.

It's hard to defend a research population that emerges from a coolness screen, but some researchers since have shared the same basic sense that the selection criteria can't be purely financial. Just as the full measure of a man can't be taken by his accountant, they believe there's more to a great company than money. Although researcher Jim Collins relied on cumulative investor returns relative to the general stock market to draw the winner's circle in *Good to Great*, he and Jerry Porras used a different method in their earlier work together on *Built to Last*. In that study, they looked at "companies [that] had risen to iconic stature and held it for five, ten, or 15 decades." To discern which firms had achieved this stature, they surveyed "a carefully selected sample of CEOs from large and small companies." If this sounds suspiciously like Peters and Waterman's method, give Collins and Porras more credit. They were asking about "premier institutions – the crown jewels – in their industries, widely admired by their peers and having a long track record of making a significant impact on the world around them." It's fair to assume their CEO focus group didn't ignore financial results in their nominations. The authors hoped to bypass tortured equations and incomplete data sources by tapping into the internalized, balanced scoring system that a seasoned corporate leader carries in his or her head. (The same argument underlies the compilation of *Fortune*'s annual Most Admired list.)

Figuring out who stands tallest is far from straightforward; it depends upon which yardstick you use.

But Collins and Porras's real breakthrough was the idea of analyzing matched pairs of companies. In every case, they put their iconic company up against an also-ran that, at some point, held equal stature in the same industry. They studied how the two diverged from that point on and then looked for patterns across all the winners. It's a decent way to deal with the problem that nothing can be held constant in the real world, and it corrects for the unequal returns enjoyed by emerging and mature industries. It provides a straightforward answer to the follow-on question about any company declared to be high achieving: Compared to what?

Accenture's Paul Nunes, who is currently embroiled in that firm's broad-based study of high-performance factors, says this may be the most important question in the research design. "Context is everything," he says. "You can call anyone a winner depending on how you draw the set around them." Bill Joyce, Nitin Nohria, and Bruce Roberson's way of drawing that set may be the most useful yet. In their research for *What Really Works,* they composed "quads," or groups of four competitors within an industry. They looked at the companies' total shareholder returns relative to their peers' over a ten-year period and named within each group a "winner" that consistently outperformed its rivals during the study period; a "loser" that consistently underperformed; a "climber" that improved its performance; and a "tumbler" that started off well but deteriorated over time. Which brings up the last point about the difficulty of declaring winners: They must win over some well-defined time horizon. As Nunes puts it: "Is the best athlete the one with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the best career, the best season, or the onetime performance that set the world record?" Professor Arun Kumar Jain, in the research that led to his book *Corporate Excellence,* looked at a four-year period (while freely admitting that some of his highfliers went into nosedives later). Contrast that approach with the emphasis Collins and Porras put on companies that endure for five, ten, or 15 decades. If there is a consensus forming on the right time frame to study, it seems to be around a decade. A ten-year standard would require a company to perform well over the tenure of two CEOs, on average, in North America. But Accenture applies its screen–which analyzes cumulative average growth rates – over four different time frames just to make sure that great companies in newer and cyclical industries aren't dismissed.

What Constitutes a Pattern?

Take another look at the chart provided, at the final row, in which each research team's keys to success are summarized. Consultant Jon Katzenbach writes of the importance of five paths: mission, values, and pride; process and metrics; entrepreneurial spirit; individual achievement; and recognition and celebration. Researchers Richard Foster and Sarah Kaplan tell us to transform our companies periodically rather than rely on steady, incremental improvement. Professors Karl Weick and Kathleen Sutcliffe tell managers they must inculcate a collective state of mindfulness in their companies. If all this seems vague – in some cases even banal–then that speaks to the challenge of finding the common ground shared by diverse practices across diverse industries. If the most successful retailers are creating loyalty programs, and the most successful product manufacturers are bringing buyers into the innovation process, then it may be reasonable to put a wrapper like "close to the customer" around these and other companies' practices–and it may be impossible to put any finer point on it.

But what if all or some of the losers on the retail scene are also building loyalty programs? What if every manufacturer has jumped on the cocreation bandwagon? It's an important question of research design whether to include or omit factors that are common to winners but not points of differentiation from losers. Collins and Porras, for example, found charismatic, effective leaders at the helms of their enduring companies – but also at the helms of many businesses that went by the wayside. Because the authors were out to find the distinguishing variables between winners and losers, great leadership didn't make the list. (Still, as with all such "hygiene factors," it seems unlikely a company could go far without it.)

An even bigger problem is getting past correlations in the data to be able to argue causality. If a researcher finds that highly successful companies tend to have formal knowledge management initiatives, for example, does that mean that explicit management of knowledge is a key to success? Or does it mean that knowledge management is the kind of organizational boondoggle that only a company flush with cash indulges in? Making the argument for causality in one direction or the other requires not only a sufficient data set but also a rational model for how the observed phenomena relate to known outcomes.

Kotter and Heskett struggled with this problem explicitly in their work to understand the impact of organizational culture. In acknowledging the questions raised about causality, they cite the perspective that "strong cultures cause strong performance, yet the reverse is known to occur, too – strong performance can help to create strong cultures. Could the latter explain most or all of any relationship found between culture strength and performance?" Likewise, Joyce, Nohria, and Roberson took special pains to get beyond correlation. By comparing not just winners and losers but also climbers and tumblers, both of whose performance changes over time, they developed a more nuanced sense of what was making the difference in outcomes.

Are the Answers Universal?

If the first requirement of a theory of high performance is that it have explanatory power–in other words, the patterns of practice identified truly do account for the superior outcomes–then the second requirement is that it have predictive and even prescriptive power. This move from explanation to advice is what's known in academic circles as the shift from descriptive to normative theory. And this is where Harvard Business School's Clay Christensen says that efforts to identify the best practices of successful companies have tended to fall on their faces.

In a working paper called "The Cycles of Theory Building in Management Research," Christensen and Paul Carlile of Boston University write: "Management fads often are created when a researcher studies a few successful companies, finds that they share certain characteristics, concludes that he has seen enough, and then skips the categorization step entirely by writing a book asserting that if all managers would imbue their companies with the characteristics of these successful companies, they would be similarly successful."

We have reached a critical point in the evolution of a theory of high performance–the point where management researchers have begun to build effectively on one another's work.

The categorization step he refers to is that critical stage in theory building where researchers create or adopt a classification system to help make sense of their observations. The right categories make clear under what conditions an action will reliably lead to an outcome. So, for instance, a researcher might realize that, while a certain factor characterized most of the successful companies under review, it was not present in any of the smaller ones – or that it was relevant only to particular industries or only to start-ups. It could be that some business practices are sensitive to national culture. Recently, professors Mansour Javidan and Robert House completed a ten-year study called Project GLOBE (Global Leadership and Organizational Behavior Effectiveness), which sought to nail down cultural variances around the world that would render different management practices more or less effective. The findings suggested, for instance, that while 360-degree feedback may improve management in American settings, it might be wholly ineffective in Thailand.

Is High Performance Timely or Timeless?

Another way to categorize what works in business, of course, is by that time-honored (and time-honoring) phrase, That was then; this is now. Christensen talks about the "killer question" he got from an engineer in the disk drive industry about his innovator's dilemma theory. The man asked: "It clearly applies to the *history* of the disk drive industry. But does it apply to its *future* as well?"

It certainly seems fair to speculate that different things may work in different times. This was the rallying cry, after all, of the dot-com founders of the 1990s. The new economy, they claimed, operated by fundamentally unique rules. Time marches on for industries, too. As author Geoffrey Moore's work makes clear, different kinds of investments pay off in different stages of an industry life cycle. At the company level, the different priorities of start-ups and established firms are often discussed. But do the researchers behind the studies discussed here admit that their prescriptions may have only a certain shelf life?

Arun Kumar Jain may be the most ready to concede this, especially since his corporate excellence framework is designed to be of a dynamic nature. (His findings pinpoint what produces good outcomes given current infrastructural constraints, while also acknowledging that these change over time.) For the most part, however, researchers have tended to ignore the question. The assumption seems to be that if it works for the companies that are most successful today, it will work for the foreseeable future. Stay tuned for updates.

A Breakthrough on the Horizon?

Writing for *Harvard Business Review* in July 2003, Joyce, Nohria, and Roberson described the two seemingly simple questions they had set out to answer in their Evergreen Project: "Why do some companies consistently outperform their competitors? And which of the hundreds of well-known business tools and techniques can help a company be great?" In fact, as we've seen, the questions aren't simple at all.

But the research is getting better. People are working with richer data sets and more robust theories. Consider the distance we've come from Peters and Waterman's "cool" research population. Today, a firm like Accenture – presumably just as interested as McKinsey was in flattering clients – puts its high performers through a rigorous and balanced screen before examining them under the microscope. Consider how Collins and Porras shifted the emphasis from the full set of things that winners do well to the distinguishing variables between leaders and laggards. Consider the volume of data collected and mined by the army of researchers working under Joyce, Nohria, and Roberson's direction.

Consider all these advances together, and it seems as though we have reached a critical point in the evolution of a theory of high performance – the point where management researchers have begun to build effectively on one another's work. The quest to find the master keys to company success, which was spurred by the audacity of two consultants in 1982, has in some sense become a joint endeavor. It's fair to say that, as an ongoing effort, it still falls short of excellence. But it's making progress.

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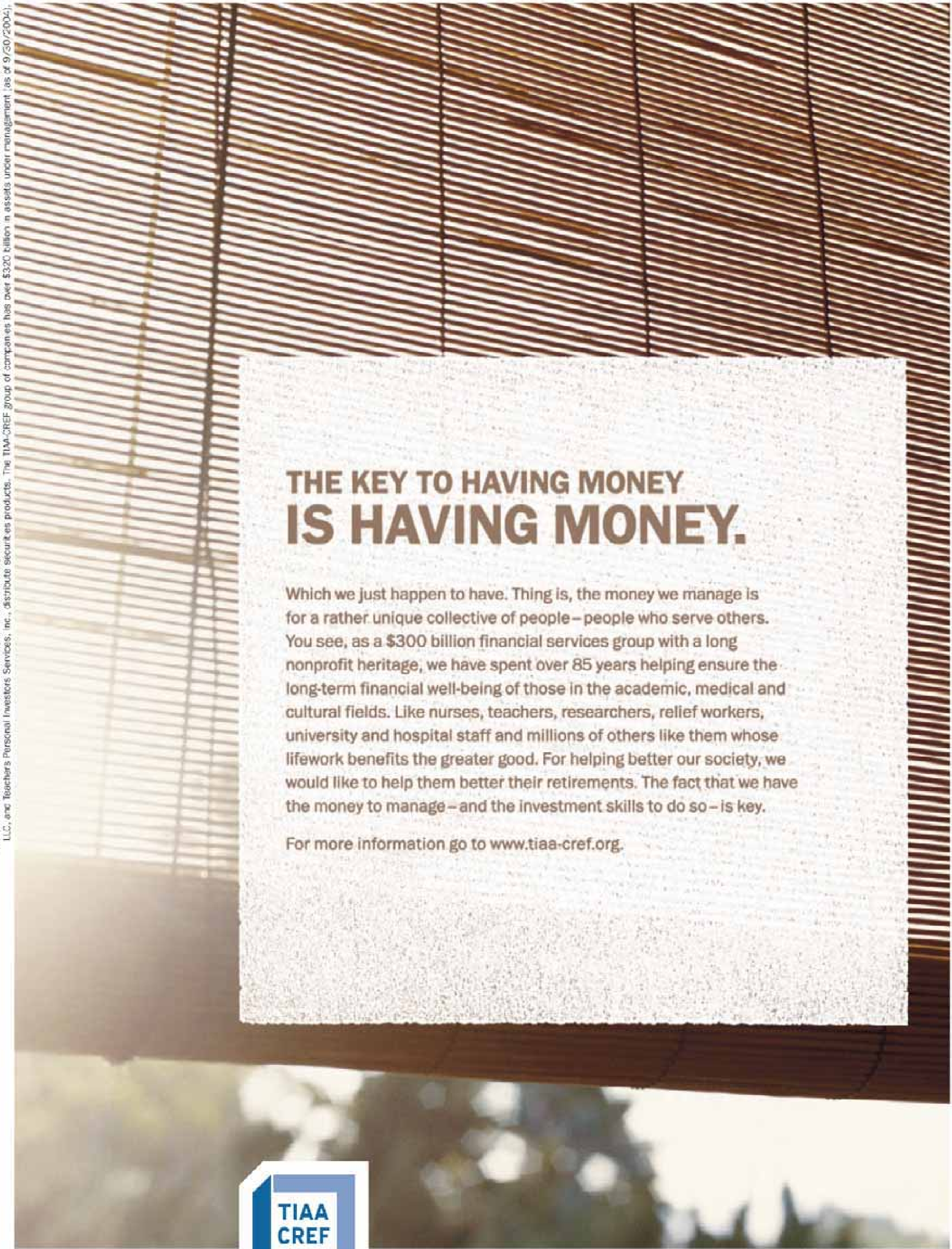

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When Failure Isn't an Option

>> **PERSPECTIVES FROM Michael R. Hillmann, Philippe Dongier, Robert P. Murgallis, Mary Khosh, Elizabeth K. Allen, and Ray Evernham**

Teams in all kinds of nonbusiness settings – from stock car racing to wedding planning to hostage negotiating – rely on flawless preparation and execution. Here's how they consistently achieve the highest standards.

SOME TEAMS, by the very nature of their work, must consistently perform at the highest levels. How do you – as a team leader, as a supervisor, as a trainer, or as an outside coach – ensure that this happens?

To answer that question, we sought out a number of people who have worked with teams in settings where high performance is crucial: Michael Hillmann, deputy chief of the Los Angeles Police Department and commander of its Special Operations Bureau, which includes the SWAT team; Philippe Dongier, who headed up a joint United Nations/World Bank/Asian Development Bank reconstruction team in Afghanistan after the fall of the Taliban; the National Fire Academy's Robert Murgallis, who trains firefighting teams; Mary Khosh, the former career coach for players on the Cleveland Browns of the National Football League; Elizabeth Allen, a planner of society weddings, charity galas, and corporate events; and Ray Evernham, who, as a stock-car-racing crew chief, helped driver Jeff Gordon win three NASCAR championships. The following commentaries – drawn from interviews with each of the authors – offer an array of perspectives on developing and managing high-performing teams.

CHRIS KEEGAN

The types of teams represented here are very different. Some are ad hoc, formed for a specific task, while others are ongoing, typically improving their performance with each task they undertake. Some have a clearly defined leader, while others make decisions more collaboratively. Even when there is a clear hierarchy, some teams require a leader who micromanages whereas others rely on the individual initiative of their members. The teams may be composed of people with similar or very different personalities and areas of expertise. And success is measured in very different ways: the buzz of excited conversation and media coverage generated by a successful society wedding versus the little noticed resolution of a potentially explosive situation by a SWAT unit.

For all these teams, however, the stakes are high. And despite their differences, some similarities emerge in the ways they achieve top-level performance. For example, selection of team members is crucial – as is a willingness to get rid of members who don't consistently deliver outstanding performance. A leader who supports and builds confidence in team members is also important – and high-performance teams without such a leader will often informally create one. Finally, the stress that defines the work of these teams in itself helps generate peak short-term performance – and poses the constant risk that members will eventually burn out.

Are lessons gleaned from such teams transferable to teams working in other environments? Certainly some of them are: Just ask the U.S. Army, which has studied NASCAR pit crews for ways to reduce the time their medevac teams take to get injured soldiers off the battlefield. And even those lessons that aren't directly transferable may suggest ways to improve the achievements of your own high-performance team.

Life-or-Death Tactics

Michael R. Hillmann is the **deputy chief of the Los Angeles Police Department** and the commanding officer of the department's Special Operations Bureau, including the Special Weapons and Tactics **(SWAT) team,** of which he was one of the earliest members.

ON FEBRUARY 28, 1997, three members of our Special Weapons and Tactics team heard over their police radio: "Officer needs help; shots fired." The call came from North Hollywood, where two suspects – heavily armed with automatic weapons and wearing body armor – had held up a Bank of America branch, shooting and injuring a number of people in the process. The SWAT officers, acting on their own initiative, drove to the scene and plunged into the thick of a firefight between the suspects and regular police officers already at the scene. As one of the suspects was about to carjack a bystander's vehicle, SWAT members shot and killed him and his cohort – thus preventing them from escaping into the surrounding community and doing any further harm.

By contrast, the SWAT unit several weeks ago got a report from the Foothill area that a vehicle belonging to a suspected gang member recently seen brandishing a firearm was parked at a residence. A SWAT team, led by their tactical team leader, arrived and systematically evacuated the surrounding neighborhood. Although a female leaving the house told SWAT personnel that no one was in the building, a probe of the exterior by a canine team determined people were indeed inside. Team members covertly entered the house and, using sophisticated electronic equipment, found the suspect and two others hidden in the attic, along with a stock of handguns. The three men – one of whom, it turned out, was suspected of involvement in several recent homicides – were taken into custody. Not a shot was fired.

These two incidents, one extraordinary and one very typical, together highlight a key characteristic of a successful SWAT team: the ability of members both to make quick and courageous decisions on their own and to work systematically and methodically as part of a highly coordinated group. When a suspect walks out of a building and raises a rifle to the head of a hostage, a SWAT marksman doesn't wait for the command to shoot. But if that same suspect has barricaded himself with others in a building, the team needs to execute a synchronized plan of action, from initiating negotiations to covertly removing door locks to creating a diversion that will draw attention away from colleagues entering the building.

When a suspect walks out of a building and raises a rifle to the head of a hostage, a SWAT marksman doesn't wait for the command to shoot.

This combination of individual initiative and disciplined teamwork requires a certain type of person, which means that selection of team members is crucial. When the Los Angeles Police Department formed the nation's first SWAT team in 1966 in response to a growing number of unusually violent and dangerous situations, it was staffed with volunteers, many of them Vietnam veterans using their own equipment. But in the following years, there were incidents – a deadly shoot-out at 4115 South Central Avenue involving members of the Black Panther Party, a confrontation at 54th and Compton with members of the Symbionese Liberation Army during which 9,000 rounds were fired – that made us realize we needed more than a volunteer organization of committed officers. We needed a budget and training and a formal selection process.

Over the years, we've developed selection criteria based on a number of key personal traits, including self-discipline, perseverance, maturity, loyalty, and, crucially, the ability to work as part of a team. Officers applying to join the SWAT unit–already screened on the basis of their physical condition and their work record within the LAPD's elite Metropolitan Division – go through a six-day selection process. The grueling test includes time in "Hogan's Alley," a mock street scene where candidates are confronted with surprise situations in which they must instantly decide, among other things, whether or not to shoot at a suspect. There are obstacle courses designed to test the physical reserves of candidates so that we can see whether they are able to think clearly and make correct decisions when they are exhausted or even hurt. And a series of exercises – for example, a six-mile group orienteering test over rough terrain – show us whether an individual is a good team player. It's important to add that the majority of candidates who don't make the cut are treated with honor and dignity and their tremendous effort during the six-day trial is acknowledged.

Passing the test doesn't guarantee a permanent place in the 67-member SWAT platoon. If someone fails a physical fitness qualification more than once, he is removed from regular SWAT duties until he can pass the test. The fitness requirement is a measure of whether someone is really committed to SWAT duties.

Despite the high ongoing standards, membership in the unit is very stable. The average SWAT team tenure is 14 years for supervisors and eight years for officers, and people sometimes turn down promotions within the department to stay in the unit. This consistency is crucial to the team's ability to work together and carry out its mission: to defuse violence and save lives.

A Country at Stake

From November 2001 to February 2004, Philippe Dongier (pdongier@worldbank.org) was the **Manager for Afghanistan Reconstruction** at the World Bank in Washington, DC. He now leads a task force aimed at enhancing organizational effectiveness within the World Bank.

CRISIS IS A POWERFUL MOTIVATOR. That truth was brought home in 2001 when I led a joint team preparing the reconstruction effort in Afghanistan following the defeat of the Taliban. The team included approximately 60 colleagues from the Asian Development Bank, the United Nations, and the World Bank. Our mission was to help set Afghanistan on the path to reconstruction and development.

The urgency of the situation in Afghanistan focused our minds sharply. We all knew that the country could easily fall back into conflict if the government did not show rapid results. Because the international community was keen to get started as quickly as possible, we had just one month to conduct a needs assessment in order to guide how much assistance donors would pledge and how help would initially be channeled to the country.

The team met the challenges and delivered. We consulted with many Afghans, analyzed all possible data, fleshed out a vision of what needed to be achieved over the next ten years, and prepared plans and cost estimates. Building on the needs assessment and the subsequent work done with the Afghan government, the city of Kabul doubled its power supply in one year. By the end of 2004, about a third of the country's 20,000 villages were receiving grants and implementing small reconstruction projects such as those for water supply, schools, and roads. These villages also conducted secret-ballot elections to choose leaders to manage the projects – and the majority of the women voted despite expectations to the contrary. During the same period, basic health services expanded in almost all of the country's 34 provinces. In Helmand province, for example, the number of functioning health clinics has increased from six to 42. These are just some examples of the progress that has been made in Afghanistan.

That progress has largely come about because the government espoused the team's recommendation of hiring private firms and not-for-profit organizations to design and run many of the country's reconstruction programs, guided by a cadre of outstanding Afghan government officials. In parallel, the government set in motion longer-term reforms of the civil service. Arriving at such a strategy usually takes years of debate between aid organizations and the governments being helped – and the strategy is rarely so clear and shared by key players.

When the team began its work, we found it was important to step back and take a moment to define our roles. We had to be selective in deciding who was going to produce what, as opposed to just rushing into action in many directions. Probably because of the pressure, team members needed little convincing to stay focused on true priorities. Clear accountability helped generate results.

Furthermore, high team performance didn't require micromanagement. To be effective, I had to step back from the details and play a support role that, in the end, proved crucial to the team's success. It was important, for example, to keep the teams linked with one another. The group focusing on the health sector needed to remain in contact with those focusing on water supply, for obvious reasons. As overall team leader, one of my roles was to ensure this communication took place.

Forming the right team was probably the single most important factor in our success. In choosing team members to lead each sector, we looked for people who had a reputation for making things happen. We needed to be sure that they had firsthand experience with getting a country rapidly on the path to reconstruction and development.

Forming the right team also meant letting go of the least productive team members. As work progressed, it became clear that familiarity with the country was less important than teaming up with Afghans who possessed deep knowledge of the way the country operated. In fact, some expatriates who had been working in Afghanistan for years resisted the leadership of new outside experts by systematically critiquing their efforts. In the end, those who inhibited team performance by focusing solely on risks and failing to offer constructive strategies had to be sidelined in favor of strong outside technical expertise.

A compelling shared vision of a rebuilt and stable Afghanistan and the urgency of the situation at hand helped to instill a focus on results and overcome the inertia that often pervades large organizations like ours. The Asian Development Bank, the UN, and the World Bank are not known for their speed, but in this case we were able to do away with much of the red tape during the critical stages of our project. Clear goals and accountability and close attention to team composition were other key success factors.

Performance Under Fire

Robert P. Murgallis (robert.murgallis@dhs.gov) is a **training specialist** for the Emergency Incident Policy and Analysis Programs at the **National Fire Academy** in Emmitsburg, Maryland.

THE DIFFERENCE BETWEEN a team like the New England Patriots and a team of high-performing firefighters is the time pressure. In football, you can call a time-out. There's no time-out during a fire. You can't tell the fire to wait a minute while you consult somebody or look up the solution in a book. This is one business where you have to make very quick decisions on the basis of very little information.

Intuition is critical to high-performing firefighting teams – it can mean the difference between life and death. But our kind of intuition is learned. Through training, reading, responding to emergencies, and talking with veterans, we learn the cues and signals that indicate that certain things might occur. We have a vast mental data bank that is based on experience and training. If a fire is a certain color, we know the chances are pretty good that a particular product is burning. In a wildland fire, for example, you know that certain trees burn at a faster rate. And you know that a fire burns uphill more quickly than it does downhill. But your training has to be such that you recognize those cues immediately. You can't start pondering and planning and getting an official weather report before making decisions and taking action.

The fact that there is seldom chaos when firefighters go into a burning area can be summed up in one word: confidence – confidence in their skills and in one another. Confidence is contagious. If leaders are self-assured, capable, and knowledgeable, their people will respond with high performance. Being a leader in name only and driving and

intimidating your teams will reduce the effectiveness of any unit. People need to be guided and motivated. Even self-motivated individuals will lose their drive if you don't provide them with positive reinforcement. The trick for you as the leader is to make your team members believe that you believe they have worth.

Like most high-performing teams, firefighters need a mission. It's the mission that sets the priorities. If your mission is to stop the fire from getting to a certain place, all your actions and decisions will be targeted toward that outcome. Often the mission will force you to make very difficult decisions. You may have to anticipate letting houses burn that haven't even caught fire yet, because they're not defensible based on the type of roof they have or the fact that they're surrounded by highly flammable brush. You can't waste your resources if you're going to accomplish the greatest good for the greatest number. But it's hard trying to explain to home owners why you decided not to protect their homes.

People who can't cope with that kind of pressure shouldn't be leading high-performing teams, and in my line of work, leaders who don't perform don't last long. On September 12, the day after the attack on the World Trade Center, the New York City Fire Department contacted the National Fire Academy to ask us if we could help them restore their command structure because they had lost so many of their top people. As part of that effort, I saw one of the team leaders struggling. He was a nice person, but he really didn't have a good understanding of what needed to be done. His training and expertise in other areas did not equip him for the situation. As his inability to cope became more apparent, an unofficial leader emerged from among his crew who shepherded the project along. I've seen this happen many times on high-performance teams: If a leader is not up to the job, the top performers will step up to produce a leader who can carry the ball.

There's no time-out during a fire. You can't tell the fire to wait a minute while you consult somebody or look up the solution in a book.

The Confidence Game

Mary Khosh was a **career coach for the Cleveland Browns** in the late 1980s and early 1990s. During that time, she advised players on work/life issues and was the only woman doing psychological coaching in the NFL. She is currently a consulting psychologist with the Leadership Development Institute at Eckerd College in St. Petersburg, Florida.

WHEN I WORKED WITH THE BROWNS, the coaches emphasized playing one game at a time – always focusing on the immediate play and the immediate goal, always focusing on high performance. The Browns' coaches pushed for team excellence – in life as well as in the game – player by player.

Coaching is a major factor in an athlete's success. Most of the players I worked with recognized this. They've been coached since they were first discovered in youth football leagues, and they've always believed in and trusted their coaches. In fact, sports players' reliance on coaches may explain why so many of them make mistakes in life and lose most of their money after their athletic careers are over. They are still looking for a coach, and there are many con artists happy to oblige.

Great coaches understand the way the minds of high performers work. Each player has his own needs. You can see this most clearly after the players lose a game. Some want the coach to come up to them and talk to them about it. Others want to be left completely alone; they want to deal with the loss in their own heads first.

During my time with the Cleveland Browns, I saw players working with several different coaches. The successful coaches kept the individual needs and interests of each player in mind.

The players willingly worked harder for them because they wanted so much to please them.

In my own work, my priority was also to try to get a sense of who each player was. I would begin with an interview, in which I focused on understanding a player's background – when his talent was first recognized, how he had been steered into pro football. In a second session, I would conduct a more formal assessment to gain a deeper understanding of the player's core personality, motivations, values, needs, problem-solving skills, and interests. Finally, in a third session, we would go through all the results of the assessment tests. It was at that point we talked about who the player was, what really challenged him, what put fire in his belly.

Whatever form the coaching takes – athletic or psychological – a coach needs to focus on just one thing: his players' confidence. In a top pro-football team, all the players are talented and fit. What differentiates the winners is self-confidence. And that kind of confidence is a matter of choice. It isn't something your opponents can take away; it's something you give away when you stop believing that you can win. That's why a good coach never undercuts or demeans his players when a game is going badly. The players need to believe that their skills are better than their opponents'. That's not to say that coaches should ignore failure – far from it. They have to analyze and understand the failure in order to avoid repeating it. But they must not point fingers, because that only makes the players more likely to repeat the mistake.

Whatever form the coaching takes – athletic or psychological – a coach needs to focus on just one thing: his players' confidence.

I think my main contribution to the Browns' performance was to get players to separate their personal identities from their results on the field. If self-worth were linked to scores, the pressure associated with each game would be tremendous. It was important for the players' self-confidence to see football as their job – what they did, not who they were. We talked about their lives in general – about their families, their education, and their off-season careers. The decisions they made in these areas helped maintain top performance as well as an attitude about success that accompanied them onto the field.

In my current work as a consulting psychologist focused on coaching high performers in companies, I have found that effective senior executives are a lot like the best sports coaches. Like coaches, executives need to be excellent listeners, able to evaluate the characteristics of the people they manage. They need to be able to work in different ways, with different people, and in different places. They need to be dedicated, determined, persistent, and fair. They need to be visionary and able to communicate that vision with confidence to those who are charged with executing it. As a woman, I used to object to all the male sports metaphors that are thrown around in business conversation. Now that I see the parallels, I occasionally use sports language myself.

Creativity on Demand

Elizabeth K. Allen is the **founder** of Elizabeth K. Allen, Inc., an **event-planning company** that organizes and produces society weddings, charity galas, and corporate events across the United States. The company has offices in New York and Boston.

AS AN EVENT PLANNER who conceives, designs, and orchestrates every type of event from corporate affairs to weddings, it's my responsibility to put together and manage the individual creative teams that are contributing to the occasions. Together, we do everything from selecting the perfect stamp for the invitations to installing temporary roads in order to provide access to an event.

One of the greatest challenges of my job, yet one of its most rewarding aspects, is working with creative people on a day-to-day basis. I deal with a lot of high-profile, artistic individuals – people who are extremely knowledgeable and well known in their own right. They are passionate and talented, caring and wonderful individuals who often have their own vision of how they want particular elements of events designed and executed. Therein lies the challenge. As the event producer, it's my responsibility to keep everyone focused on the overall concept and design and to work with each team leader to ensure that the teams move forward in the same direction, all while minimizing difficulties and drama.

The trick is learning how to manage diverse individual personalities and take control with style and grace.

When you are working with creative minds, it's crucial to keep them on track so they don't go off on tangents and disrupt the project's rhythm or production schedule. This means taking a very active management role. If an individual is not functioning as part of the team in the way that he should be, I will manage him a bit more than the others until I feel he is back on track. If needed, I will take the person aside and remind him that producing an event is a team effort and not a platform for an individual to shine.


very
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fine year
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With a Cisco wireless solution, a family-owned vineyard can check on everything from soil and leaf moisture to tasting rooms and online orders.
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If you can't get the creative team leaders to accept some kind of direction and parameters, then you must strongly consider removing them from the project and not hiring them in the future, however brilliant they are. For example, I worked with a very well-known and talented but very self-centered florist. His volatile behavior would wreak havoc on the team and affect the overall event production. Now I just won't work with him. If I have a client who insists on hiring this particular florist, I decline the project.

At the same time, you do have to trust your most talented people. People in general always produce better results when you trust them – trust that they are going to perform not only to your expectations but to their highest levels. People hate being micromanaged because it implies that you don't respect or trust them. The trick, I believe, is learning how to manage diverse individual personalities and take control with style and grace. I make sure that my people understand their position within the project while giving them the latitude to express their abilities, talents, and ideas.

When you want people to produce at their peak levels, empowerment and communication are vital. I strongly believe in communication – it's what I do all day. I am constantly on the phone or in meetings. Communication doesn't always have to be direct, of course, and I am a tremendous fan of e-mail. But I do think, even in this day and age, you really cannot beat just talking to someone face-to-face or at least by phone. Obviously, as a leader, you cannot do all the communicating yourself. The key is to identify the items that you really must communicate yourself and delegate the rest. Of course, for that to work you need to have an associate who can function as your right-hand person.

Inspiring and motivating a team to perform at the top of its game is exciting and sometimes exhausting. But the process is always very rewarding. You learn a huge amount from your creative people, and they constantly surprise you with their ideas.

The Mechanics of Speed

Ray Evernham was the **crew chief for driver Jeff Gordon** from 1993 to 1999, during which time Gordon won three **NASCAR** (National Association for Stock Car Auto Racing) championships. Today, Evernham is president and CEO of Evernham Motorsports, which fields a team of NASCAR entrants for the Dodge division of DaimlerChrysler.

WHEN SEVEN PEOPLE have to change four tires, fill up a gas tank, make quick adjustments to the suspension, and get a car back on the track in just over ten seconds, teamwork is, to put it mildly, essential. And not just for those seven pit crew members who "go over the wall" during a race.

Behind the wall is an entire team of people – several dozen mechanics, engineers, and other specialists – who must also work together under extreme time pressure, even if measured in days rather than in seconds. From one weekend race to the next, they'll dismantle an entire car and several engines, making repairs and modifications to correct problems and customize the car for the particular demands and configuration of the upcoming track.

I was a young, unknown mechanic when I began working with a young, unknown driver named Jeff Gordon. But from the beginning, I realized that

the performance of the entire race team was crucial to our success: The greatest car and driver in the world, after all, can lose four or five places during a stop on pit road. How were we going to get the top-notch performance that we needed?

First, we put together a team of particularly dedicated and intelligent people, looking even to individuals who didn't have a lot of racing experience. Our chief mechanic was a former truck mechanic who'd been working at a car dealership in New Jersey. He soon learned the car racing business and was better than anybody. Our parts guy was a kid whose full-time job had been selling plumbing supplies. He was able to find and get the best piece at the best price–whether it was a wheel or a toilet, a shock or a sink.

The performance of the entire race team was crucial to our success: The greatest car and driver in the world, after all, can lose four or five places during a stop on pit road.

We also put in place some formal processes that were unusual for the sport. We'd get everybody together to watch "game films" of the previous race and discuss areas for improvement. We kept careful records of race and mechanical data. We hired a pit crew trainer, a former Stanford football player, who was responsible for the physical training of the crew and the high-speed choreography of the pit stop. Many of our rivals thought things like this were a waste of time. But our record, and the later adoption of many of our methods by competitors, proved their value.

And we worked hard to keep people motivated. NASCAR's nearly ten-month season is the longest in professional sports, and it's easy for people to burn out. But our "Rainbow Warriors" – the nickname adopted by the race team because our fire suits bore a rainbow of paint colors offered by our sponsor, DuPont – stayed motivated not only for an entire season but from one season to the next. In fact, the team remained pretty much intact for the six years Jeff and I worked together for Hendrick Motorsports, the owner of the car and employer of the crew.

More recently, I've run a much larger team that reflects the changes in NASCAR as the sport has grown rapidly in popularity. In 1999, Dodge offered me the chance to lead the automaker's return to NASCAR after a 20-year absence. Today, we employ nearly 250 people, many of whom work in areas that go beyond racing itself: engine and body design (our engineering staff consists of numerous specialists, including one who holds a PhD in aerodynamics), sales and marketing, product licensing, travel logistics, and so on. We have four facilities that house R&D and manufacturing, six tractor trailers and three aircraft to transport cars and people from race to race, and an annual budget of around $50 million.

Again, I've tried to establish processes – some of them, again, unconventional – that will help this team perform at a high level. These processes are particularly important as we grow, because they'll allow newcomers to get up to speed quickly. With a team of this size, I can no longer communicate daily with everyone as I did when I oversaw 25 people, but we can instill in individuals a way of thinking that will make us winners.

In fact, our team represents a new approach. Instead of the traditional NASCAR model that focuses on the individual driver and car, we've adopted a model that we think represents the future of the sport, one (based on Formula 1 auto racing) that focuses on the team's technology and its sponsors. We run two identical cars in NASCAR's Nextel Cup Series, which doubles our sponsor's exposure and the chances of winning. At the track, each car has its own team, and they both are out to win. (All I ask of our drivers, Jeremy Mayfield and Kasey Kahne, is that they don't crash into *each other*.) But our motto is: "One team, one goal."

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To order, see page 195.

"Since I eat companies like yours for breakfast, Harris, how about an 8 AM meeting?"

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The Australian operation was among the first Kellogg facilities to be established outside of North America with Australian production commencing in 1924. Realising the market potential, Kellogg increased its investment in Australia, building a new plant in Sydney in 1928. This facility's port-side location provides Kellogg with easy trade access to the booming Asia-Pacific region.

Kellogg Australia continues to invest in its Sydney plant and has acquired another manufacturing facility. This expansion has been undertaken to meet the needs of the growing domestic cereal market, snack food industry, as well as catering for the demands of export success.

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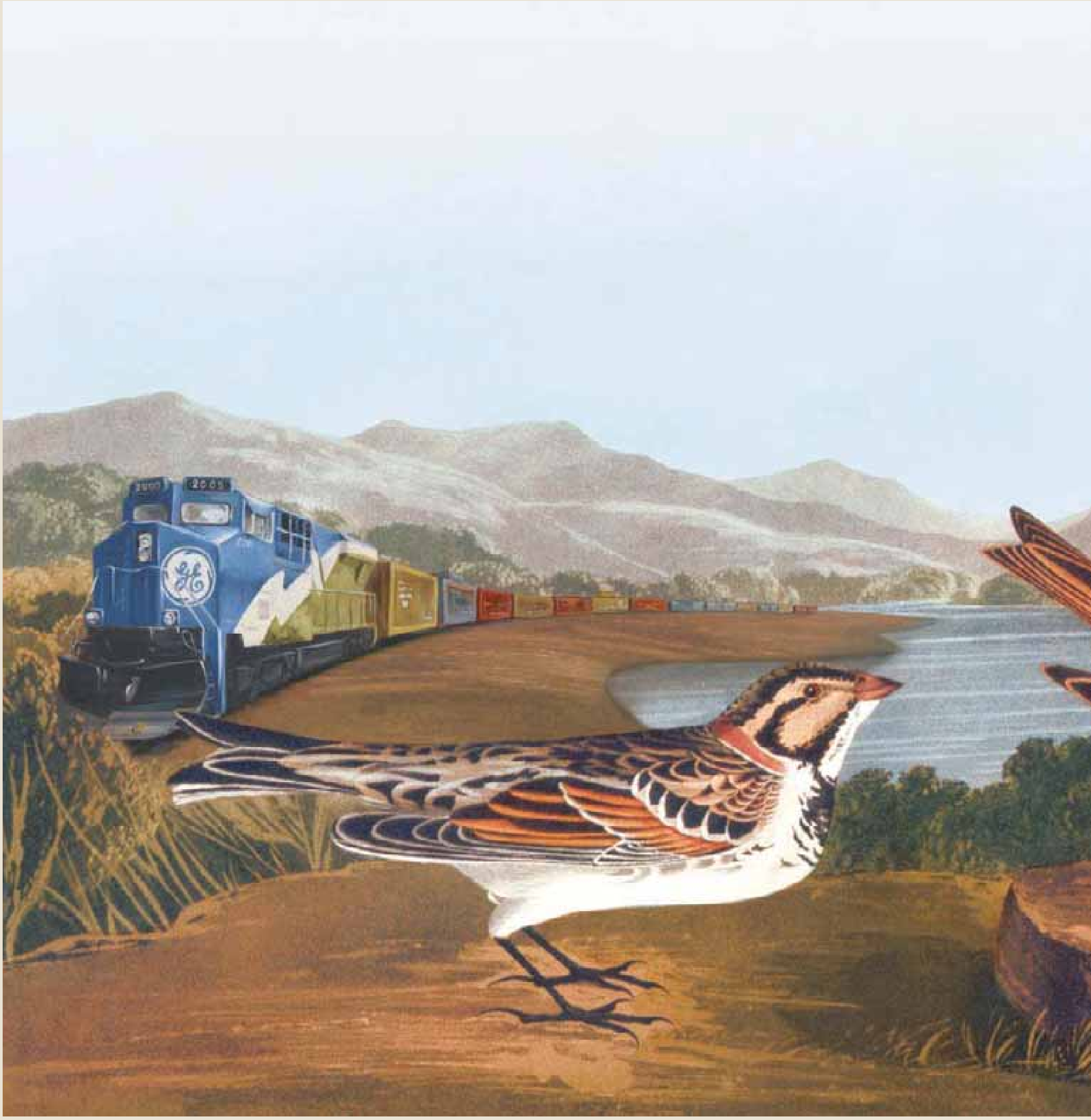


support
accountability
Influence
control

Improving the performance of key people is often as simple – and as profound – as changing the resources they control and the results for which they are accountable.

by Robert Simons

DESIGNING HIGH-PERFORMANCE JOBS

You have a compelling product, an exciting vision, and a clear strategy for your new business. You've hired good people and forged relationships with critical suppliers and distributors. You've launched a marketing campaign targeting high-value customers. All that remains is to build an organization that can deliver on the promise.

But implementation goes badly. Managers in the regional offices don't show enough entrepreneurial spirit. They are too complacent and far too slow in responding to customers. Moreover, it's proving very difficult to coordinate activities across units to serve large, multisite customers. Decision making is fragmented, and time to market is much longer than expected. Excessive costs are eating away at profit margins. You begin to wonder: "Have I put the wrong people in critical jobs?" But the problems are more widespread than that – in fact, they're systemic across the organization.

GERARD DUBOIS

This tale of a great strategy derailed by poor execution is all too common. Of course, there are many possible reasons for such a failure and many people who might be to blame. But if this story reminds you of your own experience, have you considered the possibility that your organization is designed to fail? Specifically, are key jobs structured to achieve the business's performance potential? If not, unhappy consequences are all but inevitable.

In this article, I present an action-oriented framework that will show you how to design jobs for high performance. My basic point is straightforward: For your business to achieve its potential, each employee's supply of organizational resources should equal his or her demand for them, and the same supply-and-demand balance must apply to every function, every business unit, and the entire company. Sounds simple, and it is. But only if you understand what determines this balance and how you can influence it.

The Four Spans of Job Design

To understand what determines whether a job is designed for high performance, you must put yourself in the shoes of your organization's managers. To carry out his or her job, each employee has to know the answer to four basic questions:

- "What resources do I control to accomplish my tasks?"
- "What measures will be used to evaluate my performance?"
- "Who do I need to interact with and influence to achieve my goals?"
- "How much support can I expect when I reach out to others for help?"

The questions correspond to what I call the four basic *spans* of a job: control, accountability, influence, and support. Each span can be adjusted so that it is narrow or wide or somewhere in between. I think of the adjustments as being made on sliders, like those found on music amplifiers. If you get the settings right, you can design a job in which a talented individual can successfully execute your company's strategy. But if you get the settings wrong, it will be difficult for any employee to be effective. I'll look at each span in detail and discuss how managers can adjust the settings. (The exhibit "The Four Spans" provides a summary.)

The Span of Control. The first span defines the range of resources–not only people but also assets and infrastructure–for which a manager is given decision rights. These are also the resources whose performance the manager is held accountable for. Executives must adjust the span of control for each key position and unit on the basis of how the company delivers value to customers.

Consider Wal-Mart, which has configured its entire organization to deliver low prices. Wal-Mart's strategy depends on standardization of store operations coupled with economies of scale in merchandising, marketing, and distribution. To ensure standardization, Wal-Mart sets the span of control for store managers at the "narrow" end of the scale. Although they nominally control their stores, Wal-Mart site managers have limited decision rights regarding hours of operation, merchandising displays, and pricing. By contrast, the span of control for managers at corporate headquarters who oversee merchandising and other core operations is set at "wide." They are responsible for implementing best practices and consolidating operations to capture economies of scale. In addition to controlling purchasing, merchandising, and distribution, these managers even control the lighting and temperature at Wal-Mart's 3,500 stores by remote computer. (The settings for the two jobs are compared in the exhibit "Spans of Control at Wal-Mart.")

Of course, the spans of control will be set very differently in companies that follow different strategies. Consider Nestlé, a food company that reformulates its products in response to regional tastes for spices and sweets. In this "local value creation" configuration, the span of control for regional business managers is set very wide so that they have all the resources they need to customize products and respond to customers. Regional managers take responsibility for sales, product development, distribution, and manufacturing. As a consequence, the spans of control for managers back at the head office are relatively narrow, covering only logistics, the supply chain, global contracts, and accounting and finance.

The Span of Accountability. The second span refers to the range of trade-offs affecting the measures used to evaluate a manager's achievements. For example, a person who is accountable for head count or specific expenses in an operating budget can make few trade-offs in trying to improve the measured dimensions of performance and so has a narrow span of accountability. By contrast, a manager responsible for market share or business profit can make many trade-offs and thus has a relatively wide span of accountability.

Your setting for this span is determined by the kind of behavior you want to see. To ensure compliance with detailed directives, hold managers to narrow measures. To encourage creative thinking, make them responsible for broad metrics such as market share, customer satisfaction, and return on capital employed, which allow them greater freedom.

The span of control and the span of accountability are not independent. They must be considered together. The

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THE FOUR SPANS

Managers can adjust the spans of job design to create positions that are tuned for optimum performance.

SPAN	TO NARROW THE SPAN	TO WIDEN THE SPAN
	Narrow	Wide
1 Span of control	Reduce resources allocated to specific positions or units.	Allocate more people, assets, and infrastructure.
2 Span of accountability	Standardize work by using measures (either financial, such as line-item budget expenses, or nonfinancial, such as head count) that allow few trade-offs.	Use nonfinancial measures (such as customer satisfaction) or broad financial measures (such as profit) that allow many trade-offs.
3 Span of influence	Require people to pay attention only to their own jobs; do not allocate costs across units; use single reporting lines; and reward individual performance.	Inject creative tension through structures, systems, and goals – for example, cross-unit teams, dotted lines, matrix structures, stretch goals, cross-unit cost allocations, and transfer prices.
4 Span of support	Use leveraged, highly individualized rewards, and clearly single out winners and losers.	Build shared responsibilities through purpose and mission, group identification, trust, and equity-based incentive plans.

first defines the resources available to a manager; the second defines the goals the manager is expected to achieve. You might conclude, therefore, that the two spans should be equally wide or narrow. As the adage goes, authority should match responsibility. But in high-performing organizations, many people are held to broad performance measures such as brand profit and customer satisfaction, even though they do not control all the resources – manufacturing and service, for example – needed to achieve the desired results.

There is a good reason for this discrepancy. By explicitly setting the span of accountability wider than the span of control, executives can force their managerial subordinates to become entrepreneurs. In fact, entrepreneurship has been defined (by Howard H. Stevenson and J. Carlos Jarillo) as "the process by which individuals – either on their own or inside organizations – pursue opportunities without regard to the resources they currently control." What happens when employees are faced with this *entrepreneurial gap?* They must use their energy and creativity to figure out how to succeed without direct control of the resources they need. (See the exhibit "Creating the Entrepreneurial Gap.") Thus, managers can adjust these two spans to stimulate creativity and entrepreneurial behavior.

Of course, spans of accountability vary by level in most organizations – in general, they are wider at the top of a company and narrower at the bottom. The CEO of McDonald's has a wide span of accountability that encompasses stock price, earnings per share, and competitive market position. A McDonald's store manager has a much narrower span. She must focus on compliance with standard operating procedures, and she is monitored through detailed input and process measures.

The Span of Influence. The third span corresponds to the width of the net that an individual needs to cast in collecting data, probing for new information, and attempting to influence the work of others. An employee with a narrow span of influence does not need to pay much attention to people outside his small area to do his job effectively. An individual with a wide span must interact extensively with, and influence, people in other units.

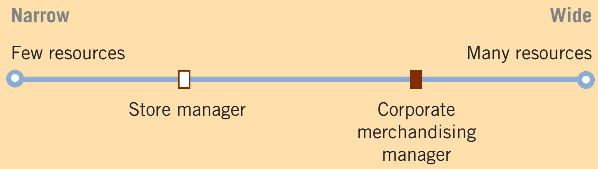
As is the case with the other spans, senior managers can adjust the span of influence to promote desired behaviors. They can widen the span when they want to stimulate people to think outside the box to develop new ways of serving customers, increasing internal efficiencies, or adapting to changes in external markets. In many companies, widening the span of influence counteracts the rigidity of organizational structures based on boxes and silos. For example, although global companies like Procter & Gamble need to be responsive to local customers' needs, they must also create pressure for people in different operations to look beyond their silos to consolidate operations and share best practices to lower costs. Similarly, firms such as big-box retailers that centralize merchandising and distribution to deliver low prices must ensure that they continue to monitor changing competitive dynamics. Operations managers who are insulated from the marketplace must be forced to interact with people in units that are closest to customers. In all of these cases, it's up to senior managers to ensure that individuals work across organizational boundaries to test new ideas, share information, and learn.

Executives can widen a manager's span of influence by redesigning her job – placing her on a cross-functional team, for example, or giving her an assignment that requires her to report to two bosses. They can also adjust a job's span of influence through the level of goals they set. Although the *nature* of a manager's goals drives her span of accountability (by determining the trade-offs she can make), the *level,* or difficulty, drives her sphere of influence. Someone given a stretch goal will often be forced to seek out and interact with more people than someone whose goal is set at a much lower level. Finally, executives can use accounting and control systems to adjust the span of influence. For example, the span will be wider for managers who are forced to bear the burden of indirect cost allocations generated by other units, because they will attempt to influence the decisions of the units responsible for the costs.

The more complex and interdependent the job, the more important a wide span of influence becomes. In fact, a wide influence span is often an indication of both the power and effectiveness of an executive. In describing eBay's Meg Whitman, for example, A.G. Lafley, the CEO of Procter & Gamble, said, "The measure of a powerful person is that their circle of influence is greater than their circle of control."

SPANS OF CONTROL AT WAL-MART

The spans of control for a store manager and a merchandising manager at Wal-Mart are quite different. To ensure standardization in operations, Wal-Mart gives the store manager relatively little control. To promote the implementation of best practices, the company gives the merchandising manager a "wide" setting.



YOU CAN DIAL IN DIFFERENT LEVELS OF ENTREPRENEURIAL BEHAVIOR BY WIDENING OR NARROWING SPANS OF ACCOUNTABILITY AND INFLUENCE.

The Span of Support. This final span refers to the amount of help an individual can expect from people in other organizational units. Again, the slider can be set anywhere from narrow to wide depending on how much commitment from others the person needs in order to implement strategy.

Jobs in some organizations – particularly positions such as commission-based sales in efficient and liquid markets – do not need wide spans of support. In fact, such organizations generally operate more efficiently with narrow spans, since each job is independent and individual contributions can be calculated easily at day's end. Traders in financial institutions, for example, need little support from their fellow traders, and their colleagues can and should stay focused on their own work (and should be compensated solely for their success in generating profit).

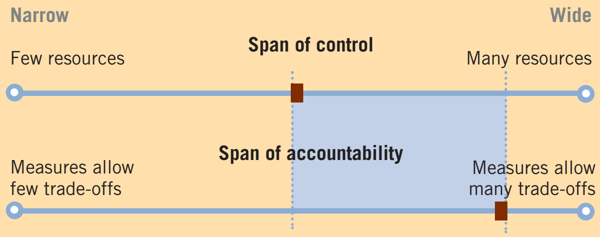
But wide spans of support become critically important when customer loyalty is vital to strategy implementation (for example, at exclusive hotel chains) or when the organizational design is highly complex because of sophisticated technologies and a complex value chain (in aerospace or computers, for instance). In these cases, individuals throughout the company must move beyond their job descriptions to respond to requests for help from others who are attempting to satisfy customers or navigate organizational processes.

Managers cannot adjust a job's span of support in isolation. That's because the span is largely determined by people's sense of shared responsibilities, which in turn stems from a company's culture and values. In many cases, therefore, all or most of a company's jobs will have a wide span of support, or none will. But even within a given company culture, there are often circumstances in which managers need to widen the span of support separately for key business units (for example, to support a new division created to bundle and cross sell products from other units) or for key positions (for example, to facilitate the work of cross-functional task forces).

There are various policies that managers can employ to widen spans of support. For example, a focus on a customer based mission typically creates a sense of shared purpose. In addition, broad-based stock ownership plans

CREATING THE ENTREPRENEURIAL GAP

By holding managers accountable for more than they control, a company can encourage entrepreneurial behavior.



and team- and group-centered incentive programs often foster a sense of equity and belonging and encourage people to help others achieve shared goals. Firms that are characterized by wide spans of support also frown on letting top executives flaunt the trappings of privilege and generally follow a policy of promoting people internally to senior positions.

The slider settings for the four spans in any job or business unit are a function of the business's strategy and the role of that job or unit in implementing it. When you are adjusting job or unit design, the first step is to set the span of control to reflect the resources allocated to each position and unit that plays an important role in delivering customer value. This setting, like the others, is determined by how the business creates value for customers and differentiates its products and services from competitors'. Next, you can dial in different levels of entrepreneurial behavior and creative tension for specific jobs and units by widening or narrowing spans of accountability and influence. Finally, you must adjust the span of support to ensure that the job or unit will get the informal help it needs.

The exhibit "Four Spans at a Software Company" displays the settings of the spans for a marketing and sales manager at a well-known company that develops and sells complex software for large corporate clients. The span of control for this job is quite narrow. As the manager stated, "To do my day-to-day job, I depend on sales, sales consulting, competency groups, alliances, technical support, corporate marketing, field marketing, and integrated marketing communications. None of these functions reports to me, and most do not even report to my group." The span of accountability, by contrast, is wide. The manager is accountable, along with others throughout the business, for revenue growth, profit, and customer satisfaction – measures that require responsiveness and a willingness to make many trade-offs.

Note that the span of influence is set somewhat wider than the span of control. To get things done, the manager has to cross boundaries and convince people in other units (whom he cannot command) to help him. So that the manager receives the help he needs, the CEO works hard to ensure that the job's span of support is wide. An ethos of mutual responsibilities has been created through shared goals, strong group identification, trust, and an equity component in compensation. As the manager noted, "Coordination happens because we all have customer satisfaction as our first priority. We are in constant communication, and we all are given consistent customer-satisfaction objectives."

Achieving Equilibrium

At this point, you're probably wondering how to determine whether specific jobs or business units in your organization are properly designed. Jobs vary within any business, and firms operate in different markets with unique strategies. How exactly should the spans be set in these many circumstances?

After the spans have been adjusted to implement your strategy, there's an easy way to find out whether a specific job is designed for high performance. It's a test that can (and should) be applied to every key job, function, and unit in your business. I'll get to the details shortly, but first, it's important to recognize the underlying nature of the four spans. Two of the spans measure the *supply* of organizational resources the company provides to individuals. The span of control relates to the level of direct control a person has over people, assets, and information. The span of support is its "softer" counterpart, reflecting the supply of resources in the form of help from people in the organization.

The other two spans – the span of accountability (hard) and the span of influence (soft) – determine the individual's *demand* for organizational resources. The level of an employee's accountability, as defined by the company, directly affects the level of pressure on him to make trade-offs; that pressure in turn drives his need for organizational resources. His level of influence, as determined by the structure of his job and the broader system in which his job is embedded, also reflects the extent to which he needs resources. As I pointed out earlier, when an employee joins a multidisciplinary initiative, or works for two bosses, or gets a stretch goal, he begins reaching out across units more frequently.

For any organization to operate at maximum efficiency and effectiveness, the supply of resources for each job and each unit must equal the demand. In other words, span of control plus span of support must equal span of accountability plus span of influence. You can determine whether any job in your organization is poised for sustained high performance – or is designed to fail – by applying this simple test: Using "Four Spans at a Software Company" as an example, draw two lines, one connecting span of control and span of support (the supply of resources) and the other connecting span of accountability and span of influence (the demand for resources).

If these two lines intersect, forming an X, as they do in the exhibit, then demand equals supply (at least roughly) and the job is properly designed for sustained performance. If the lines do not cross, then the spans are misaligned – with predictable consequences. If resources (span of control plus span of support) are insufficient for the task at hand, strategy implementation will fail; if resources are excessive, underutilization of assets and poor economic performance can be predicted.

Depending on the desired unit of analysis, this test can be applied to an individual job, a function, a business unit, and even an entire company.

When Spans Are Misaligned

Consider the case of a struggling high-tech company that makes medical devices. One division was rapidly losing revenue and market share to new competitors because of insufficient sales-force coverage and a lack of new-product development. In another division, created to bundle and cross sell products, managers were unable to get the collaboration they needed to provide a unified solution for a large potential customer. In a third, local managers were making decisions that did not support or build on the company's overall direction and strategy.

These situations arose because senior managers had failed to align the four spans for key jobs and for the divisions overall. In particular, the problems this company encountered reflect three common situations that can limit performance potential.

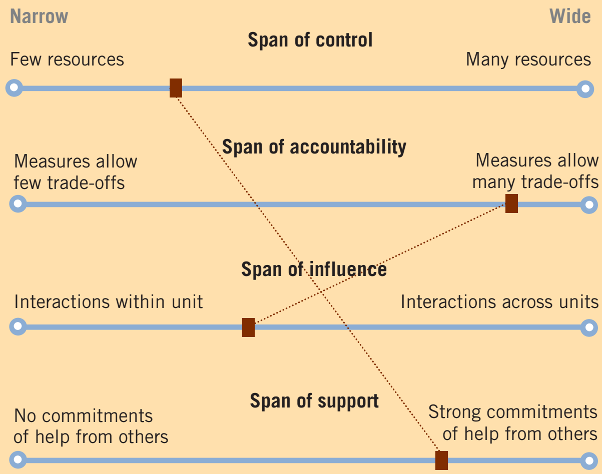
The Crisis of Resources. In some cases, the supply of resources is simply inadequate for the job at hand, leading to a failure of strategy implementation. In the medical devices company, the sales staff had neither enough people to cover the competition (a narrow span of control) nor support from R&D to bring new products to market rapidly (a narrow span of support). A crisis of resources is most likely to occur when executives spend too much time thinking about control, influence, and accountability and not enough time thinking about support. They may, for instance, set the span of accountability wider than the span of control to encourage entrepreneurial behavior. And they may set the span of influence wider than the span of control to stimulate people to interact and work across units. But if the span of support is not widened to compensate for the relatively narrow span of control, people in other units will be unwilling to help when asked.

Consider the local subsidiary of a regional investment bank. The managers had few direct resources (a narrow span of control) and relied on specialists from corporate headquarters to fly in to manage deals. Yet their span of accountability was relatively wide, with performance measures focusing on successful deals and revenue generation. Evaluations of the local managers failed to recognize or reward people's commitment to help others in the organization. As a result, the span of support was too low to support the strategy of the business, which eventually failed.

The Crisis of Control. Sometimes the supply of resources exceeds demand, leading to suboptimal economic performance. In highly decentralized organizations where separate business units are created to be close to customers, a crisis of control can occur when the supply of resources (the span of control plus the span of support) exceeds corporate management's ability to effectively monitor tradeoffs (the span of accountability) and to ensure coordination of knowledge sharing with other units (the span of influence). The result is uncoordinated activities across units, missed opportunities, and wasted resources.

FOUR SPANS AT A SOFTWARE COMPANY

The settings for a marketing and sales manager show a relatively narrow span of control and a relatively wide span of accountability. The discrepancy indicates that the company wants the manager to be entrepreneurial. A reasonable span of influence ensures that he has a respectable level of collaboration with colleagues outside his unit to compensate for his low span of control. Company policies designed to provide a wide span of support ensure that his entrepreneurial initiatives will get a favorable response. The dotted line connecting the two spans that describe the resources available to the job (span of control and span of support) intersects with the line connecting the two spans that describe the job's demand for resources (span of accountability and span of influence). This shows that the supply of, and demand for, resources that apply to this job are in rough balance; the job has been designed to enable the manager to succeed.



Consider a large telecommunications company in which regions were organized as independent business units. Because of rapid growth, division managers were able to create fiefdoms in which resources were plentiful. And because of the company's success, commitment to the business mission was strong. But before long, the lack of effective performance monitoring by corporate superiors caught up with the business. The strategies of the divisions often worked at cross-purposes; there was waste and redundancy. Competitors that were more focused began overtaking the units.

The Crisis of Red Tape. This can occur in any organization where powerful staff groups, overseeing key internal processes such as strategic planning and resource allocation, design performance management systems that are too complex for the organization. In such circumstances, spans of accountability and influence are very high, but resources are insufficient and misdirected. Endless time spent in staff meetings wastes resources, slows decision making, and makes the organization unable to respond rapidly to changing customer needs and competitive actions. The demand for resources exceeds supply, and strategy execution fails as more nimble competitors move in.

Adjusting the Spans over Time

Of course, organizations and job designs must change with shifting circumstances and strategies. To see how this plays out in practice, let's look at how the job spans for a typical market-facing sales unit at IBM evolved as a result of the strategic choices made by successive CEOs.

We pick up the story in 1981, when John Opel became IBM's chief executive. IBM had been organized into stand-alone product groups that were run as profit centers. Reacting to threats from Japanese companies, Opel wanted to reposition the business as a low-cost competitor. For purposes of increasing cost efficiency, the business was reorganized on a functional basis. The span of control for operating-core units such as manufacturing was widened dramatically, and there was a corresponding reduction in the spans of control and accountability for market-facing sales units (illustrated in the top panel of the exhibit "Three Eras at IBM"). The company also enlarged its definition of "customer." Rather than focus narrowly on professional IT managers in governments and large companies, IBM began marketing to small companies, resellers, and distributors. It created experimental independent business units and gave resources for experimentation without imposing any accountability for performance.

By the end of Opel's tenure, IBM was criticized for confusion about strategy and priorities. As one writer noted, "IBM settled into a feeling that it could be all things to all customers." However, the effects of these problems were masked by the dramatic and unrelenting growth of the computer industry during this period.

In 1985, John Akers took over as CEO. The organization he inherited was configured to develop, manufacture, and market computing hardware in independent silos. Not only were products incompatible across categories, they failed to meet customer needs in a world that was moving quickly from hardware to software and customer solutions. To get closer to customers, Akers created a unified marketing and services group, organized by region. The mission of this new market-facing unit was to translate customer needs into integrated product solutions and coordinate internal resources to deliver the right products to customers. Business units and divisions were consolidated into six lines of business. The span of control for the market-facing sales units widened dramatically.

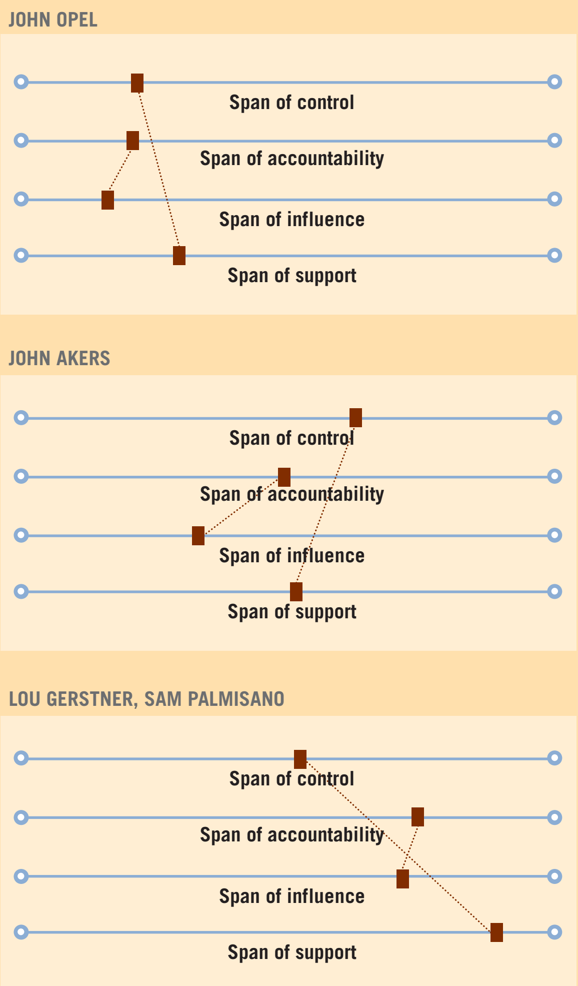
The new marketing and services group was made accountable for profit, and, as a result, many new profit centers were created. Unfortunately, the existing accounting system was not capable of calculating profit at the branch level or for individual customers and product lines. Instead, a top-down planning system run by centralized staff groups set sales quotas for individual product categories. Customer sales representatives thus had few choices or trade-offs; their span of accountability was not wide enough to support the company's new strategy. To make matters worse, the new profit centers made the company extremely complex and fragmented, a situation reflected in the unit's relatively narrow spans of influence and support. As the strategy's failure became evident and losses mounted, Akers considered breaking the corporation into separate entities.

Lou Gerstner took charge in 1993. He restructured the business around specific industry groups, narrowing the spans of control and widening the spans of accountability for marketing and sales units. At the same time, he widened the spans of influence by formally pairing product specialists with global industry teams, which worked closely with customers. To widen the spans of support, the company reconfigured bonuses to give more weight to corporate results than to business-unit performance.

Sam Palmisano took over as CEO in 2002 and reinforced the positive changes wrought by Gerstner. The new CEO's strategy emphasized "on-demand" computing solutions delivered through seamless integration of hardware, software, and services. This involved adopting a team-based, "dedicated service relationship" configuration at the sales units. To ensure that all employees in such a complex organization would be willing to work across units to build customer loyalty, Palmisano worked to widen spans of support further. In a well-publicized initiative, he returned the company to its roots by reemphasizing the importance of IBM values such as dedication to client success, innovation, and trust and personal responsibility in all relationships. To increase trust within the company and heighten the perception of fairness – necessary actions before people will assume responsibility for helping others – Palmisano asked the board to allocate half of his 2003 bonus to other IBM executives who would be critical leaders of the new team-based strategy.

THREE ERAS AT IBM

The settings for the four spans for a typical sales unit at IBM evolved as a result of the strategic choices made by successive CEOs.



A Precarious Balance

As IBM illustrates, complex strategies for large firms usually require that all the spans of key jobs widen, indicating high levels of both demand for, and supply of, organizational resources. But the potential for problems is great in any organization where all four spans are wide and tightly aligned. A relatively small change in any one of them will disrupt the balance of supply and demand and tip the organization toward disequilibrium. In the short run, of course, the dedication and hard work of good people can often compensate for a misalignment. But the more dynamic your markets and the more demanding your customers, the more critical and difficult it becomes to ensure that all four spans of organization design are aligned to allow your business to reach its performance potential.

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Companies typically realize only about 60% of their strategies' potential value because of defects and breakdowns in planning and execution. By strictly following seven simple rules, you can get a lot more than that.

TURNING GREAT STRATEGY INTO GREAT PERFORMANCE

by Michael C. Mankins and Richard Steele

Three years ago, the leadership team at a major manufacturer spent months developing a new strategy for its European business. Over the prior half-decade, six new competitors had entered the market, each deploying the latest in low-cost manufacturing technology and slashing prices to gain market share. The performance of the European unit – once the crown jewel of the company's portfolio – had deteriorated to the point that top management was seriously considering divesting it.

To turn around the operation, the unit's leadership team had recommended a bold new "solutions strategy" – one that would leverage the business's installed base to fuel growth in after-market services and equipment financing. The financial forecasts were exciting – the strategy promised to restore the business's industry-leading returns and growth. Impressed, top management quickly approved

GUIDO SCARABOTTOLO

the plan, agreeing to provide the unit with all the resources it needed to make the turnaround a reality.

Today, however, the unit's performance is nowhere near what its management team had projected. Returns, while better than before, remain well below the company's cost of capital. The revenues and profits that managers had expected from services and financing have not materialized, and the business's cost position still lags behind that of its major competitors.

At the conclusion of a recent half-day review of the business's strategy and performance, the unit's general manager remained steadfast and vowed to press on. "It's all about execution," she declared. "The strategy we're pursuing is the right one. We're just not delivering the numbers. All we need to do is work harder, work smarter."

The parent company's CEO was not so sure. He wondered: Could the unit's lackluster performance have more to do with a mistaken strategy than poor execution? More important, what should he do to get better performance out of the unit? Should he do as the general manager insisted and stay the course – focusing the organization more intensely on execution – or should he encourage the leadership team to investigate new strategy options? If execution was the issue, what should he do to help the business improve its game? Or should he just cut his losses and sell the business? He left the operating review frustrated and confused–not at all confident that the business would ever deliver the performance its managers had forecast in its strategic plan.

Talk to almost any CEO, and you're likely to hear similar frustrations. For despite the enormous time and energy that goes into strategy development at most companies, many have little to show for the effort. Our research suggests that companies on average deliver only 63% of the financial performance their strategies promise. Even worse, the causes of this strategy-to-performance gap are all but invisible to top management. Leaders then pull the wrong levers in their attempts to turn around performance – pressing for better execution when they actually need a better strategy, or opting to change direction when they really should focus the organization on execution. The result: wasted energy, lost time, and continued underperformance.

But, as our research also shows, a select group of high-performing companies have managed to close the strategy-to-performance gap through better planning *and* execution. These companies – Barclays, Cisco Systems, Dow Chemical, 3M, and Roche, to name a few–develop realistic plans that are solidly grounded in the underlying economics of their markets and then use the plans to drive execution. Their disciplined planning and execution processes make it far less likely that they will face a shortfall in actual performance. And, if they do fall short, their processes enable them to discern the cause quickly and take corrective action. While these companies' practices are broad in scope – ranging from unique forms of planning to integrated processes for deploying and tracking resources–our experience suggests that they can be applied by any business to help craft great plans and turn them into great performance.

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The Strategy-to-Performance Gap

In the fall of 2004, our firm, Marakon Associates, in collaboration with the Economist Intelligence Unit, surveyed senior executives from 197 companies worldwide with sales exceeding $500 million. We wanted to see how successful companies are at translating their strategies into performance. Specifically, how effective are they at meeting the financial projections set forth in their strategic plans? And when they fall short, what are the most common causes, and what actions are most effective in closing the strategy-to-performance gap? Our findings were revealing–and troubling.

While the executives we surveyed compete in very different product markets and geographies, they share many concerns about planning and execution. Virtually all of them struggle to produce the financial performance forecasts in their long-range plans. Furthermore, the processes they use to develop plans and monitor performance make it difficult to discern whether the strategy-to-performance gap stems from poor planning, poor execution, both, or neither. Specifically, we discovered:

Companies rarely track performance against long-term plans. In our experience, less than 15% of companies make it a regular practice to go back and compare the business's results with the performance forecast for each unit in its prior years' strategic plans. As a result, top managers can't easily know whether the projections that underlie their capital-investment and portfolio-strategy decisions are in any way predictive of actual performance. More important, they risk embedding the same disconnect between results and forecasts in their future investment decisions. Indeed, the fact that so few companies routinely monitor actual versus planned performance may help explain why so many companies seem to pour good money after bad–continuing to fund losing strategies rather than searching for new and better options.

Multiyear results rarely meet projections. When companies do track performance relative to projections over a number of years, what commonly emerges is a picture one of our clients recently described as a series of "diagonal venetian blinds," where each year's performance projections, when viewed side by side, resemble venetian blinds hung diagonally. (See the exhibit "The Venetian Blinds of Business.") If things are going reasonably well, the starting point for each year's new "blind" may be a bit higher than the prior year's starting point, but rarely does performance match the prior year's projection. The obvious implication: year after year of underperformance relative to plan.

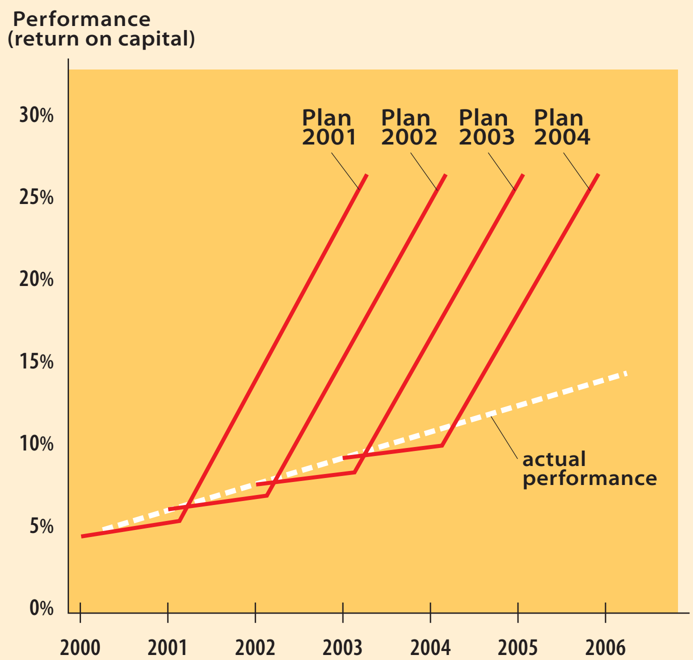
The venetian blinds phenomenon creates a number of related problems. First, because the plan's financial forecasts are unreliable, senior management cannot confidently tie capital approval to strategic planning. Consequently, strategy development and resource allocation become decoupled, and the annual operating plan (or budget) ends up driving the company's long-term investments and strategy. Second, portfolio management gets derailed. Without credible financial forecasts, top management cannot know whether a particular business is worth more to the company and its shareholders than to potential buyers. As a result, businesses that destroy shareholder value stay in the portfolio too long (in the hope that their performance will eventually turn around), and value-creating businesses are starved for capital and other resources. Third, poor financial forecasts complicate communications with the investment community. Indeed, to avoid coming up short at the end of the quarter, the CFO and head of investor relations frequently impose a "contingency" or "safety margin" on top of the forecast produced by consolidating the business-unit plans. Because this top-down contingency is wrong just as often as it is right, poor financial forecasts run the risk of damaging a company's reputation with analysts and investors.

A lot of value is lost in translation. Given the poor quality of financial forecasts in most strategic plans, it is probably not surprising that most companies fail to realize their strategies' potential value. As we've mentioned, our survey indicates that, on average, most strategies deliver only 63% of their potential financial performance. And more than one-third of the executives surveyed placed the figure at less than 50%. Put differently, if management were to realize the full potential of its current strategy, the increase in value could be as much as 60% to 100%!

As illustrated in the exhibit "Where the Performance Goes," the strategy-to-performance gap can be attributed to a combination of factors, such as poorly formulated plans, misapplied resources, breakdowns in communication, and limited accountability for results. To elaborate, management starts with a strategy it believes will generate a certain level of financial performance and value over time (100%, as noted in the exhibit). But, according to the executives we surveyed, the failure to have the right resources in the right place at the right time strips away some 7.5% of the strategy's potential value. Some 5.2% is lost to poor communications, 4.5% to poor action planning, 4.1% to blurred accountabilities, and so on. Of course, these estimates reflect the average experience of the executives we surveyed and may not be representative of every company or every strategy. Nonetheless, they do highlight the issues

THE VENETIAN BLINDS OF BUSINESS

This graphic illustrates a dynamic common to many companies. In January 2001, management approves a strategic plan (Plan 2001) that projects modest performance for the first year and a high rate of performance thereafter, as shown in the first solid line. For beating the first year's projection, the unit management is both commended and handsomely rewarded. A new plan is then prepared, projecting uninspiring results for the first year and once again promising a fast rate of performance improvement thereafter, as shown by the second solid line (Plan 2002). This, too, succeeds only partially, so another plan is drawn up, and so on. The actual rate of performance improvement can be seen by joining the start points of each plan (the dotted line).



managers need to focus on as they review their companies' processes for planning and executing strategies.

What emerges from our survey results is a sequence of events that goes something like this: Strategies are approved but poorly communicated. This, in turn, makes the translation of strategy into specific actions and resource plans all but impossible. Lower levels in the organization don't know what they need to do, when they need to do it, or what resources will be required to deliver the performance senior management expects. Consequently, the expected results never materialize. And because no one is held responsible for the shortfall, the cycle of underperformance gets repeated, often for many years.

Performance bottlenecks are frequently invisible to top management. The processes most companies use to develop plans, allocate resources, and track performance make it difficult for top management to discern whether the strategy-to-performance gap stems from poor planning, poor execution, both, or neither. Because so many plans incorporate overly ambitious projections, companies frequently write off performance shortfalls as "just another hockey-stick forecast." And when plans are realistic and performance falls short, executives have few early-warning signals. They often have no way of knowing whether critical actions were carried out as expected, resources were deployed on schedule, competitors responded as anticipated, and so on. Unfortunately, without clear information on how and why performance is falling short, it is virtually impossible for top management to take appropriate corrective action.

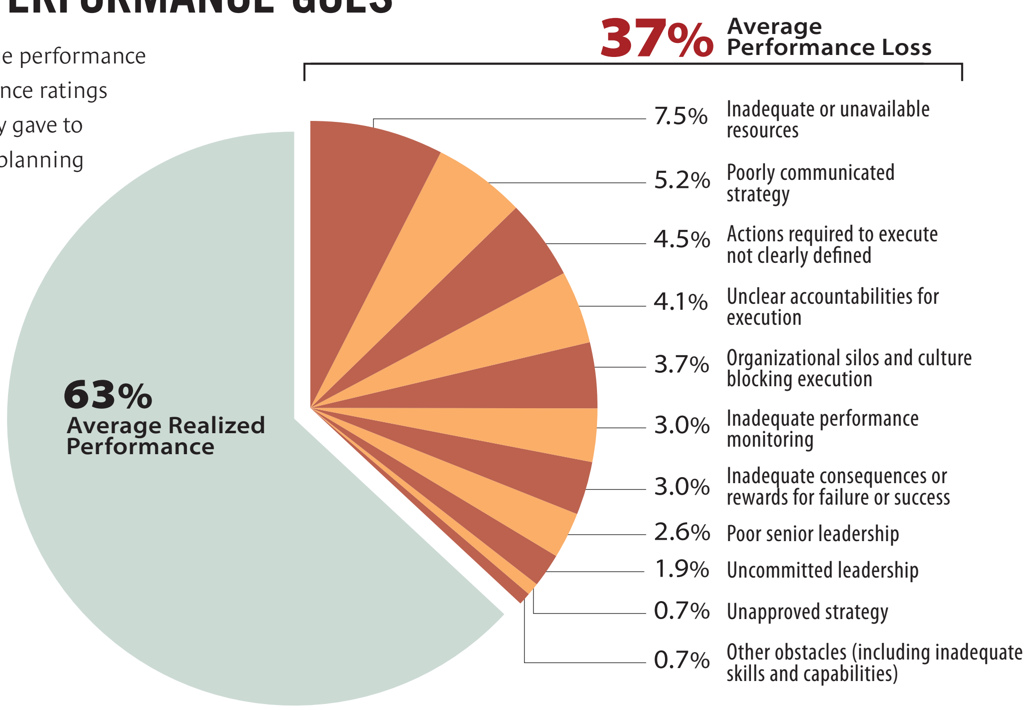
The strategy-to-performance gap fosters a culture of underperformance. In many companies, planning and execution breakdowns are reinforced – even magnified – by an insidious shift in culture. In our experience, this change occurs subtly but quickly, and once it has taken root it is very hard to reverse. First, unrealistic plans create the expectation throughout the organization that plans simply will not be fulfilled. Then, as the expectation becomes experience, it becomes the norm that performance commitments won't be kept. So commitments cease to be binding promises with real consequences. Rather than stretching to ensure that commitments are kept, managers, expecting failure, seek to protect themselves from the eventual fallout. They spend time covering their tracks rather than identifying actions to enhance performance. The organization becomes less self-critical and less intellectually honest about its shortcomings. Consequently, it loses its capacity to perform.

Closing the Strategy-to-Performance Gap

As significant as the strategy-to-performance gap is at most companies, management can close it. A number of high-performing companies have found ways to realize more of their strategies' potential. Rather than focus on improving their planning and execution processes sepa-

WHERE THE PERFORMANCE GOES

This chart shows the average performance loss implied by the importance ratings that managers in our survey gave to specific breakdowns in the planning and execution process.



rately to close the gap, these companies work both sides of the equation, raising standards for both planning and execution simultaneously and creating clear links between them.

Our research and experience in working with many of these companies suggests they follow seven rules that apply to planning and execution. Living by these rules enables them to objectively assess any performance shortfall and determine whether it stems from the strategy, the plan, the execution, or employees' capabilities. And the same rules that allow them to spot problems early also help them prevent performance shortfalls in the first place. These rules may seem simple – even obvious – but when strictly and collectively observed, they can transform both the quality of a company's strategy and its ability to deliver results.

Rule 1: Keep it simple, make it concrete. At most companies, strategy is a highly abstract concept – often confused with vision or aspiration – and is not something that can be easily communicated or translated into action. But without a clear sense of where the company is headed and why, lower levels in the organization cannot put in place executable plans. In short, the link between strategy and performance can't be drawn because the strategy itself is not sufficiently concrete.

To start off the planning and execution process on the right track, high-performing companies avoid long, drawn-out descriptions of lofty goals and instead stick to clear language describing their course of action. Bob Diamond, CEO of Barclays Capital, one of the fastest-growing and best-performing investment banking operations in Europe, puts it this way: "We've been very clear about what we will and will not do. We knew we weren't going to go head-to-head with U.S. bulge bracket firms. We communicated that we wouldn't compete in this way and that we wouldn't play in unprofitable segments within the equity markets but instead would invest to position ourselves for the euro, the burgeoning need for fixed income, and the end of Glass-Steigel. By ensuring everyone knew the strategy and how it was different, we've been able to spend more time on tasks that are key to executing this strategy."

By being clear about what the strategy is and isn't, companies like Barclays keep everyone headed in the same direction. More important, they safeguard the performance their counterparts lose to ineffective communications; their resource and action planning becomes more effective; and accountabilities are easier to specify.

Rule 2: Debate assumptions, not forecasts. At many companies, a business unit's strategic plan is little more than a negotiated settlement – the result of careful bargaining with the corporate center over performance targets and financial forecasts. Planning, therefore, is largely a political process – with unit management arguing for lower near-term profit projections (to secure higher annual bonuses) and top management pressing for more long-term stretch (to satisfy the board of directors and other external constituents). Not surprisingly, the forecasts that emerge from these negotiations almost always understate what each business unit can deliver in the near term and overstate what can realistically be expected in the long-term – the hockey-stick charts with which CEOs are all too familiar.

Even at companies where the planning process is isolated from the political concerns of performance evaluation and compensation, the approach used to generate financial projections often has built-in biases. Indeed, financial forecasting frequently takes place in complete isolation from the marketing or strategy functions. A business unit's finance function prepares a highly detailed line-item forecast whose short-term assumptions may be realistic, if conservative, but whose long-term assumptions are largely uninformed. For example, revenue forecasts are typically based on crude estimates about average pricing, market growth, and market share. Projections of long-term costs and working capital requirements are based on an assumption about annual productivity gains – expediently tied, perhaps, to some companywide efficiency program. These forecasts are difficult for top management to pick apart. Each line item may be completely defensible, but the overall plan and projections embed a clear upward bias – rendering them useless for driving strategy execution.

High-performing companies view planning altogether differently. They want their forecasts to drive the work they actually do. To make this possible, they have to ensure that the assumptions underlying their long-term plans reflect both the real economics of their markets and the performance experience of the company relative to competitors. Tyco CEO Ed Breen, brought in to turn the company around in July 2002, credits a revamped plan-building process for contributing to Tyco's dramatic recovery. When Breen joined the company, Tyco was a labyrinth of 42 business units and several hundred profit centers, built up over many years through countless acquisitions. Few of Tyco's businesses had complete plans, and virtually none had reliable financial forecasts.

To get a grip on the conglomerate's complex operations, Breen assigned cross-functional teams at each unit, drawn from strategy, marketing, and finance, to develop detailed information on the profitability of Tyco's primary markets as well as the product or service offerings, costs, and price positioning relative to the competition. The teams met with corporate executives biweekly during Breen's first six months to review and discuss the findings. These discussions focused on the assumptions that would drive each unit's long-term financial performance, not on the financial forecasts themselves. In fact, once assumptions about market trends were agreed on, it was relatively easy for Tyco's central finance function to prepare externally oriented and internally consistent forecasts for each unit.

Separating the process of building assumptions from that of preparing financial projections helps to ground the business unit–corporate center dialogue in economic reality. Units can't hide behind specious details, and corporate center executives can't push for unrealistic goals. What's more, the fact-based discussion resulting from this kind of approach builds trust between the top team and each unit and removes barriers to fast and effective execution. "When you understand the fundamentals and performance drivers in a detailed way," says Bob Diamond, "you can then step back, and you don't have to manage the details. The team knows which issues it can get on with, which it needs to flag to me, and which issues we really need to work out together."

Rule 3: Use a rigorous framework, speak a common language. To be productive, the dialogue between the corporate center and the business units about market trends and assumptions must be conducted within a rigorous framework. Many of the companies we advise use the concept of profit pools, which draws on the competition theories of Michael Porter and others. In this framework, a business's long-term financial performance is tied to the total profit pool available in each of the markets it serves and its share of each profit pool–which, in turn, is tied to the business's market share and relative profitability versus competitors in each market.

In this approach, the first step is for the corporate center and the unit team to agree on the size and growth of each profit pool. Fiercely competitive markets, such as pulp and paper or commercial airlines, have small (or negative) total profit pools. Less competitive markets, like soft drinks or pharmaceuticals, have large total profit pools. We find it helpful to estimate the size of each profit pool directly–through detailed benchmarking–and then forecast changes in the pool's size and growth. Each business unit then assesses what share of the total profit pool it can realistically capture over time, given its business model and positioning. Competitively advantaged businesses can capture a large share of the profit pool – by gaining or sustaining a high market share, generating above-average profitability, or both. Competitively disadvantaged businesses, by contrast, typically capture a negligible share of the profit pool. Once the unit and the corporate center agree on the likely share of the pool the business will capture over time, the corporate center can easily create the financial projections that will serve as the unit's road map.

In our view, the specific framework a company uses to ground its strategic plans isn't all that important. What is critical is that the framework establish a common language for the dialogue between the corporate center and the units – one that the strategy, marketing, and finance teams all understand and use. Without a rigorous framework to link a business's performance in the product markets with its financial performance over time, it is very difficult for top management to ascertain whether the financial projections that accompany a business unit's strategic plan are reasonable and realistically achievable. As a result, management can't know with confidence whether a performance shortfall stems from poor execution or an unrealistic and ungrounded plan.

Rule 4: Discuss resource deployments early. Companies can create more realistic forecasts and more executable plans if they discuss up front the level and timing of critical resource deployments. At Cisco Systems, for example, a cross-functional team reviews the level and timing of resource deployments early in the planning stage. These teams regularly meet with John Chambers (CEO), Dennis Powell (CFO), Randy Pond (VP of operations), and the other members of Cisco's executive team to discuss their findings and make recommendations. Once agreement is reached on resource allocation and timing at the unit level, those elements are factored into the company's two-year plan. Cisco then monitors each unit's actual resource deployments on a monthly basis (as well as its performance) to make sure things are going according to plan and that the plan is generating the expected results.

Challenging business units about when new resources need to be in place focuses the planning dialogue on what actually needs to happen across the company in order to execute each unit's strategy. Critical questions invariably surface, such as: How long will it take us to change customers' purchase patterns? How fast can we deploy our new sales force? How quickly will competitors respond? These are tough questions. But answering them makes the forecasts and the plans they accompany more feasible.

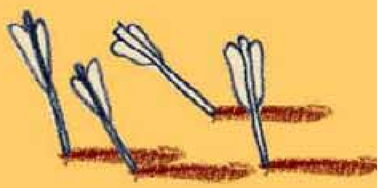
What's more, an early assessment of resource needs also informs discussions about market trends and drivers, improving the quality of the strategic plan and making it far more executable. In the course of talking about the resources needed to expand in the rapidly growing cable market, for example, Cisco came to realize that additional growth would require more trained engineers to improve existing products and develop new features. So, rather than relying on the functions to provide these resources from the bottom up, corporate management earmarked a specific number of trained engineers to support growth in cable. Cisco's financial-planning organization carefully monitors the engineering head count, the pace of feature development, and revenues generated by the business to make sure the strategy stays on track.

Rule 5: Clearly identify priorities. To deliver any strategy successfully, managers must make thousands of tactical decisions and put them into action. But not all tactics are equally important. In most instances, a few key steps must be taken – at the right time and in the right way – to meet planned performance. Leading companies make these priorities explicit so that each executive has a clear sense of where to direct his or her efforts.

At Textron, a $10 billion multi-industrial conglomerate, each business unit identifies "improvement priorities" that it must act upon to realize the performance outlined in its strategic plan. Each improvement priority is translated into action items with clearly defined accountabilities, timetables, and key performance indicators (KPIs) that allow executives to tell how a unit is delivering on a priority. Improvement priorities and action items cascade to every level at the company – from the management committee (consisting of Textron's top five executives) down to the lowest levels in each of the company's ten business units. Lewis Campbell, Textron's CEO, summarizes the company's approach this way: "Everyone needs to know: 'If I have only one hour to work, here's what I'm going to focus on.' Our goal deployment process makes each individual's accountabilities and priorities clear."

The Swiss pharmaceutical giant Roche goes as far as to turn its business plans into detailed performance contracts that clearly specify the steps needed and the risks that must be managed to achieve the plans. These contracts all include a "delivery agenda" that lists the five to ten critical priorities with the greatest impact on performance. By maintaining a delivery agenda at each level of the company, Chairman and CEO Franz Humer and his leadership team make sure "everyone at Roche understands exactly what we have agreed to do at a strategic level and that our strategy gets translated into clear execution priorities. Our delivery agenda helps us stay the course with the strategy decisions we have made so that execution is actually allowed to happen. We cannot control implementation from HQ, but we can agree on the priorities, communicate relentlessly, and hold managers accountable for executing against their commitments."

The prize for closing the strategy-to-performance gap is huge – an increase in performance of anywhere from 60% to 100% for most companies.



Rule 6: Continuously monitor performance. Seasoned executives know almost instinctively whether a business has asked for too much, too little, or just enough resources to deliver the goods. They develop this capability over time – essentially through trial and error. High-performing companies use real-time performance tracking to help accelerate this trial-and-error process. They continuously monitor their resource deployment patterns and their results against plan, using continuous feedback to reset planning assumptions and reallocate resources. This real-time information allows management to spot and remedy flaws in the plan and shortfalls in execution – and to avoid confusing one with the other.

At Textron, for example, each KPI is carefully monitored, and regular operating reviews percolate performance shortfalls – or "red light" events – up through the management ranks. This provides CEO Lewis Campbell, CFO Ted French, and the other members of Textron's management committee with the information they need to spot and fix breakdowns in execution.

A similar approach has played an important role in the dramatic revival of Dow Chemical's fortunes. In December 2001, with performance in a free fall, Dow's board of directors asked Bill Stavropoulos (Dow's CEO from 1993 to 1999) to return to the helm. Stavropoulos and Andrew Liveris (the current CEO, then COO) immediately focused Dow's entire top leadership team on execution through a project they called the Performance Improvement Drive. They began by defining clear performance metrics for each of Dow's 79 business units. Performance on these key metrics was tracked against plans on a weekly basis, and the entire leadership team discussed any serious discrepancies first thing every Monday morning. As Liveris told us, the weekly monitoring sessions "forced everyone to live the details of execution" and let "the entire organization know how we were performing."

Continuous monitoring of performance is particularly important in highly volatile industries, where events outside anyone's control can render a plan irrelevant. Under CEO Alan Mulally, Boeing Commercial Airplanes' leadership team holds weekly business performance reviews to track the division's results against its multiyear plan. By tracking the deployment of resources as a leading indicator of whether a plan is being executed effectively, BCA's leadership team can make course corrections each week rather than waiting for quarterly results to roll in.

Furthermore, by proactively monitoring the primary drivers of performance (such as passenger traffic patterns, airline yields and load factors, and new aircraft orders), BCA is better able to develop and deploy effective countermeasures when events throw its plans off course. During the SARS epidemic in late 2002, for example, BCA's leadership team took action to mitigate the adverse consequences of the illness on the business's operating plan within a week of the initial outbreak. The abrupt decline in air traffic to Hong Kong, Singapore, and other Asian business centers signaled that the number of future aircraft deliveries to the region would fall – perhaps precipitously. Accordingly, BCA scaled back its medium-term production plans (delaying the scheduled ramp-up of some programs and accelerating the shutdown of others) and adjusted its multiyear operating plan to reflect the anticipated financial impact.

Rule 7: Reward and develop execution capabilities. No list of rules on this topic would be complete without a reminder that companies have to motivate and develop their staffs; at the end of the day, no process can be better than the people who have to make it work. Unsurprisingly, therefore, nearly all of the companies we studied insisted that the selection and development of management was an essential ingredient in their success. And while improving the capabilities of a company's workforce is no easy task – often taking many years – these capabilities, once built, can drive superior planning and execution for decades.

For Barclays' Bob Diamond, nothing is more important than "ensuring that [the company] hires only A players." In his view, "the hidden costs of bad hiring decisions are enormous, so despite the fact that we are doubling in size, we insist that as a top team we take responsibility for all hiring. The jury of your peers is the toughest judgment, so we vet each others' potential hires and challenge each other to keep raising the bar." It's equally important to make sure that talented hires are rewarded for superior execution. To reinforce its core values of "client," "meritocracy," "team," and "integrity," Barclays Capital has innovative pay schemes that "ring fence" rewards. Stars don't lose out just because the business is entering new markets with lower returns during the growth phase. Says Diamond: "It's so bad for the culture if you don't deliver what you promised to people who have delivered.... You've got to make sure you are consistent and fair, unless you want to lose your most productive people."

Companies that are strong on execution also emphasize development. Soon after he became CEO of 3M, Jim McNerney and his top team spent 18 months hashing out a new leadership model for the company. Challenging debates among members of the top team led to agreement on six "leadership attributes" – namely, the ability to "chart the course," "energize and inspire others," "demonstrate ethics, integrity, and compliance," "deliver results," "raise the bar," and "innovate resourcefully." 3M's leadership agreed that these six attributes were essential for the company to become skilled at execution and known for accountability. Today, the leaders credit this model with helping 3M to sustain and even improve its consistently strong performance.

• • •

The prize for closing the strategy-to-performance gap is huge – an increase in performance of anywhere from 60% to 100% for most companies. But this almost certainly understates the true benefits. Companies that create tight links between their strategies, their plans, and, ultimately, their performance often experience a cultural multiplier effect. Over time, as they turn their strategies into great performance, leaders in these organizations become much more confident in their own capabilities and much more willing to make the stretch commitments that inspire and transform large companies. In turn, individual managers who keep their commitments are rewarded – with faster progression and fatter paychecks – reinforcing the behaviors needed to drive any company forward.

Eventually, a culture of overperformance emerges. Investors start giving management the benefit of the doubt when it comes to bold moves and performance delivery. The result is a performance premium on the company's stock – one that further rewards stretch commitments and performance delivery. Before long, the company's reputation among potential recruits rises, and a virtuous circle is created in which talent begets performance, performance begets rewards, and rewards beget even more talent. In short, closing the strategy-to-performance gap is not only a source of immediate performance improvement but also an important driver of cultural change with a large and lasting impact on the organization's capabilities, strategies, and competitiveness.

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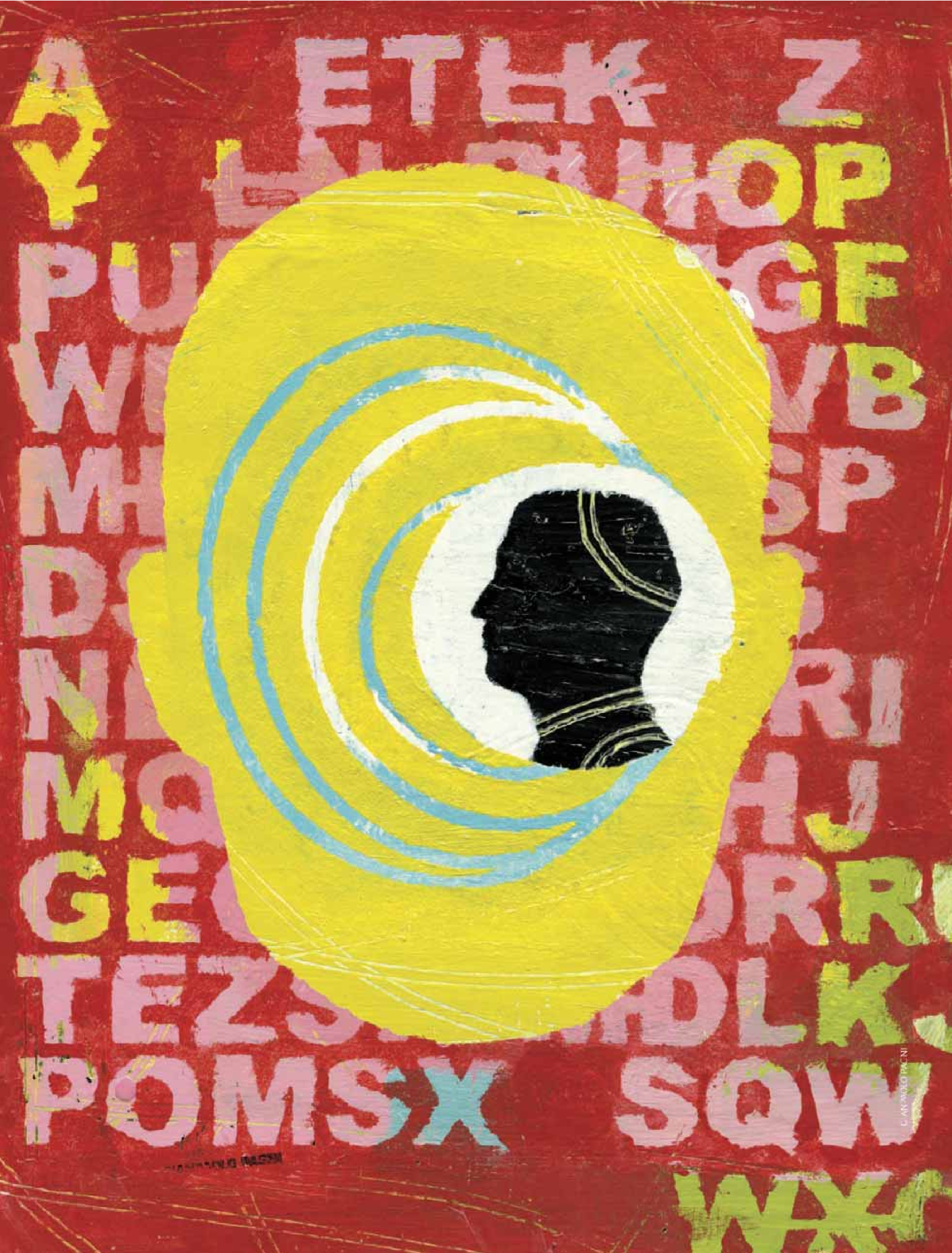

Leaders are at the top of their game when they act from their **deepest values and instincts.** Usually they tap into these fundamental qualities during a crisis, but it's possible to do so anytime – in the right frame of mind.

MOMENTS OF GREATNESS

ENTERING THE FUNDAMENTAL STATE OF LEADERSHIP

by Robert E. Quinn

As leaders, sometimes we're truly "on," and sometimes we're not. Why is that? What separates the episodes of excellence from those of mere competence? In striving to tip the balance toward excellence, we try to identify great leaders' qualities and behaviors so we can develop them ourselves. Nearly all corporate training programs and books on leadership are grounded in the assumption that we should study the behaviors of those who have been successful and teach people to emulate them.

But my colleagues and I have found that when leaders do their best work, they don't copy anyone. Instead, they draw on their own fundamental values and capabilities–operating in a frame of mind that is true to them yet, paradoxically, not their normal state of being. I call it the *fundamental state of leadership.* It's the way we lead when we encounter a crisis and finally choose to move forward. Think back to a time when you faced a significant life challenge: a promotion opportunity, the risk of professional failure, a serious illness, a divorce, the death of a loved one, or any other major jolt. Most likely, if you made decisions not to meet others' expectations but to suit what you instinctively understood to be right–in other words, if you were at your very best–you rose to the task because you were being tested.

Is it possible to enter the fundamental state of leadership without crisis? In my work coaching business executives, I've found that if we ask ourselves – and honestly answer–just four questions, we can make the shift at any time. It's a temporary state. Fatigue and external resistance pull us out of it. But each time we reach it, we return to our everyday selves a bit more capable, and we usually elevate the performance of the people around us as well. Over time, we all can become more effective leaders by deliberately choosing to enter the fundamental state of leadership rather than waiting for crisis to force us there.

Defining the Fundamental State

Even those who are widely admired for their seemingly easy and natural leadership skills–presidents, prime ministers, CEOs – do not usually function in the fundamental state of leadership. Most of the time, they are in their normal state – a healthy and even necessary condition under many circumstances, but not one that's conducive to coping with crisis. In the normal state, people tend to stay within their comfort zones and allow external forces to direct their behaviors and decisions. They lose moral influence and often rely on rational argument and the exercise of authority to bring about change. Others comply with what these leaders ask, out of fear, but the result is usually unimaginative and incremental–and largely reproduces what already exists.

To elevate the performance of others, we must elevate ourselves into the fundamental state of leadership. Getting there requires a shift along four dimensions. (See the exhibit "There's Normal, and There's Fundamental.")

First, we move from being comfort centered to being results centered. The former feels safe but eventually leads to a sense of languishing and meaninglessness. In his book *The Path of Least Resistance,* Robert Fritz carefully explains how asking a single question can move us from the normal, reactive state to a much more generative condition. That question is this: What result do I want to create? Giving an honest answer pushes us off nature's path of least resistance. It leads us from problem solving to purpose finding.

Second, we move from being externally directed to being more internally directed. That means that we stop merely complying with others' expectations and conforming to the current culture. To become more internally directed is to clarify our core values and increase our integrity, confidence, and authenticity. As we become more confident and more authentic, we behave differently. Others must make sense of our new behavior. Some will be attracted to it, and some will be offended by it. That's not prohibitive, though: When we are true to our values, we are willing to initiate such conflict.

Third, we become less self-focused and more focused on others. We put the needs of the organization as a whole above our own. Few among us would admit that personal needs trump the collective good, but the impulse to control relationships in a way that feeds our own interests is natural and normal. That said, self-focus over time leads to feelings of isolation. When we put the collective good first, others reward us with their trust and respect. We form tighter, more sensitive bonds. Empathy increases, and cohesion follows. We create an enriched sense of community, and that helps us transcend the conflicts that are a necessary element in high-performing organizations.

Fourth, we become more open to outside signals or stimuli, including those that require us to do things we are not comfortable doing. In the normal state, we pay attention to signals that we know to be relevant. If they suggest incremental adjustments, we respond. If, however, they call for more dramatic changes, we may adopt a posture of defensiveness and denial; this mode of self-protection and self-deception separates us from the ever-changing external world. We live according to an outdated, less valid, image of what is real. But in the fundamental state of leadership, we are more aware of what is unfolding, and we generate new images all the time. We are adaptive, credible, and unique. In this externally open state, no two people are alike.

These four qualities–being results centered, internally directed, other focused, and externally open – are at the heart of positive human influence, which is generative and attractive. A person without these four characteristics can also be highly influential, but his or her influence tends to

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be predicated on some form of control or force, which does not usually give rise to committed followers. By entering the fundamental state of leadership, we increase the likelihood of attracting others to an elevated level of community, a high-performance state that may continue even when we are not present.

Preparing for the Fundamental State

Because people usually do not leave their comfort zones unless forced, many find it helpful to follow a process when they choose to enter the fundamental state of leadership. I teach a technique to executives and use it in my own work. It simply involves asking four awareness-raising questions designed to help us transcend our natural denial mechanisms. When people become aware of their hypocrisies, they are more likely to change. Those who are new to the "fundamental state" concept, however, need to take two preliminary steps before they can understand and employ it.

Step 1: Recognize that you have previously entered the fundamental state of leadership. Every reader of this publication has reached, at one time or another, the fundamental state of leadership. We've all faced a great personal or professional challenge and spent time in the dark night of the soul. In successfully working through such episodes, we inevitably enter the fundamental state of leadership.

When I introduce people to this concept, I ask them to identify two demanding experiences from their past and ponder what happened in terms of intention, integrity, trust, and adaptability. At first, they resist the exercise because I am asking them to revisit times of great personal pain. But as they recount their experiences, they begin to see that they are also returning to moments of greatness. Our painful experiences often bring out our best selves. Recalling the lessons of such moments releases positive emotions and makes it easier to see what's possible in the present. In this exercise, I ask people to consider their behavior during these episodes in relation to the characteristics of the fundamental state of leadership. (See the exhibit "You've Already Been There" for analyses of two actual episodes.)

Sometimes I also ask workshop participants to share their stories with one another. Naturally, they are reluctant to talk about such dark moments. To help people open up, I share my own moments of great challenge, the ones I would normally keep to myself. By exhibiting vulnerability, I'm able to win the group's trust and embolden other people to exercise the same courage. I recently ran a workshop with a cynical group of executives. After I broke the testimonial ice, one of the participants told us of a time when he had accepted a new job that required him to relocate his family. Just before he was to start, his new boss called in a panic, asking him to cut his vacation short and begin work immediately. The entire New England engineering team had quit; clients in the region had no support whatsoever. The executive started his job early, and his family had to navigate the move without his help. He described the next few months as "the worst and best experience" of his life.

Another executive shared that he'd found out he had cancer the same week he was promoted and relocated to Paris, not knowing how to speak French. His voice cracked as he recalled these stressful events. But then he told us about the good that came out of them–how he conquered both the disease and the job while also becoming a more authentic and influential leader.

There's Normal, and There's Fundamental

Under everyday circumstances, leaders can remain in their normal state of being and do what they need to do. But some challenges require a heightened perspective–what can be called the fundamental state of leadership. Here's how the two states differ.

In the normal state, I am…	In the fundamental state, I am…
COMFORT CENTERED	**RESULTS CENTERED**
I stick with what I know.	I venture beyond familiar territory to pursue ambitious new outcomes.
EXTERNALLY DIRECTED	**INTERNALLY DIRECTED**
I comply with others' wishes in an effort to keep the peace.	I behave according to my values.
SELF-FOCUSED	**OTHER FOCUSED**
I place my interests above those of the group.	I put the collective good first.
INTERNALLY CLOSED	**EXTERNALLY OPEN**
I block out external stimuli in order to stay on task and avoid risk.	I learn from my environment and recognize when there's a need for change.

Others came forward with their own stories, and I saw a great change in the group. The initial resistance and cynicism began to disappear, and participants started exploring the fundamental state of leadership in a serious way. They saw the power in the concept and recognized that hiding behind their pride or reputation would only get in the way of future progress. In recounting their experiences, they came to realize that they had become more purposive, authentic, compassionate, and responsive.

Step 2: Analyze your current state. When we're in the fundamental state, we take on various positive characteristics, such as clarity of vision, self-empowerment, empathy, and creative thinking. (See the exhibit "Are You in the Fundamental State of Leadership?" for a checklist organized along the four dimensions.) Most of us would like to say we display these characteristics at all times, but we really do so only sporadically.

Comparing our normal performance with what we have done at our very best often creates a desire to elevate what we are doing now. Knowing we've operated at a higher level in the past instills confidence that we can do so again; it quells our fear of stepping into unknown and risky territory.

Asking Four Transformative Questions

Of course, understanding the fundamental state of leadership and recognizing its power are not the same as being there. Entering that state is where the real work comes in. To get started, we can ask ourselves four questions that correspond with the four qualities of the fundamental state.

To show how each of these qualities affects our behavior while we're in the fundamental state of leadership, I'll draw on stories from two executives. One is a com-

You've Already Been There

Two participants in a leadership workshop at the University of Michigan's Ross School of Business used this self-assessment tool to figure out how they've transcended their greatest life challenges by entering the fundamental state of leadership. You can use the same approach in analyzing how you've conquered your most significant challenges.

	PARTICIPANT A	PARTICIPANT B
The pivotal crisis:	I was thrust into a job that was crucial to the organization but greatly exceeded my capabilities. I had to get people to do things they did not want to do.	I was driving myself hard at work, and things kept getting worse at home. Finally my wife told me she wanted a divorce.
How did you become more results centered?	I kept trying to escape doing what was required, but I could not stand the guilt. I finally decided I had to change. I envisioned what success might look like, and I committed to making whatever changes were necessary.	I felt I'd lost everything: family, wealth, and stature. I withdrew from relationships. I started drinking heavily. I finally sought professional help for my sorrow and, with guidance, clarified my values and made choices about my future.
How did you become more internally directed?	I stopped worrying so much about how other people would evaluate and judge me. I was starting to operate from my own values. I felt more self-empowered than ever and realized how fear driven I had been.	I engaged in a lot of self-reflection and journal writing. It became clear that I was not defined by marriage, wealth, or stature. I was more than that. I began to focus on how I could make a difference for other people. I got more involved in my community.
How did you become more focused on others?	I realized how much I needed people, and I became more concerned about them. I was better able to hear what they were saying. I talked not just from my head but also from my heart. My colleagues responded. Today, I am still close to those people.	As I started to grow and feel more self-confident, I became better at relating. At work, I now ask more of people than I ever did before, but I also give them far more support. I care about them, and they can tell.
How did you become more externally open?	I experimented with new approaches. They often did not work, but they kept the brainstorming in motion. I paid attention to every kind of feedback. I was hungry to get it right. There was a lot of discovery. Each step forward was exhilarating.	I began to feel stronger. I was less intimidated when people gave me negative feedback. I think it was because I was less afraid of changing and growing.

pany president; we'll call him John Jones. The other, Robert Yamamoto, is the executive director of the Los Angeles Junior Chamber of Commerce. Both once struggled with major challenges that changed the way they thought about their jobs and their lives.

I met John in an executive course I was teaching. He was a successful change leader who had turned around two companies in his corporation. Yet he was frustrated. He had been promised he'd become president of the largest company in the corporation as soon as the current president retired, which would happen in the near future. In the meantime, he had been told to bide his time with a company that everyone considered dead. His assignment was simply to oversee the funeral, yet he took it as a personal challenge to turn the company around. After he had been there nine months, however, there was little improvement, and the people were still not very engaged.

As for Robert, he had been getting what he considered to be acceptable (if not exceptional) results in his company. So when the new board president asked him to prepare a letter of resignation, Robert was stunned. He underwent a period of anguished introspection, during which he began to distrust others and question his own management skills and leadership ability. Concerned for his family and his future, he started to seek another job and wrote the requested letter.

As you will see, however, even though things looked grim for both Robert and John, they were on the threshold of positive change.

Am I results centered? Most of the time, we are comfort centered. We try to continue doing what we know how to do. We may think we are pursuing new outcomes, but if achieving them means leaving our comfort zones, we subtly – even unconsciously – find ways to avoid doing so. We typically advocate ambitious outcomes while designing our work for maximum administrative convenience, which allows us to avoid conflict but frequently ends up reproducing what already exists. Often, others collude with us to act out this deception. Being comfort centered is hypocritical, self-deceptive, and normal.

Are You in the Fundamental State of Leadership?

Think of a time when you reached the fundamental state of leadership – that is, when you were at your best as a leader – and use this checklist to identify the qualities you displayed. Then check off the items that describe your behavior today. Compare the past and present. If there's a significant difference, what changes do you need to make to get back to the fundamental state?

At my best I was…	Today I am…	
		RESULTS CENTERED
______	______	Knowing what result I'd like to create
______	______	Holding high standards
______	______	Initiating actions
______	______	Challenging people
______	______	Disrupting the status quo
______	______	Capturing people's attention
______	______	Feeling a sense of shared purpose
______	______	Engaging in urgent conversations
		INTERNALLY DIRECTED
______	______	Operating from my core values
______	______	Finding motivation from within
______	______	Feeling self-empowered
______	______	Leading courageously
______	______	Bringing hidden conflicts to the surface
______	______	Expressing what I really believe
______	______	Feeling a sense of shared reality
______	______	Engaging in authentic conversations
		OTHER FOCUSED
______	______	Sacrificing personal interests for the common good
______	______	Seeing the potential in everyone
______	______	Trusting others and fostering interdependence
______	______	Empathizing with people's needs
______	______	Expressing concern
______	______	Supporting people
______	______	Feeling a sense of shared identity
______	______	Engaging in participative conversations
		EXTERNALLY OPEN
______	______	Moving forward into uncertainty
______	______	Inviting feedback
______	______	Paying deep attention to what's unfolding
______	______	Learning exponentially
______	______	Watching for new opportunities
______	______	Growing continually
______	______	Feeling a sense of shared contribution
______	______	Engaging in creative conversations

Clarifying the result we want to create requires us to reorganize our lives. Instead of moving away from a problem, we move toward a possibility that does not yet exist. We become more proactive, intentional, optimistic, invested, and persistent. We also tend to become more energized, and our impact on others becomes energizing.

Consider what happened with John. When I first spoke with him, he sketched out his strategy with little enthusiasm. Sensing that lack of passion, I asked him a question designed to test his commitment to the end he claimed he wanted to obtain:

> What if you told your people the truth? Suppose you told them that nobody really expects you to succeed, that you were assigned to be a caretaker for 18 months, and that you have been promised a plum job once your assignment is through. And then you tell them that you have chosen instead to give up that plum job and bet your career on the people present. Then, from your newly acquired stance of optimism for the company's prospects, you issue some challenges beyond your employees' normal capacity.

To my surprise, John responded that he was beginning to think along similar lines. He grabbed a napkin and rapidly sketched out a new strategy along with a plan for carrying it out, including reassignments for his staff. It was clear and compelling, and he was suddenly full of energy.

What happened here? John was the president of his company and therefore had authority. And he'd turned around two other companies – evidence that he had the knowledge and competencies of a change leader. Yet he was *failing* as a change leader. That's because he had slipped into his comfort zone. He was going through the motions, doing what had worked elsewhere. He was imitating a great leader – in this case, John himself. But imitation is not the way to enter the fundamental state of leadership. If I had accused John of not being committed to a real vision, he would have been incensed. He would have argued heatedly in denial of the truth. All I had to do, though, was nudge him in the right direction. As soon as he envisioned the result he wanted to create and committed himself to it, a new strategy emerged and he was reenergized.

Then there was Robert, who went to what he assumed would be his last board meeting and found that he had more support than he'd been led to believe. Shockingly, at the end of the meeting, he still had his job. Even so, this fortuitous turn brought on further soul-searching. Robert started to pay more attention to what he was doing; he began to see his tendency to be tactical and to gravitate toward routine tasks. He concluded that he was managing, not leading. He was playing a role and abdicating leadership to the board president – not because that person had the knowledge and vision to lead but because the position came with the statutory right to lead. "I suddenly decided to really lead my organization," Robert said. "It was as if a new person emerged. The decision was not about me. I needed to do it for the good of the organization."

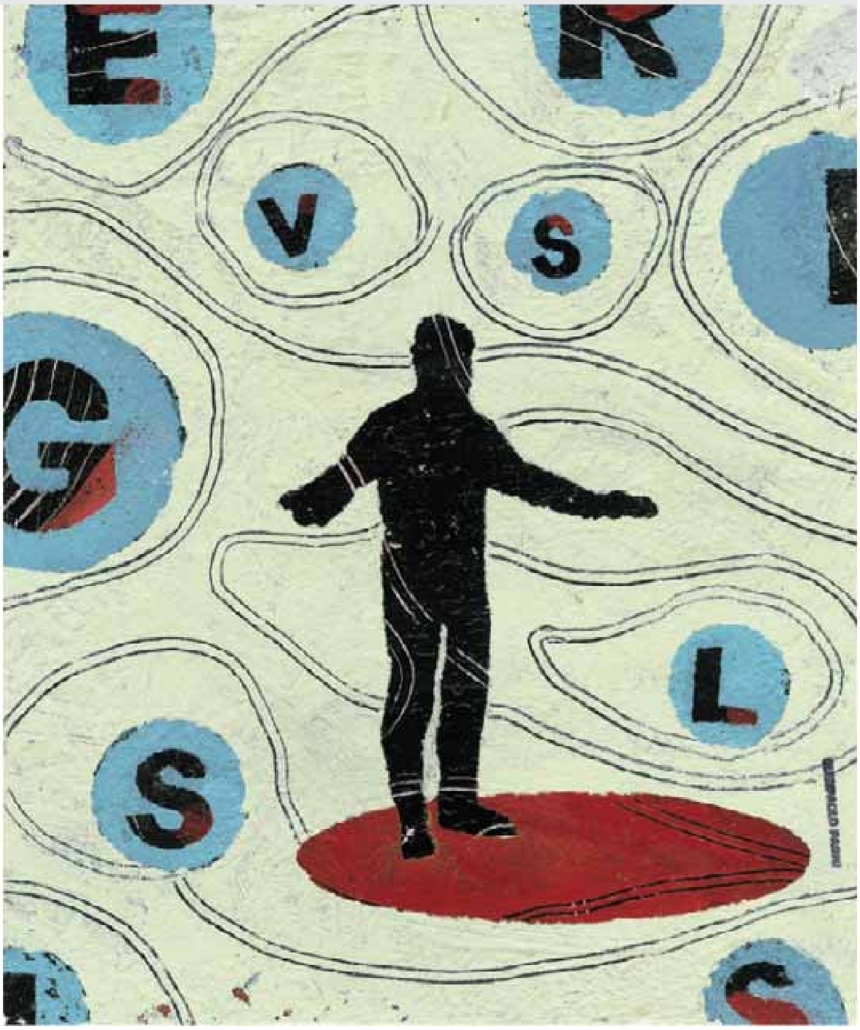
In deciding to "really lead," Robert started identifying the strategic outcomes he wanted to create. As he did this, he found himself leaving his zone of comfort – behaving in new ways and generating new outcomes.

Am I internally directed? In the normal state, we comply with social pressures in order to avoid conflict and remain connected with our coworkers. However, we end up feeling *less* connected because conflict avoidance results in political compromise. We begin to lose our uniqueness and our sense of integrity. The agenda gradually shifts from creating an external result to preserving political peace. As this problem intensifies, we begin to lose hope and energy.

This loss was readily apparent in the case of John. He was his corporation's shining star. But since he was at least partially focused on the future reward – the plum job – he was not fully focused on doing the hard work he needed to do at the moment. So he didn't ask enough of the people he was leading. To get more from them, John needed to be more internally directed.

Am I other focused? It's hard to admit, but most of us, most of the time, put our own needs above those of the whole. Indeed, it is healthy to do so; it's a survival mechanism. But when the pursuit of our own interests controls our relationships, we erode others' trust in us. Although people may comply with our wishes, they no longer derive energy from their relationships with us. Over time

When leaders do their best work, they don't copy anyone. They draw on their own values and capabilities.



we drive away the very social support we seek.

To become more focused on others is to commit to the collective good in relationships, groups, or organizations, even if it means incurring personal costs. When John made the shift into the fundamental state of leadership, he committed to an uncertain future for himself. He had been promised a coveted job. All he had to do was wait a few months. Still, he was unhappy, so he chose to turn down the opportunity in favor of a course that was truer to his leadership values. When he shifted gears, he sacrificed his personal security in favor of a greater good.

Remember Robert's words: "The decision was not about me. I needed to do it for the good of the organization." After entering the fundamental state of leadership, he proposed a new strategic direction to the board's president and said that if the board didn't like it, he would walk away with no regrets. He knew that the strategy would benefit the organization, regardless of how it would affect him personally. Robert put the good of the organization first. When a leader does this, people notice, and the leader gains respect and trust. Group members, in turn, become more likely to put the collective good first. When they do, tasks that previously seemed impossible become doable.

Am I externally open? Being closed to external stimuli has the benefit of keeping us on task, but it also allows us to ignore signals that suggest a need for change. Such signals would force us to cede control and face risk, so denying them is self-protective, but it is also self-deceptive. John convinced himself he'd done all he could for his failing company when, deep down, he knew that he had the capacity to improve things. Robert was self-deceptive, too, until crisis and renewed opportunity caused him to open up and explore the fact that he was playing a role accorded him but not using his knowledge and emotional capacity to transcend that role and truly lead his people.

Asking ourselves whether we're externally open shifts our focus from controlling our environment to learning from it and helps us recognize the need for change. Two things happen as a result. First, we are forced to improvise in response to previously unrecognized cues – that is, to depart from established routines. And second, because trial-and-error survival requires an accurate picture of the results we're creating, we actively and genuinely seek honest feedback. Since people trust us more when we're in this state, they tend to offer more accurate feedback, understanding that we are likely to learn from the message rather than kill the messenger. A cycle of learning and empowerment is created, allowing us to see things that people normally cannot see and to formulate transformational strategies.

Applying the Fundamental Principles

Just as I teach others about the fundamental state of leadership, I also try to apply the concept in my own life. I was a team leader on a project for the University of Michigan's Executive Education Center. Usually, the center runs weeklong courses that bring in 30 to 40 executives. It was proposed that we develop a new product, an integrated week of perspectives on leadership. C.K. Prahalad would begin with a strategic perspective, then Noel Tichy, Dave Ulrich, Karl Weick, and I would follow with our own presentations. The objective was to fill a 400-seat auditorium.

Since each presenter had a reasonably large following in some domain of the executive world, we were confident we could fill the seats, so we scheduled the program for the month of July, when our facilities were typically underutilized.

In the early months of planning and organizing, everything went perfectly. A marketing consultant had said we could expect to secure half our enrollment three weeks prior to the event. When that time rolled around, slightly less than half of the target audience had signed up, so we thought all was well. But then a different consultant indicated that for our kind of event we would get few additional enrollments during the last three weeks. This stunning prediction meant that attendance would be half of what we expected and we would be lucky to break even.

As the team leader, I could envision the fallout. Our faculty members, accustomed to drawing a full house, would be offended by a half-empty room; the dean would want to know what went wrong; and the center's staff would probably point to the team leader as the problem. That night I spent several hours pacing the floor. I was filled with dread and shame. Finally I told myself that this kind of behavior was useless. I went to my desk and wrote down the four questions. As I considered them, I concluded that I was comfort centered, externally directed, self-focused, and internally closed.

So I asked myself, "What result do I want to create?" I wrote that I wanted the center to learn how to offer a new, world-class product that would be in demand over time. With that clarification came a freeing insight: Because this was our first offering of the product, turning a large profit was not essential. That would be nice, of course, but we'd be happy to learn how to do such an event properly, break even, and lay the groundwork for making a profit in the future.

I then asked myself, "How can I become other focused?" At that moment, I was totally self-focused – I was worried about my reputation – and my first inclination was to be angry with the staff. But in shifting my focus to what they might be thinking that night, I realized they were most likely worried that I'd come to work in the morning ready to assign blame. Suddenly, I saw a need to both challenge and support them.

Finally, I thought about how I could become externally open. It would mean moving forward and learning something new, even if that made me uncomfortable. I needed to engage in an exploratory dialogue rather than preside as the expert in charge.

I immediately began making a list of marketing strategies, though I expected many of them would prove foolish since I knew nothing about marketing. The next day, I brought the staff together – and they, naturally, were guarded. I asked them what result we wanted to create. What happened next is a good example of how contagious the fundamental state of leadership can be.

We talked about strategies for increasing attendance, and after a while, I told the staff that I had some silly marketing ideas and was embarrassed to share them but was willing to do anything to help. They laughed at many of my naive thoughts about how to increase publicity and create pricing incentives. Yet my proposals also sparked serious discussion, and the group began to brainstorm its way into a collective strategy. Because I was externally open, there was space and time for everyone to lead. People came up with better ways of approaching media outlets and creating incentives. In that meeting, the group developed a shared sense of purpose, reality, identity, and contribution. They left feeling reasonable optimism and went forward as a committed team.

In the end, we did not get 400 participants, but we filled more than enough seats to have a successful event. We more than broke even, and we developed the skills we needed to run such an event better in the future. The program was a success because something transformational occurred among the staff. Yet the transformation did not originate in the meeting. It began the night before, when I asked myself the four questions and moved from the normal, reactive state to the fundamental state of leadership. And my entry into the fundamental state encouraged the staff to enter as well.

While the fundamental state proves useful in times of crisis, it can also help us cope with more mundane challenges. If I am going to have an important conversation, attend a key meeting, participate in a significant event, or teach a class, part of my preparation is to try to reach the fundamental state of leadership. Whether I am working

Being closed to external stimuli keeps us on task, but it also allows us to ignore signals that suggest a need for change.

with an individual, a group, or an organization, I ask the same four questions. They often lead to high-performance outcomes, and the repetition of high-performance outcomes can eventually create a high-performance culture.

Inspiring Others to High Performance

When we enter the fundamental state of leadership, we immediately have new thoughts and engage in new behaviors. We can't remain in this state forever. It can last for hours, days, or sometimes months, but eventually we come back to our normal frame of mind. While the fundamental state is temporary, each time we are in it we learn more about people and our environment and increase the probability that we will be able to return to it. Moreover, we inspire those around us to higher levels of performance.

To this day, Robert marvels at the contrast between his organization's past and present. His transformation into a leader with positive energy and a willingness and ability to tackle challenges in new ways helped shape the L.A. Junior Chamber of Commerce into a high-functioning and creative enterprise. When I last spoke to Robert, here's what he had to say:

> I have a critical mass of individuals on both the staff and the board who are willing to look at our challenges in a new way and work on solutions together. At our meetings, new energy is present. What previously seemed unimaginable now seems to happen with ease.

Any CEO would be delighted to be able to say these things. But the truth is, it's not a typical situation. When Robert shifted into the fundamental state of leadership, his group (which started off in a normal state) came to life, infused with his renewed energy and vision. Even after he'd left the fundamental state, the group sustained a higher level of performance. It continues to flourish, without significant staff changes or restructuring.

All this didn't happen because Robert read a book or an article about the best practices of some great leader. It did not happen because he was imitating someone else. It happened because he was jolted out of his comfort zone and was forced to enter the fundamental state of leadership. He was driven to clarify the result he wanted to create, to act courageously from his core values, to surrender his self-interest to the collective good, and to open himself up to learning in real time. From Robert, and others like him, we can learn the value of challenging ourselves in this way – a painful process but one with great potential to make a positive impact on our own lives and on the people around us.

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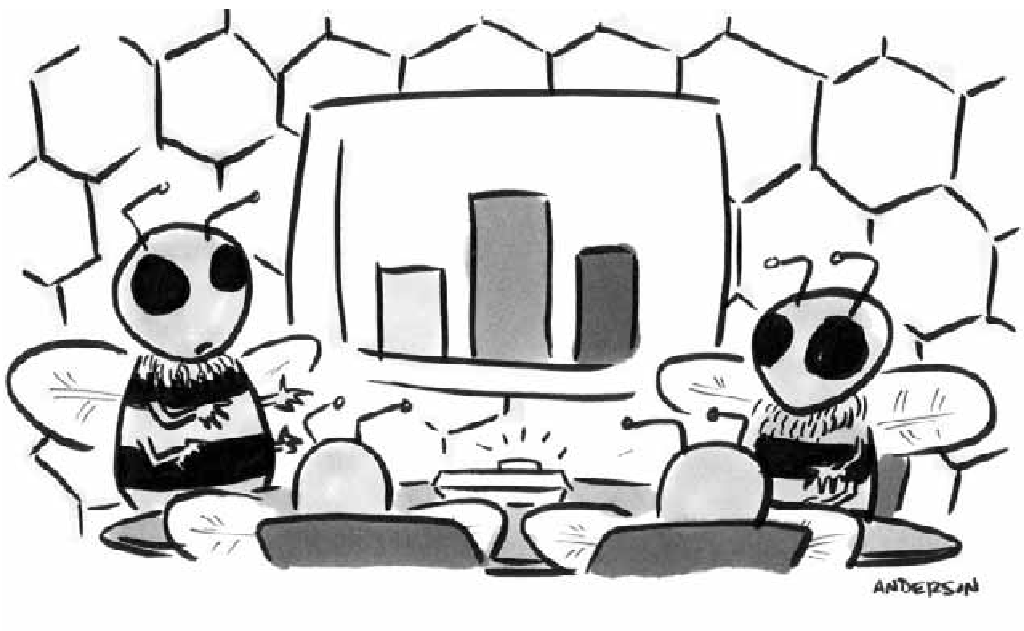

MARK ANDERSON

"Listen – we're dominating honey, so maybe it's time we diversify into jelly."

After-action reviews identify past mistakes but rarely enhance future performance. Companies wanting to fully exploit this tool should look to its master: the U.S. Army's standing enemy brigade, where soldiers learn and improve even in the midst of battle.

LEARNING IN THE THICK OF IT

by Marilyn Darling, Charles Parry, and Joseph Moore

Imagine an organization that confronts constantly changing competitors. That is always smaller and less well-equipped than its opponents. That routinely cuts its manpower and resources. That turns over a third of its leaders every year. And that still manages to win competition after competition after competition.

The U.S. Army's Opposing Force (commonly known as OPFOR), a 2,500-member brigade whose job is to help prepare soldiers for combat, is just such an organization. Created to be the meanest, toughest foe troops will ever face, OPFOR engages units-in-training in a variety of mock campaigns under a wide range of conditions. Every month, a fresh brigade of more than 4,000 soldiers takes on this standing enemy, which, depending on the scenario, may play the role of a hostile army or insurgents, paramilitary units, or terrorists. The two sides battle on foot, in tanks, and in helicopters dodging artillery, land mines, and chemical weapons.

Stationed on a vast, isolated stretch of California desert, OPFOR has the home-court advantage. But the force that's being trained – called Blue Force, or BLUFOR, for

DOUG FRASER


F R A S E R

the duration of the exercise – is numerically and technologically superior. It possesses more dedicated resources and better, more rapidly available data. It is made up of experienced soldiers. And it knows just what to expect, because OPFOR shares its methods from previous campaigns with BLUFOR's commanders. In short, each of these very capable BLUFOR brigades is given practically every edge. Yet OPFOR almost always wins.

Underlying OPFOR's consistent success is the way it uses the *after-action review* (AAR), a method for extracting lessons from one event or project and applying them to others. The AAR, which has evolved over the past two decades, originated at OPFOR's parent organization, the National Training Center (NTC). AAR meetings became a popular business tool after Shell Oil began experimenting with them in 1998 at the suggestion of board member Gordon Sullivan, a retired general. Teams at such companies as Colgate-Palmolive, DTE Energy, Harley-Davidson, and J.M. Huber use these reviews to identify both best practices (which they want to spread) and mistakes (which they don't want to repeat).

Most corporate AARs, however, are faint echoes of the rigorous reviews OPFOR performs. It is simply too easy for companies to turn the process into a pro forma wrap-up. All too often, scrapped projects, poor investments, and failed safety measures end up repeating themselves. Efficient shortcuts, smart solutions, and sound strategies don't.

For companies that want to transform their AARs from postmortems of past failure into aids for future success, there is no better teacher than the technique's master practitioner. OPFOR treats every action as an opportunity for learning – about what to do but also, more important, about how to think. Instead of producing static "knowledge assets" to file away in a management report or repository, OPFOR's AARs generate raw material that the brigade feeds back into the execution cycle. And while OPFOR's reviews extract numerous lessons, the group does not consider a lesson to be truly learned until it is successfully applied and validated.

The battlefield of troops, tanks, and tear gas is very different from the battlefield of products, prices, and profits. But companies that adapt OPFOR's principles to their own practices will be able to integrate leadership, learning, and execution to gain rapid and sustained competitive advantage.

LEARNING TO BE OPFOR

The 11th Armored Cavalry Regiment (ACR), which has played the Opposing Force (OPFOR) for more than a decade, is a brigade of regular U.S. Army soldiers. In the current environment, every Army unit that is deployable has been activated – including the 11th ACR, which is now overseas.

It will return. In the meantime, a National Guard unit that fought side by side with the 11th ACR for ten years has assumed the OPFOR mantle. This new OPFOR faces even greater challenges than the regular brigade did. It is smaller. It comprises not professional soldiers but weekend warriors from such companies as UPS and Nextel. And it recently gave up its home-court advantage and traveled to BLUFOR's home base when that unit-in-training's deployment date was moved up.

Nonetheless, the Army is satisfied that this new OPFOR – now one year into its role – is successfully preparing combat units for deployment to the Middle East. It has managed that, in large part, by leveraging the after-action review (AAR) regimen it learned from the 11th ACR. It is difficult to imagine a more dramatic change than the wholesale replacement of one team by another. That the new OPFOR has met this challenge is powerful evidence of the AAR's efficacy to help an organization learn and adapt quickly.

Why Companies Don't Learn

An appreciation of what OPFOR does right begins with an understanding of what businesses do wrong. To see why even organizations that focus on learning often repeat mistakes, we analyzed the AAR and similar "lessons learned" processes at more than a dozen corporations, nonprofits, and government agencies. The fundamentals are essentially the same at each: Following a project or event, team members gather to share insights and identify mistakes and successes. Their conclusions are expected to flow – by formal or informal channels – to other teams and eventually coalesce into best practices and global standards.

Mostly though, that doesn't happen. Although the companies we studied actively look for lessons, few learn them in a meaningful way. One leader at a large manufacturing company told us about an after-action review for a failed project that had already broken down twice before. Having read reports from the earlier attempts' AARs – which consisted primarily of one-on-one inter-

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OPFOR treats every action as an opportunity for learning – about what to do but also, more important, about how to think.

views – she realized with horror after several grueling hours that the team was "discovering" the same mistakes all over again.

A somewhat different problem cropped up at a telecom company we visited. A team of project managers there conducted rigorous milestone reviews and wrap-up AAR meetings on each of its projects, identifying problems and creating technical fixes to avoid them in future initiatives. But it made no effort to apply what it was learning to actions and decisions taken on its current projects. After several months, the team had so overwhelmed the system with new steps and checks that the process itself began causing delays. Rather than improving learning and performance, the AARs were reducing the team's ability to solve its problems.

We also studied a public agency that was running dozens of similar projects simultaneously. At the end of each project, team leaders were asked to complete a lessons-learned questionnaire about the methods they would or would not use again; what training the team had needed; how well members communicated; and whether the planning had been effective. But the projects ran for years, and memory is less reliable than observation. Consequently, the responses of the few leaders who bothered to fill out the forms were often sweepingly positive – and utterly useless.

Those failures and many more like them stem from three common misconceptions about the nature of an AAR: that it is a meeting, that it is a report, or that it is a postmortem. In fact, an AAR should be more verb than noun – a living, pervasive process that explicitly connects past experience with future action. That is the AAR as it was conceived back in 1981 to help Army leaders adapt quickly in the dynamic, unpredictable situations they were sure to face. And that is the AAR as OPFOR practices it every day.

More than a Meeting

Much of the civilian world's confusion over AARs began because management writers focused only on the AAR meeting itself. OPFOR's AARs, by contrast, are part of a cycle that starts before and continues throughout each campaign against BLUFOR. (BLUFOR units conduct AARs as well, but OPFOR has made a fine art of them.) OPFOR's AAR regimen includes brief huddles, extended planning and review sessions, copious note taking by everyone, and the explicit linking of lessons to future actions.

The AAR cycle for each phase of the campaign begins when the senior commander drafts "operational orders." This document consists of four parts: the task (what actions subordinate units must take); the purpose (why the task is important); the commander's intent (what the senior leader is thinking, explained so that subordinates can pursue his goals even if events don't unfold as expected); and the end state (what the desired result is). It might look like this:

> **Task:** "Seize key terrain in the vicinity of Tiefort City...
>
> **Purpose:** "...so that the main effort can safely pass to the north."
>
> **Commander's Intent:** "I want to find the enemy's strength and place fixing forces there while our assault force maneuvers to his flank to complete the enemy's defeat. The plan calls for that to happen here, but if it doesn't, you leaders have to tell me where the enemy is and which flank is vulnerable."
>
> **End State:** "In the end, I want our forces in control of the key terrain, with all enemy units defeated or cut off from their supplies."

The commander shares these orders with his subordinate commanders – the leaders in charge of infantry, munitions, intelligence, logistics, artillery, air, engineers, and communications. He then asks each for a "brief back" – a verbal description of the unit's understanding of its mission (to ensure everyone is on the same page) and its role. This step builds accountability: "You said it. I heard it." The brief back subsequently guides these leaders as they work out execution plans with their subordinates.

Later that day, or the next morning, the commander's executive officer (his second in command) plans and conducts a rehearsal, which includes every key participant. Most rehearsals take place on a scale model of the battlefield, complete with hills sculpted from sand, spray-painted roads, and placards denoting major landmarks. The rehearsal starts with a restatement of the mission and the senior commander's intent, an intelligence update on enemy positions and strength, and a breakdown of the battle's projected critical phases. Each time the executive officer calls out a phase, the unit leaders step out onto the terrain model to the position they expect to occupy during that part of the action. They state their groups' tasks and purposes within the larger mission, the techniques they will apply in that phase, and the resources they expect to have available. After some discussion about what tactics the enemy might use and how units will communicate and coordinate in the thick of battle, the executive officer calls out the next phase and the process is repeated.

As a result of this disciplined preparation, the action that follows becomes a learning experiment. Each unit within OPFOR has established a clear understanding of what it intends to do and how it plans to do it and has shared that understanding with all other units. The units have individually and collectively made predictions about what will occur, identified challenges that may arise, and built into their plans ways to address those challenges. So when OPFOR acts, it will be executing a plan but also observing and testing that plan. The early meetings and rehearsals produce a testable hypothesis: "In *this* situation, given *this* mission, if we take *this* action, we will accomplish *that* outcome." OPFOR is thus able to select the crucial lessons it wants to learn from each action and focus soldiers' attention on them in advance.

Such before-action planning helps establish the agenda for after-action meetings. Conversely, the rigor of the AAR meetings improves the care and precision that go into the before-action planning. As one OPFOR leader explained to us: "We live in an environment where we know we will have an AAR, and we will have to say out loud what worked and what didn't. That leads to asking tough questions during the planning phase or rehearsals so that you know you have it as right as you can get it. No subordinate will let the boss waffle on something for long before challenging him to say it clearly because it will only come out later in the AAR. As a consequence, AAR meetings create a very honest and critical environment well before they begin."

The reference to AAR *meetings* – plural – is important. While a corporate team might conduct one AAR meeting at the end of a six-month project, OPFOR holds dozens of AARs at different levels in a single week. Each unit holds an AAR meeting immediately after each significant phase of an action. If time is short, such meetings may be no more than ten-minute huddles around the hood of a Humvee.

>> FIVE WAYS TO PUT AARs TO WORK AT WORK

The U.S. Army's standing enemy brigade (referred to as OPFOR) applies the after-action review (AAR) process to everything it does, but that's not realistic for most companies. Business leaders must act selectively, with an eye toward resources and potential payoffs. Don't even think about creating an AAR regimen without determining who is likely to learn from it and how they will benefit. Build slowly, beginning with activities where the payoff is greatest and where leaders have committed to working through several AAR cycles. Focus on areas critical to a team's mission so members have good reason to participate. And customize the process to fit each project and project phase. For example, during periods of intense activity, brief daily AAR meetings can help teams coordinate and improve the next day's activities. At other times, meetings might occur monthly or quarterly and be used to identify exceptions in volumes of operational data and to understand the causes. The level of activity should always match the potential value of lessons learned. Here are some ways you can use AARs, based on examples from companies that have used them effectively.

It is common for OPFOR's AARs to be facilitated by the unit leader's executive officer. Virtually all formal AAR meetings begin with a reiteration of the house rules, even if everyone present has already heard them a hundred times: Participate. No thin skins. Leave your stripes at the door. Take notes. Focus on our issues, not the issues of those above us. (The participants' commanders hold their own AARs to address issues at their level.) Absolute candor is critical. To promote a sense of safety, senior leaders stay focused on improving performance, not on placing blame, and are the first to acknowledge their own mistakes.

The AAR leader next launches into a comparison of intended and actual results. She repeats the mission, intent, and expected end state; she then describes the actual end state, along with a brief review of events and any metrics relevant to the objective. For example, if the unit had anticipated that equipment maintenance or logistics would be a challenge, what resources (mines, wire, ammo, vehicles) were functioning and available?

The AAR meeting addresses four questions: What were our intended results? What were our actual results? What

	The AAR in practice	The payoff
1 Emergency response	>> Survey past emergencies to identify types of events and learning challenges. >> Ask team members to take notes during the response process to facilitate the upcoming AAR. >> Conduct AARs during the response process (if possible) or immediately afterward to begin building procedures and long-term solutions. >> Periodically review past AARs to identify potential systems improvements.	>> Avoid similar emergencies in the future. >> Improve the speed and quality of your responses and damage control. >> Improve the long-term effectiveness of your solutions.
2 Product development	>> Start each phase of product development with a before-action review (BAR). >> Conduct AARs to identify insights to feed from one phase of product development into the next – and then into the next project. >> Periodically conduct AARs on the product-planning process to identify potential improvements.	>> Improve quality, reduce cost, and shorten time to market. >> Anticipate customers' changing expectations.
3 Entering a new business or market	>> Launch business planning with a BAR to reflect on past lessons. >> Conduct AARs throughout the launch process to test lessons and create innovative solutions. >> Conduct a wrap-up AAR to improve performance on the next venture.	>> Apply lessons from past successes and failures to improve results on new ventures.
4 Sales	>> Build AARs into the sales process, focusing as much on learning from wins as from losses. >> Conduct AARs on customer defections to competitors' products.	>> Improve the win/loss ratio. >> Refine the value proposition for a new product.
5 Mergers and acquisitions	>> Build AARs into strategy, negotiation, due diligence, and execution phases to continually reveal, test, and modify assumptions about the deal. >> Wrap up each M&A activity by comparing it with previous efforts to identify problems and good ideas.	>> Ensure that transactions deliver promised value to stakeholders.

caused our results? And what will we sustain or improve? For example:

> **Sustain:** "Continual radio commo checks ensured we could talk with everyone. That became important when BLUFOR took a different route and we needed to reposition many of our forces."
>
> **Sustain:** "We chose good battle positions. That made it easier to identify friends and foes in infantry."
>
> **Improve:** "When fighting infantry units, we need to keep better track of the situation so we can attack the infantry before they dismount."
>
> **Improve:** "How we track infantry. We look for trucks, but we need to look for dismounted soldiers and understand how they'll try to deceive us."

One objective of the AAR, of course, is to determine what worked and what didn't, to help OPFOR refine its ability to predict what will work and what won't in the future. How well did the unit assess its challenges? Were there difficulties it hadn't foreseen? Problems that never materialized? Yes, it is important to correct *things;* but it is more important to correct *thinking.* (OPFOR has determined that flawed assumptions are the most common cause of flawed execution.) Technical corrections affect only the problem that is fixed. A thought-process correction – that is to say, learning – affects the unit's ability to plan, adapt, and succeed in future battles.

More than a Report

At most civilian organizations we studied, teams view the AAR chiefly as a tool for capturing lessons and disseminating them to other teams. Companies that treat AARs this way sometimes even translate the acronym as after-action report instead of after-action review, suggesting that the objective is to create a document intended for other audiences. Lacking a personal stake, team members may participate only because they've been told to or out of loyalty to the company. Members don't expect to learn something useful themselves, so usually they don't.

OPFOR's AARs, by contrast, focus on improving a unit's own learning and, as a result, its own performance. A unit may generate a lesson during the AAR process, but by OPFOR's definition, it won't have learned that lesson until its members have changed their behavior in response. Furthermore, soldiers need to see that it actually works. OPFOR's leaders know most lessons that surface during the first go-round are incomplete or plain wrong, representing what the unit thinks should work and not what really does work. They understand that it takes multiple iterations to produce dynamic solutions that will stand up under any conditions.

For example, in one fight against a small, agile infantry unit, OPFOR had to protect a cave complex containing a large store of munitions. BLUFOR's infantry chose the attack route least anticipated by OPFOR's commanders. Because scouts were slow to observe and communicate the change in BLUFOR's movements, OPFOR was unable to prevent an attack that broke through its defense perimeter. OPFOR was forced to hastily reposition its reserve and forward units. Much of its firepower didn't reach the crucial battle or arrived too late to affect the outcome.

OPFOR's unit leaders knew they could extract many different lessons from this situation. "To fight an agile infantry unit, we must locate and attack infantry before soldiers can leave their trucks" was the first and most basic. But they also knew that that insight was not enough to ensure future success. For example, scouts would have to figure out how to choose patrol routes and observation positions so as to quickly and accurately locate BLUFOR's infantry before it breached the defense. Then staffers would need to determine how to use information from observation points to plan effective artillery missions – in the dark, against a moving target. The next challenge would be to test their assumptions to see first, if they could locate and target infantry sooner; and second, what difference that ability would make to them achieving their mission.

OPFOR's need to test theories is another reason the brigade conducts frequent brief AARs instead of one large wrap-up. The sooner a unit identifies targeting infantry as a skill it must develop, the more opportunities it has to try out different assumptions and strategies during a rotation and the less likely those lessons are to grow stale. So units design numerous small experiments – short cycles of "plan, prepare, execute, AAR" – within longer campaigns. That allows them to validate lessons for their own use and to ensure that the lessons they share with other teams are "complete" – meaning they can be applied in a variety of future situations. More important, soldiers see their performance improve as they apply those lessons, which sustains the learning culture.

Not all OPFOR experiments involve correcting what went wrong. Many involve seeing if what went right will continue to go right under different circumstances. So, for example, if OPFOR has validated the techniques it used to complete a mission, it might try the same mission at night or against an enemy armed with cutting-edge surveillance technology. A consulting-firm ad displays Tiger Woods squinting through the rain to complete a shot and the headline: "Conditions change. Results shouldn't." That could be OPFOR's motto.

In fact, rather than writing off extreme situations as onetime exceptions, OPFOR embraces them as learning opportunities. OPFOR's leaders relish facing an unusual enemy or situation because it allows them to build their repertoire. "It's a chance to measure just how good we are, as opposed to how good we think we are," explained one OPFOR commander. Such an attitude might seem antithetical to companies that can't imagine purposely handicapping themselves in any endeavor. But OPFOR knows that the more challenging the game, the stronger and more agile a competitor it will become.

More than a Postmortem

Corporate AARs are often convened around failed projects. The patient is pronounced dead, and everyone weighs in on the mistakes that contributed to his demise. The word "accountability" comes up a lot – generally it means "blame," which participants expend considerable energy trying to avoid. There is a sense of finality to these sessions. The team is putting a bad experience behind it.

"Accountability" comes up a lot during OPFOR's AARs as well, but in that context it is forward-looking rather than backward-looking. Units are accountable for learning their own lessons. And OPFOR's leaders are accountable for taking lessons from one situation and applying them to others – for forging explicit links between past experience and future performance.

At the end of an AAR meeting, the senior commander stands and offers his own assessment of the day's major lessons and how they relate to what was learned and validated during earlier actions. He also identifies the two or three lessons he expects will prove most relevant to the next battle or rotation. If the units focus on more than a few lessons at a time, they risk becoming overwhelmed. If they focus on lessons unlikely to be applied until far in the future, soldiers might forget.

At the meeting following the infantry battle described earlier, for example, the senior commander summed up this way: "To me, this set of battles was a good rehearsal for something we'll see writ large in a few weeks. We really do need to take lessons from these fights, realizing that we'll have a far more mobile attack unit. Deception will be an issue. Multiple routes will be an issue. Our job is to figure out common targets. We need to rethink how to track movement. How many scouts do we need in close to the objective area to see soldiers? They will be extremely well-equipped. So one thing I'm challenging everyone to do is to be prepared to discard your norms next month. It's time to sit down and talk with your sergeants about how you fight a unit with a well-trained infantry."

Immediately after the AAR meeting breaks up, commanders gather their units to conduct their own AARs. Each group applies lessons from these AAR meetings to plan its future actions – for example, repositioning scouts to better track infantry movements in the next battle.

OPFOR also makes its lessons available to BLUFOR: The groups' commanders meet before rotations, and OPFOR's commander allows himself to be "captured" by BLUFOR at the conclusion of battles in order to attend its AARs. At those meetings, the OPFOR commander explains his brigade's planning assumptions and tactics and answers his opponents' questions.

Beyond those conferences with BLUFOR, formally spreading lessons to other units for later application – the chief focus of many corporate AARs – is not in OPFOR's job description. The U.S. Army uses formal knowledge systems to capture and disseminate important lessons to large, dispersed audiences, and the National Training Center contributes indirectly to those. (See the sidebar "Doctrine and Tactics.") Informal knowledge sharing among peers, however, is very common. OPFOR's leaders, for example, use e-mail and the Internet to stay in touch with leaders on combat duty. The OPFOR team shares freshly hatched insights and tactics with officers in Afghanistan and Iraq; those officers, in turn, describe new and unexpected situations cropping up in real battles. And, of

Instead of producing static "knowledge assets" to file away in a management report or repository, OPFOR's AARs generate raw material that the brigade feeds back into the execution cycle.

course, OPFOR's leaders don't stay out in the Mojave Desert forever. Every year as part of the Army's regular rotation, one-third move to other units, which they seed with OPFOR-spawned thinking. Departing leaders leave behind "continuity folders" full of lessons and AAR notes for their successors.

In an environment where conditions change constantly, knowledge is always a work in progress. So creating, collecting, and sharing knowledge are the responsibility of the people who can apply it. Knowledge is not a staff function.

The Corporate Version

It would be impractical for companies to adopt OPFOR's processes in their entirety. Still, many would benefit from making their own after-action reviews more like OPFOR's. The business landscape, after all, is competitive, protean, and often dangerous. An organization that doesn't merely extract lessons from experience but actually learns them can adapt more quickly and effectively than its rivals. And it is less likely to repeat the kinds of errors that gnaw away at stakeholder value.

Most of the practices we've described can be customized for corporate environments. Simpler forms of operational orders and brief backs, for example, can ensure that a project is seen the same way by everyone on the team and that each member understands his or her role in it. A corporate version, called a before-action review (BAR), requires teams to answer four questions before embarking on an important action: What are our intended results and measures? What challenges can we anticipate? What have we or others learned from similar situations? What will make us successful this time? The responses to those questions align the team's objectives and set the stage for an effective AAR meeting following the action. In addition, breaking projects into smaller chunks, bookended by short BAR and AAR meetings conducted in task-focused groups, establishes feedback loops that can help a project team maximize performance and develop a learning culture over time.

Every organization, every team, and every project will likely require different levels of preparation, execution, and review. However, we have distilled some best practices from the few companies we studied that use AARs well. For example, leaders should phase in an AAR regimen, beginning with the most important and complex work their business units perform. Teams should commit to holding short BAR and AAR meetings as they go, keeping things simple at first and developing the process slowly – adding rehearsals, knowledge-sharing activities and systems, richer metrics, and other features dictated by the particular practice.

While companies will differ on the specifics they adopt, four fundamentals of the OPFOR process are mandatory. Lessons must first and foremost benefit the team that extracts them. The AAR process must start at the beginning of the activity. Lessons must link explicitly to future actions. And leaders must hold everyone, especially themselves, accountable for learning.

By creating tight feedback cycles between thinking and action, AARs build an organization's ability to succeed in a variety of conditions. Former BLUFOR brigades that are now deploying to the Middle East take with them not just a set of lessons but also a refresher course on how to draw new lessons from situations for which they did not train – situations they may not even have imagined. In a fast-changing environment, the capacity to learn lessons is more valuable than any individual lesson learned. That capacity is what companies can gain by studying OPFOR.

DOCTRINE AND TACTICS

The lessons produced and validated by the U.S. Army's Opposing Force (OPFOR) and the units it trains at the National Training Center (NTC) in Fort Irwin, California, contribute to the Army's two classes of organizational knowledge. One class, known as Tactics, Techniques, and Procedures (TTP), focuses on how to perform specific tasks under specific conditions. It is the responsibility of each unit leader to build her own library of TTP by learning from other leaders as well as by capturing good ideas from her subordinates. Two unit leaders in the same brigade may need to employ different TTP to address different conditions.

Sufficiently weighty, widely applicable, and rigorously tested TTP may ultimately inform the Army's other class of organizational knowledge: doctrine. Doctrine – which rarely changes and is shared by the entire Army – establishes performance standards for the kinds of actions and conditions military units commonly face. For example, many of the steps in the doctrine for a brigade-level attack (such as planning for mobility, survivability, and air defense) began life as lessons from the NTC and other Army training centers.

The difference between doctrine and TTP is a useful one for businesses, some of which draw few distinctions among the types of knowledge employees generate and about how widely diverse lessons should be applied and disseminated.

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To order, see page 195.

Kick into High Gear

"If you want to get the most out of people, you have to apply pressure – that's the only thing that any of us really responds to. As a coach, I've always tried to turn up the heat under my people, to constantly push them to perform at a high level."

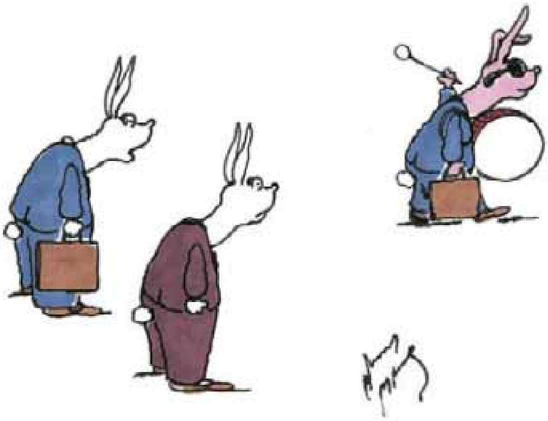
Bill Parcells
"The Tough Work of Turning Around a Team"
Harvard Business Review
November–December 2000

"You're on my fantasy management team."

"The pro football paradigm works."

DAVE CARPENTER, DAVID HARBAUGH, MARK LITZLER, AND SCOTT ARTHUR MASEAR

"We're pleased to report that competitor envy is running at an all-time high as well."



"How are we supposed to compete with that?"

"Frankly, Johnson, it's none of your business how much I pay Selby!"

Extraordinary group efforts don't have to be miraculous or accidental. An environment designed to produce cheap, plentiful transactions unleashes collaborations that break through organizational barriers.

Collaboration Rules

by Philip Evans and Bob Wolf

Corporate leaders seeking growth, learning, and innovation may find the answer in a surprising place: the open-source software community. Unknowingly, perhaps, the folks who brought you Linux are virtuoso practitioners of new work principles that produce energized teams and lower costs. Nor are they alone.

By any measure, Linux is a powerfully competitive product. It is estimated that more servers run on Linux than on any other operating system. It has overwhelmed UNIX as a commercial offering. And its advantages extend beyond cost and quality to the speed with which it is enhanced and improved. While partisans debate its technical limitations and treatment of intellectual property, they agree that the product's success is inseparable from its distinctive mode of production. Specifically, Linux is the creation of an essentially voluntary, self-organizing community of thousands of programmers and companies. Most leaders would sell their grandmothers for workforces that collaborate as efficiently, frictionlessly, and creatively as the self-styled Linux "hackers."

But Linux is software, and software is kind of weird. Toyota, however, is a company like any other – any other consistently ranked among the world's top-performing organizations, that is. The auto-

PHILIPPE WEISBECKER

maker has long been a leader in quality and lean production, and the success of the hybrid Prius has established its reputation as an innovator. We have found that Toyota's managerial methods resemble, in a number of their fundamentals, the workings of the Linux community; the Toyota Production System (TPS) owes some of its vaunted responsiveness to open-source traits. In fact, Toyota itself is evolving into a hybrid between a conventional hierarchy and a Linux-like self-organizing network.

(Throughout this article, we use the term "Linux" as shorthand for the free/open-source software community that developed and continues to refine the operating system and other open-source programs. We use "Toyota" as shorthand for the Toyota Production System, which comprises Toyota and its direct – "tier one" in automotive parlance – suppliers in Japan and the United States.)

Toyota is remarkably similar to Linux in the way it blends key characteristics of both markets and hierarchies. Like markets, the Toyota and Linux communities can be self-organizing, but unlike markets, they don't use cash or contracts at critical junctures. Like hierarchies, Toyota and Linux enjoy low transaction costs, but unlike hierarchies, their members may belong to many different organizations (or to none at all) and are not corseted by specific, predefined roles and responsibilities. And like hierarchies, members share a common purpose, but that purpose emanates from self-motivation rather than from the external incentives or sanctions that hierarchies generally impose. In these respects, Toyota and Linux represent the best of both worlds. An analysis of their common characteristics suggests how high-performance organizations remain productive and inventive even under grueling conditions. We believe those lessons can significantly improve the way work in most organizations gets done.

Few communities appear more different than the anarchistic, caffeinated, hirsute world of hackers and the disciplined, tea-sipping, clean-cut world of Japanese auto engineering.

Tuesday, December 2, 2003

Near midnight, Andrea Barisani, system administrator in the physics department of the University of Trieste, discovered that an attacker had struck his institution's Gentoo Linux server. He traced the breach to a vulnerable spot in the Linux kernel and another in rsync, a file transfer mechanism that automatically replicates data among computers. This was a serious attack: Any penetration of rsync could compromise files in thousands of servers worldwide.

Barisani woke some colleagues, who put him in touch with Mike Warfield, a senior researcher at Internet Security Systems in Atlanta, and with Andrew "Tridge" Tridgell, a well-known Linux programmer in Australia on whose doctoral thesis rsync was based. They directed Barisani's message (made anonymous for security reasons) to another Australian, Martin Pool, who worked for Hewlett-Packard in Canberra and had been a leader in rsync's development. Although Pool was no longer responsible for rsync (nobody was), he immediately hit the phones and e-mail, first quizzing Warfield and Dave Dykstra (another early contributor to rsync's development, who was based in California) about vulnerabilities and then helping Barisani trace the failure line by line.

By morning Trieste time, Pool and Barisani had found the precise location of the breach. Pool contacted the current rsync development group, while Barisani connected with the loose affiliation of amateurs and professionals that package Gentoo Linux, and he posted an early warning advisory to the Gentoo site. Pool and Paul "Rusty" Russell (a fellow Canberran who works for IBM) then labored through the Australian night to write a patch, and within five hours Gentoo user-developers started testing the first version. Meanwhile, Tridge crafted a description of the vulnerability and its fix, being sure (at Pool's urging) to credit Barisani and Warfield for their behind-the-scenes efforts. On Thursday afternoon Canberra time, the announcement and the patch were posted to the rsync Web site and thus distributed to Linux users worldwide.

A few days after the emergency, having caught up on his sleep, Barisani volunteered to collaborate with Warfield in setting up a system of deliberately vulnerable servers to lure the system cracker into revealing himself.

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No one authorized or directed this effort. No one – amateur or professional – was paid for participating or would have been sanctioned for not doing so. No one's job hinged on stopping the attack. No one clammed up for fear of legal liability. Indeed, the larger user community was kept informed of all developments. Yet despite the need for the highest security, a group of some 20 people, scarcely any of whom had ever met, employed by a dozen different companies, living in as many time zones and straying far from their job descriptions, accomplished in about 29 hours what might have taken colleagues in adjacent cubicles weeks or months.

It's tempting to dismiss this as an example of hacker weirdness – admirable, yes, but nothing to do with real business. Consider, however, another story.

Building Vibrant Human Networks

Companies laying the groundwork for high-performance collaboration should follow these principles:

Deploy pervasive collaborative technology. Keep it simple and open: "small pieces loosely joined," in *Cluetrain Manifesto* coauthor David Weinberger's felicitous phrase. Tools should work together through common standards and be as compatible as possible with those of the rest of the world. Think options not integration, adaptability not static efficiency.

Keep work visible. Unless there is a really good reason not to, let everybody see everybody's real work. Let people learn to filter and sort for themselves. Don't abstract, summarize, or channel. Fodder is good. Put it within everyone's reach.

Build communities of trust. When people trust one another, they are more likely to collaborate freely and productively. When people trust their organizations, they are more likely to give of themselves now in anticipation of future reward. And when organizations trust each other, they are more likely to share intellectual property without choking on legalisms.

Think modularly. Reengineering was about thinking linearly: managing the end-to-end process instead of discrete functions. That approach fosters focused efficiency but inhibits variety and adaptability. Modularity is the reverse: sacrificing static efficiency for the recombinant value of options. Think modular teams as well as processes. The finer, the better.

Encourage teaming. Celebrate the sacrifices that teams make for the broader enterprise, including customers and suppliers. Dismantle individualized performance metrics and rewards that pit people against one another. Cheap transactions among the many fuel more innovation than expensive incentives aimed at the few. Reward the group, and the group will reward you.

Saturday, February 1, 1997

At 4:18 AM, a fire broke out in the Kariya Number 1 plant of Aisin Seiki, a major Japanese automotive parts supplier. Within minutes, the building and virtually all the specialized machinery inside were destroyed. Kariya Number 1 produces 99% of the brake fluid–proportioning valves, or P-valves, for Toyota's Japanese operations – parts required by every vehicle Toyota builds. And Toyota, true to its just-in-time principles, had less than a day's inventory. The Japanese Toyota Production System faced the possibility of a total shutdown lasting months.

Within hours, Aisin engineers met with their counterparts at Toyota and Toyota's other tier one suppliers. The group agreed to improvise as much production as possible. As news spread through the supplier network, some tier twos volunteered to play leadership roles. Aisin sent blueprints for the valves to any supplier that requested them and distributed whatever undamaged tools, raw materials, and work in process could be salvaged. Aisin and Toyota engineers helped jury-rig production lines in 62 locations – unused machine shops, Toyota's own prototyping shop, even a sewing machine facility owned by Brother. Denso, Toyota's largest supplier, volunteered to manage the messy logistics of shipping valves to Aisin for inspection and then on to Toyota's stalled assembly lines.

Everyone was surprised when a small tier two supplier of welding electrodes, Kyoritsu Sangyo, was first to deliver production-quality valves to Toyota – 1,000 of them, just 85 hours after the fire. Others followed rapidly, and Toyota started reopening assembly lines on Wednesday. Roughly two weeks after the halt, the entire supply chain was back to full production. Six months later, Aisin distributed an emergency response guide containing lessons drawn from the experience and recommending procedures for responding to such situations in the future.

No one individual or organization planned this effort: rather, people and companies stepped in where they could. Competitors collaborated. No one at the time was paid for contributing. Months later, Aisin compensated the other companies for the direct costs of the valves they had delivered. Toyota gave each tier one supplier an honorarium based on current sales to the automaker, encouraging – but not requiring – them to do likewise for their own tier twos.

Few communities appear more different than the anarchistic, caffeinated, hirsute world of hackers and the disciplined, tea-sipping, clean-cut world of Japanese auto engineering. But the parallels between these stories are striking. In both of them, individuals found one another and stepped into roles without a plan or an established command-and-control structure. An extended human network organized itself in hours and "swarmed" against a threat. People, teams, and companies worked together without legal contracts or negotiated payment. And despite the lack of any authoritarian stick or financial carrot, those people worked *like hell* to solve the problem.

Now, obviously, these were emergency responses. But a look at the day-to-day operations of the Linux community and the Toyota Production System reveals that those responses were merely intensifications of the way people were already working.

Obsession, Interaction, and a Light Touch

The rules of markets are about cash and contracts. The rules of hierarchies are about authority and accountability. But at the core of the Linux and Toyota communities are rules about three entirely different things: how individuals and small groups work together; how, and how widely, they communicate; and how leaders guide them toward a common goal.

A Common Work Discipline. The Linux and Toyota communities are both composed of engineers, so members have the same skills as their colleagues and speak the same language. But these groups are far more disciplined and rigorous in their approach to work than are other engineering communities. Both emphasize granularity: They pay attention to small details, eliminate problems at the source, and trim anything resembling excess, whether it be work, code, or material. Linux members, for example, share an obsession with writing minimal code, compiling each day's output before proceeding to the next and extirpating programming flaws as they go along. For their part, TPS engineers are relentless in applying short cycles of trial and error, focusing on just one thing at a time, and getting inside and observing actual processes. Both groups carry those principles to apparent extremes. Linux programmers whittle away at code in pursuit not of computational efficiency but of elegance. Toyota engineers reject stampings for the Lexus hood – while flawless and entirely within spec – because the sheen, to their eyes, lacks luster.

Widespread, Granular Communication. In both the Linux and Toyota communities, information about problems and solutions is shared widely, frequently, and in small increments. Most Linux hacker communication is not between individuals but by postings to open, searchable Listservs. Anyone can review the version history of the code and the Listserv debates – not executive summaries or abstracts but the raw activity itself. And every code contribution is stress tested by scores of people. As a famous open-source mixed metaphor puts it: "With a thousand eyes, all bugs are shallow." The median upload to the Linux kernel is a mere dozen lines of code. The working alpha version is recompiled every 24 hours, so hackers reconcile their efforts almost continuously. If someone worked in isolation for six months on even the most brilliant contribution, it would probably be rejected for lack of compatibility with the others' efforts.

The Toyota philosophy of continuous improvement likewise comprises a thousand small collaborations. Toyota engineers are famously drilled to "ask why five times" to follow a chain of causes and effects back to a problem's root. This is not a vapid cliché about thinking deeply. Quite the contrary, in fact. The precept's merit is precisely in its superficiality. Saying that B causes A is simplistic – all the complexities of multiple interactions boiled down to a single cause and effect. But the chain of thought required to discover that C causes B, and D causes C, quickly takes you into a new domain, probably someone else's. So rather than concoct complex solutions within their own domains, engineers must seek simple ones beyond them. "Doing your why-whys," as the practice is known, is not about depth at all – it's about breadth.

And as with Linux, Toyota's communication protocols enforce this discipline. Each meeting addresses just one topic and drives toward a specific outcome, even if that means the same people meet more than once in a day. Lessons are written in a standard format on a single sheet of A3 paper. And everyone learns how to craft these reports, down to the fold in the document that shows the main points and conceals the details.

Leaders as Connectors. At every level, Linux and TPS leaders play three critical roles. They instruct community members–often by example–in the disciplines we've just described. They articulate clear and simple goals for each project based on their strategic vision. And they connect people, by merit of being very well connected themselves. The top Linux programmers process upwards of 300 or 400 e-mails daily. Fujio Cho, the president of Toyota, manages by similarly numerous daily interactions that transcend the normal chain of command.

Neither community treats leading as a discipline distinct from doing. Rather, the credibility and, therefore, authority of leaders derives from their proficiency as practitioners. The content of leaders' staccato communications is less *about* work than it *is* work. (When Linux creator Linus Torvalds dashes off his scores of daily e-mails, he writes almost as much in the C programming language as he does in English.)

In the Linux and Toyota communities, leading is not treated as a discipline distinct from doing. Rather, the authority of leaders derives from their proficiency as practitioners.

Occasionally, leaders do have to perform traditional leadership acts, such as arbitrating conflicts. That, however, is the exception and is viewed as a bit of a system failure. The default assumption is that, as far as possible, managers don't manage in a traditional sense: The human network manages itself. In Linux, development priorities are decided not by a CEO but by thousands of hackers voting with their feet by choosing what to work on. That kind of radical self-management does not happen at Toyota, except in emergencies. But even in daily operations, a single production worker who sees a quality problem can stop the line, and project teams have wide latitude to tap resources, make purchase decisions, and pursue priorities they set for themselves.

Taken together, these three principles seed a continuously adapting system. Over and over, ideas are formulated in tight, testable packets; they are communicated with minimal attenuation through established, direct, person-to-person connections; and where links are absent, widely connected leader-practitioners create them as needed. This is discipline, but not the discipline of conformity produced by controls and incentives. Rather, it resembles the discipline of science. Like scientific communities, these systems rely on common procedures, common rules for communication and testing, and common goals clearly understood. Individual behavior is rigorously cautious, but collective achievement is marked by continuous, radical innovation.

What They Know and How They Know It

At the heart of Linux and the Toyota Production System, then, is a set of work, communication, and leadership practices that contributes to a new form of collaboration. This collaboration also relies on two infrastructure components: a shared pool of knowledge and universally available tools for moving knowledge around.

Common Intellectual Property. The General Public License under which Linux is published requires that all distributors make their source code freely available so that others can freely emend it. This viral principle prevents code from being stowed away in proprietary products. That transparency, in turn, breaks down the distinction between producer and user. A sophisticated "customer" like Andrea Barisani is really a user-developer, who fixes flaws and adds features for his own benefit, then shares those improvements with everyone else. Such a role is impossible when proprietary code is licensed from a commercial vendor. Similarly, Toyota's supply chain is predicated on the principle that while product knowledge (such as a blueprint) is someone's intellectual property, process knowledge is shared. That breaks down some distinctions among companies. Toyota's suppliers regularly share extensive process improvement lessons both vertically and laterally, even with their competitors. In Japan, suppliers are generally exclusive to a single OEM, so the collective benefit of that shared information stays within the Toyota supply chain. But even in the United States, where Toyota is just one of several customers for most of its tier ones, the carmaker does the same thing through its Bluegrass Automotive Manufacturers Association, which disseminates best practices to all members.

Simple, Pervasive Technology. Although information is the lifeblood of the Linux and TPS communities, their circulation systems are surprisingly rudimentary. Linux developers produce state-of-the-art software using communication technology no more sophisticated than e-mail and Listservs – but those mundane tools are used by everyone. Indeed, so great is the value placed on universality that plain-text, rather than formatted, e-mails are the norm, ensuring that messages will appear exactly the same to all recipients. Toyota, whose products are state-of-the-art as well, also prefers simple and pervasive internal technology. An empty kanban bin signals the need for parts replenishment; a length of duct tape on the assembly-line floor allots the completion times of tasks on a moving vehicle. Quality control problems on the assembly line are announced via pagers and TV monitors. And everyone gets the alert. Even Ray Tanguay, head of Toyota Canada, is paged whenever a flaw is found in the latest Lexus consignment on the dock in Long Beach, California, or in a service bay anywhere in North America.

The Power of Trust and Applause

Such extremely rich, flexible collaborations have positive psychological consequences for participants and powerful competitive ones for their organizations. Those consequences are rich common knowledge, the ability to organize teams modularly, extraordinary motivation, and high levels of trust.

Rich Semantic Knowledge. A rigorous work discipline, common intellectual property, and constant sharing combine to distribute knowledge widely and relatively evenly across human networks. That knowledge includes not just the formal, syntactic information found in databases but also the semantically rich, ambiguous knowledge about content and process that is the currency of creative collaboration. What do we mean by the sheen of a body stamping having insufficient luster? What, precisely, must we discuss with the steel company to correct such an ill-defined problem? This kind of no-easy-answer question is continually discussed and resolved in a thousand small-team collaborations. The resulting nuanced thinking and richer common vocabulary on such matters are fed back into the knowledge pool, where they are available for further refinement by the whole community.

Modular Teaming. Modularity is a design principle by which a complex process or product is divided into simple parts connected by standard rules. In modular arrangements of teams, each team focuses on small, simple tasks that together make up a larger whole. Modularity allows an organization to run multiple, parallel experiments, making many small bets instead of a few large ones. The Toyota suppliers organized themselves this way to make P-valves, operating partly by direction but chiefly by volunteering to do what each knew best. The Gentoo group, Tridge's security experts, and Pool's circle of rsync alumni were preexisting and overlapping modules that mixed and matched roles as the emergency required.

Monetary carrots and accountability sticks motivate people to perform narrow, specified tasks. Admiration and applause are far more effective stimulants of above-and-beyond behavior.

When we mapped the patterns of day-to-day collaboration across the entire Linux kernel development effort, we found that such modular arrangements are pervasive and, to a degree, nest within one another. This creates a kind of dynamic organization chart–a chart that nobody wrote but one that enables the community to expand and adapt without collapsing into chaos.

Intrinsic Motivation. The Linux and TPS communities dissociate money from key transactions. Yet despite weak financial incentives, they command a level of motivation higher than that found in conventional environments. Monetary carrots and accountability sticks, psychologists have consistently found, motivate people to perform narrow, specified tasks but generally discourage people from going beyond them. Admiration and applause are far more effective stimulants of above-and-beyond behavior. "The personal reputation of the developer is attached to every release," Linus Torvalds explained to technology columnist Robert Cringely in 1998. "If you are making something to give away to the world, something that represents to millions of users your philosophy of computing, you will always make it the very best product you can."

Psychologists also emphasize the motivational importance of autonomy. Linux programmers decide for themselves how and where to contribute, and they enjoy the satisfaction of producing something whose quality is defined not by a marketing department nor by accountants but by their own exacting standards. Coauthor Bob Wolf and MIT's Karim Lakhani surveyed more than 800 user-developers, and over half said that their open-source work is the most valuable and creative endeavor in their professional lives.

The Toyota Production System doesn't offer such extreme autonomy, of course, and employees don't work for free. But compared with their counterparts in the rest of the auto industry, TPS workers enjoy fewer controls, greater encouragement of individual initiative, fewer metrics attached to individual performance, and louder peer applause. Professional and corporate pride, not Toyota's honorarium, was the payoff for the team at Kyoritsu Sangyo when it delivered the first batch of P-valves. That same pride is felt by a junior assembly-line worker when he is trusted by his peers to experiment with process improvements and to stop the line if something goes wrong.

High Levels of Trust. When information flows freely, reputation, more than reciprocity, becomes the basis for trust. Operating under constant scrutiny – which is challenging but not hostile – workers know their reputations are at risk, and that serves as a guarantor of good behavior, the equivalent of contracts in a market or audits in a hierarchy. Hence the obsession in the Linux community with acknowledging code contributions and including personal e-mail addresses in the comment fields of Listservs. Hence the generous public credit bestowed on Barisani and Warfield. Hence the collective celebration of Kyoritsu Sangyo's heroic efforts.

With their reputations at stake, people are less likely to act opportunistically. With the same information available to everyone, there is less chance that one party will exploit another's ignorance. And with a common vocabulary and way of working, fewer misunderstandings occur. Those factors drive up trust, the fundamental social capital of these communities.

Trust would matter less if there were no cost to exiting these networks or if transactions were of radically different sizes (since that would tempt people or companies to break the rules when a big opportunity arose). But in both the Linux and Toyota communities, entry to the inner circle is a hard-earned privilege, and both operate on many small exchanges.

And, of course, where trust is the currency, reputation is a source of power. In a sparse network, such as most markets and hierarchies, power derives from controlling or brokering the flow of information and often, therefore, from restricting it. In a dense network, however, information simply flows around the would-be choke point. Under those circumstances, there is more power in being an information source than an information sink. Consequently, individuals are motivated to maximize both the visibility of their work and their connections to those who are themselves broadly connected. That, in turn, feeds the information density of the network.

Cheap Transactions and Plenty of Them

So far we have been discussing the content of work. But the TPS and Linux models change the economics of work as well, by driving down transaction costs. Low transaction costs make it profitable for organizations to perform more and smaller transactions – both internal and external – and so increase the pace and flexibility typical of high-performance organizations.

The classical sources of transaction costs are mutual vulnerability in the face of uncertainty, conflicting interests, and unequal access to information. We spend cash on negotiation, supervision, and restitution to reduce those imperfections. Both markets and hierarchies incur transaction costs (though hierarchies exist to economize on them, as Ronald Coase and Oliver Williamson have argued). Using a methodology developed by J.J. Wallis and Douglass North, we estimate that in the year 2000, cash transaction costs alone accounted for over half the nongovernmental U.S. GDP! We spend more money negotiating and enforcing transactions than we do fulfilling them.

In the Linux and Toyota communities, agreements are enforced not by the sanction of a legal contract, nor by the authority of a boss, but by mutual trust – lowering transaction costs dramatically. This is not new: Teams of people everywhere in the conventional workplace operate on the basis of trust.

What is new is how widely trust can extend, even to people who don't know each other – or even among those who have competing interests. Aisin trusted its rival suppliers with the P-valve blueprints. The rsync hackers swapped sensitive information with people they had never met.

Giving Credit Where Credit Is Due

The Linux community uses a particular format – a "credit file" – to acknowledge the contributions of its members. If we, for instance, were to acknowledge in the Linux format the contributions of individuals who helped shape our thinking for this article, here's how it would look:

n: Mark Blaxill
e: blaxill.mark@bcg.com
d: Exploration of economics of open source
s: Boston Consulting Group

n: Paul Carlile
e: carlile@bu.edu
d: Discussion of Linux/Toyota parallels
s: Boston University

n: Karim Lakhani
e: lakhani@mit.edu
d: Discussion of Linux/Toyota parallels
d: Survey of free/open source hackers
s: MIT

Toyota's component suppliers share process knowledge daily, trusting that Toyota will not use it to beat down prices. Linux hackers trust one another to make uncoordinated and simultaneous emendations in the code base.

Moreover, holding property in common – as certain kinds of intellectual property are held within these communities – lowers the monetary stakes among the joint owners. Transaction costs fall because there is simply less to negotiate over. In the Linux community, transaction costs approach zero. Hewlett-Packard paid Martin Pool to be a Linux engineer, but it does not follow that HP needed to be paid on the margin for Pool's nocturnal labors on rsync. In the Toyota community, transaction costs, while not zero, have been radically reduced. When the Aisin Seiki plant was destroyed, Toyota and its suppliers didn't sue one another or cobble together emergency supply contracts. They simply got on with the job, trusting that fair restitution would eventually be made. Jeffrey Dyer, a professor of strategy at Brigham Young University, estimates that transaction costs between Toyota and its tier one suppliers are just one-eighth those at General Motors, a disparity he attributes to different levels of trust.

A Model for Many

Bring together all these elements and you have a virtuous circle. A dense, self-organizing network creates the conditions for large-scale trust. Large-scale trust drives down transaction costs. Low transaction costs, in turn, enable lots of small transactions, which create a cumulatively deepening, self-organized network.

Once the system achieves critical mass, it feeds on itself. The larger the system, the more broadly shared the knowledge, language, and work style. The greater individuals' reputational capital, the louder the applause and the stronger the motivation. The success of Linux is evidence of the power of that virtuous circle. Toyota's success is evidence that it is also powerful in conventional, profit-maximizing companies.

The Linux community and Toyota Production System are strikingly different. The fact that they achieve so much in such similar ways points to some principles others can follow.

- The discipline of science is surprisingly adaptable to the organization of corporate – and even intercorporate – work.
- Under some circumstances, trust is a viable substitute for market contracts and hierarchical authority, not just in small teams but also in very large communities.
- Across supply chains, organizations that are able to substitute trust for contracts gain more from the collaboration than they lose in bargaining power.
- Low transaction costs buy more innovation than do high monetary incentives.

These principles serve businesses' need for growth and innovation in ways that traditional organizational models do not. And perhaps the effectiveness of these collaborations suggests the ultimate emergence of something altogether new. Not markets. Not hierarchies. But a powerful combination of both – and a signature of the networked society.

Reprint R0507H
To order, see page 195.

Exploiting the Neglected 80%

The Pareto Principle famously dictates that companies derive 80% of their value from just 20% of their products, customers, or ideas. Because of high transaction costs, the long tail of that curve – that 80% of uncertain value generators – cannot be explored. So in the name of company focus, the tail gets lopped off, segmented away, or reengineered out of existence. Potentially profitable innovations die with it.

Organizations that reduce transaction costs can embrace the rejected 80%. They can respond to weak market signals, tap small segments, and experiment with unlikely combinations of technologies. They can place a hundred small bets instead of a few big ones.

For example, Detroit considered hybrid vehicles to be an uninteresting intermediate product: U.S. auto executives preferred so-far-unfulfilled research on fuel cell technology. Meanwhile, Toyota was building the Prius. The hybrid is now in its second generation, and Toyota expects to sell 300,000 worldwide this year. Toyota's low transaction costs and penchant for small-scale collaborations helped it keep open 80 discrete options for the hybrid engine until just six months before delivering a final design. Conventional automakers would have needed to freeze those design variables at least two years earlier.

It is in the interstices of the human network – rather than in the minds of a few wunderkinder – that most real innovations are born. And so it is transaction costs that constrain innovation by constraining opportunities to share different and conflicting ideas, skills, and prejudices.

"Detroit people are far more talented than people at Toyota," remarks Toyota president Fujio Cho, with excessive modesty. "But we take averagely talented people and make them work as spectacular teams." The network, in other words, is the innovator.

ANTHONY FERA
ACCOUNT DIRECTOR
JUST DISCOVERED A BOLD NEW WAY TO GRAB HIS TARGET'S UNDIVIDED ATTENTION. IT'S CALLED MAIL.
Consumers spend an average of 25 minutes with Direct Mail and 30 minutes with catalogs. These are just some of the facts you'll learn in the Mail Moment series of free white papers from the U.S. Postal Service.® In this day of multitasking and media overload, people actually look forward to spending some one-on-one time with their Mail. Learn how to make them spend quality time with your message when we send you the Mail Moment series. Just visit usps.com/mailworks or return the Business Reply Mail™ Card.
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When the Gallup Organization applied Six Sigma principles to sales and service groups at several companies, it learned how much performance variation exists between seemingly similar work groups. Managing that variability can raise overall performance by orders of magnitude and can create organic growth.

MANAGE YOUR HUMAN SIGMA

by John H. Fleming, Curt Coffman, and James K. Harter

"Quality" is easy to measure and manage in some contexts, and extremely difficult in others. Businesspeople have a pretty good idea how to judge the manufacturing process that yields a snazzy new handheld device, for example. But what about the retail employee's attempts to sell the gadget? Or the call center employee's efforts to help the customer navigate its eccentricities? Businesses aren't especially good at measuring and managing the quality of those processes–or indeed of most work done by nonmanufacturing businesses and units.

CHRISTOPH NIEMANN

Yet it's essential that organizations learn to measure and manage quality in *all* kinds of business settings. In manufacturing, value is created on the factory floor. In sales and service organizations, and in many professional service firms, value is created when an employee interacts with a customer. Indeed, the employee-customer encounter *is* the factory floor of sales and services. If these organizations are going to achieve meaningful operational and financial improvements, the employee-customer encounter must be managed with great care.

Quality improvement methodologies such as Six Sigma are extremely useful in manufacturing contexts, where ingredients with predictable properties are repeatedly combined in the same ways, but they're less useful when it comes to the employee-customer encounter, with its volatile human dimensions. To address this problem of fit, we've developed a quality improvement approach that we call Human Sigma. Like Six Sigma, Human Sigma focuses on reducing variability and improving performance. But while Six Sigma applies to processes, systems, and output quality, our approach looks at the quality of the employee-customer encounter, weaving together a consistent method for assessing it and a disciplined process for managing and improving it.

As we developed our thinking about Human Sigma, we arrived at several core principles for measuring and managing interactions between customers and employees:

• It's important not to think like an economist or an engineer when you're assessing the employee-customer interaction. Emotions, it turns out, inform both sides' judgments and behavior even more powerfully than rationality does.

• The employee-customer encounter must be measured and managed locally, because there are enormous variations in quality at the work-group and individual levels.

• It's possible to arrive at a single measure of effectiveness for the employee-customer encounter; this measure has a high correlation with financial performance.

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• To improve the quality of the employee-customer interaction, organizations must conduct both short-term, transactional interventions (such as coaching) and long-term, transformational ones (such as changing the processes for hiring and promotion). In addition, the company's organizational structure often must be adjusted so that the employee-customer encounter can be managed holistically.

Human Sigma grew out of a multiyear, research-based initiative designed to map the terrain of the employee-customer encounter. We identified ways to measure the effectiveness of the encounter, explored how those metrics could best be used, and assessed the benefits that could result from their application. This work was based on direct experience with hundreds of companies and millions of customers and employees. We then tested and cross-validated our findings in 1,979 business units – involved in financial services, professional services, retail, and sales – within ten companies. The results thus far have been extraordinary. The ten companies, all of which have applied the best-practice principles for managing the employee-customer encounter, together outperformed their five largest peers during 2003 by 26% in gross margins and by 85% in sales growth. We can't guarantee readers comparable results, but we believe that closely monitoring the health of a firm's employee-customer relationships will result in dramatic performance improvements.

IT'S POSSIBLE to arrive at a single measure of effectiveness for the employee-customer encounter; this measure has a high correlation with financial performance.

Emotions Frame the Encounter

Six Sigma processes are data driven, rational, and analytic. They focus on conformance to requirements, which are generally specified in functional terms. Does the product have any defects? Are its parameters within specified manufacturing tolerances? Is it delivered on time? Widespread use of Six Sigma and TQM methodologies has resulted in vastly improved product quality over the past two decades.

Inspired by these improvements, businesses have tried to apply Six Sigma principles in sales and service settings. In early attempts, researchers and managers alike assumed that the customers in those settings would be as focused on conformance to requirements as the engineers on the factory floor were. Had this been the case – had customers been rational creatures who judged their interactions with company representatives using rigorous, analytical standards – then simple flawlessness on the company's part would have resulted in satisfied, profitable, lifelong customers.

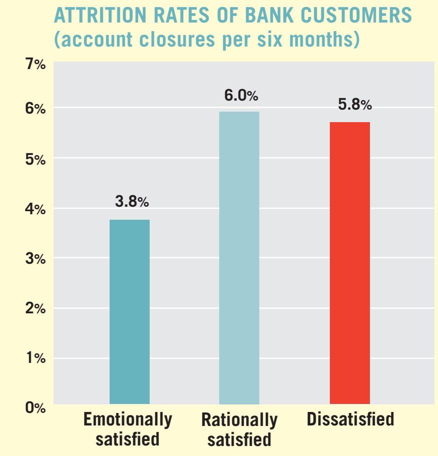
But nothing human is ever that simple. People may think that their behavior is purely rational, but it rarely is. Twenty years of research in two very different fields – neuroscience and behavioral economics – has established quite clearly that people base their decisions on a complicated mixture of emotion and reason. Indeed, recent work suggests that emotions may play a larger role than analysis.

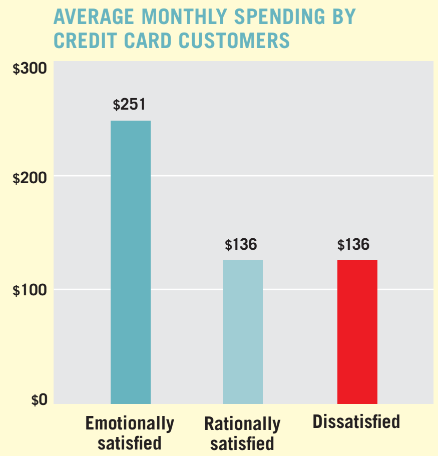
Customer Engagement. That work in neuroscience and behavioral economics is borne out by research into customer satisfaction and engagement. Results from a large and growing number of case studies suggest that "extremely satisfied" customers (people who provide the highest rating of overall satisfaction with a company's products and services) fall into two distinct groups: those who have a strong emotional connection to the company and those who do not. When we examine indicators of customer behavior (such as attrition, frequency of use, total revenue, and total spending), a clear and striking pattern emerges. Emotionally satisfied customers contribute far more to the bottom line than rationally satisfied customers do, even though they are equally "satisfied." In fact, the behavior of rationally satisfied customers looks no different from that of *dissatisfied* customers. The pattern shown in the exhibit "Emotional Satisfaction Matters Most" has emerged in every study we have examined.

Imagine that you could peek inside the heads of your customers as they thought about your company. Would people with a strong emotional connection to the firm show different brain activity than other customers? As it turns out, the answer is yes. We studied three groups of customers of a luxury retailer in Japan. One group was strongly attached emotionally (according to our measure of emotional attachment), one was moderately attached, and the third had little or no attachment. While inside a functional magnetic resonance imaging (fMRI) machine, the customers responded to simple agree-or-disagree statements about the retailer, about their bank, and about various aspects of daily life. The brains of customers who had the strongest levels of emotional attachment to the retailer were significantly more active while the subjects were thinking about the company. The increased activity was concentrated in parts of the brain related to emotion, emotional-cognitive processing, and memory. Moreover, the enhanced brain activity was company specific; customers who were passionate about the retailer but not the bank did not show the same enhanced levels of neural activity when thinking about the bank. (The attitude survey that had been used to separate the subjects into three groups proved to be a good proxy for the fMRI study, in that it reliably predicted which individuals would

Emotional Satisfaction Matters Most

At a large U.S. retail bank, the attrition rate of dissatisfied customers was scarcely different from that of "rationally satisfied" customers, those who described themselves as extremely satisfied but scored low on an emotional-attachment metric that measures four dimensions – confidence, integrity, pride, and passion. By contrast, the attrition rate of people who were "emotionally satisfied" by the bank was, on average, 37% lower. Similarly, dissatisfied customers of an international credit card provider were virtually indistinguishable from rationally satisfied cardholders in their purchase behavior, while customers who were emotionally satisfied by factors such as service, features, and brand image spent more, on average, than people in the other groups. (The emotionally satisfied group also increased its spending by 67% over 12 months, compared with 8% for the rationally satisfied group; there was a small decrease within the dissatisfied group.)





show the enhanced activity levels). Even more striking was the relationship between emotional attachment and self-reported share of spending, which were strongly correlated at 0.6 on a scale of 1 to 1. This suggests to us that there is an underlying neurological mechanism that links emotional attachment to subsequent behavior.

Clearly, a Six Sigma approach to measuring and managing the quality of the employee-customer interaction needs to take customers' emotions into account. Building on the work of psychologist Ben Schneider and management professor David Bowen, we have developed just such a measure of customer engagement. It combines traditional metrics of customer loyalty (overall satisfaction, likelihood to repurchase, and likelihood to recommend) with a short battery of items that assesses the emotional nature of customers' commitment. The first dimension it looks at is *confidence*. Does this company always deliver on its promises? Are its people competent? The second is *integrity*. Does this company treat me the way I deserve to be treated? If something goes awry, can I count on the company to fix it fast? The next element is *pride*, a sense of positive identification with the company. The fourth dimension is *passion*. Is the company irreplaceable in my life and a perfect fit for me? Truly passionate customers, by the way, are relatively rare. They are customers for life, and they are worth their weight in gold.

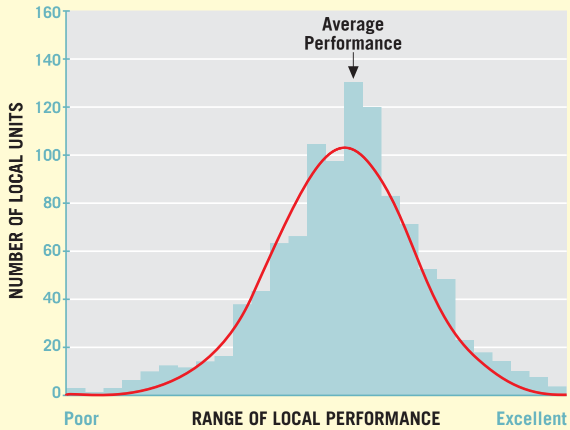
Our research suggests that for all kinds of companies, fully engaged customers–those who score in roughly the upper 15% to 20% on our measure–deliver a 23% premium over the average customer in terms of share of wallet, profitability, revenue, and relationship growth. Actively disengaged customers – those who score in the bottom 20% to 30% – represent a 13% discount on the same measures. And within a given company, business units whose levels of customer engagement are in the top 25% tend to outperform all other units on measures of profit contribution, sales, and growth by a factor of 2:1.

Employee Engagement. Every interaction an employee has with a customer represents an opportunity to build that customer's emotional connection – or to diminish it. Obviously, these interactions are not the only way to the customer's heart, but they are a large and largely untapped resource. In the United States, just 29% of employees are energized and committed at work, according to Gallup Poll data. Perhaps more distressing is that 54% are effectively neutral–they show up and do what is expected, but little more. The remaining employees, almost two out of ten, are disengaged.

Work groups whose members are positively engaged have higher levels of productivity and profitability, better safety and attendance records, and higher levels of retention. Not surprisingly, they're also more effective at engaging the customers they serve. Disengaged employees have a profound impact, too. We estimate that they cost companies $300 billion per year in lost productivity in the United States alone. They also destroy customer relationships with remarkable facility, day in and day out.

It All Depends on Which Store You're In

Levels of customer engagement vary widely across the 1,100 stores of a retail chain we studied. Each bar represents the number of stores that fall into one of 28 customer-engagement performance bands, with poorly performing stores on the left and exceptional performers on the right. The top stores' performance is 3.5 times as strong as the poorest stores'. The shape of the curve (a normal distribution) suggests that the variability is unmanaged.



Performance metrics that acknowledge the importance of emotional engagement–on the part of both customers and employees–provide much stronger links to desired financial and operational outcomes. But deciding which metrics to use is just the first step toward effective management of the employee-customer encounter. Deciding *how* to deploy them is equally important. Unfortunately, in many companies, metrics designed with the right intentions are often deployed in the wrong ways.

The Encounter Must Be Measured Locally

We have all seen the claims: A major airline touts itself as an industry leader in on-time performance and has the flight departure and arrival data to prove it. A cellular provider claims to be a leader in customer satisfaction, citing an independent study of customers. A retailer announces that it has won an award for being one of the country's best places to work for the fifth year in a row. Each of these summary claims – based on the results of surveys – may be legitimate, but quick reviews of the on-time performance of specific flights, or candid conversations with cellular customers, or visits to several stores in the retail chain, inevitably reveal a considerable range of performance hidden behind the averages. Some flights are never on time; some always are. Some customers experience nothing but problems; others are routinely delighted. And some stores are exceptional places to work, while others are awful. High-level averages of company performance may provide good marketing copy, and they may make executives feel better about their position in the marketplace. But because they obscure the considerable variation from location to location within a company, they don't give managers and executives the information they need to improve performance.

Local variability shows up on virtually every performance metric we have examined. And it tends to be vast. In fact, the variations within a company easily dwarf the differences between competitors. Also, performance roughly follows a normal distribution, suggesting that local variability is largely unmanaged. (See the exhibit "It All Depends on Which Store You're In.") For sales and service organizations, unmanaged variability in the quality of the customer experience represents a significant threat to the enterprise's sustainability, because customers experience variation, not averages. Exactly the same pattern of performance variability emerges on employee measures, as well, with similar implications.

The only way to improve local performance is to provide feedback at the level where the variability originates. Suppose that instead of assessing your own heart rate, your physician based treatment on a measurement of the average heart rate for your entire town. It sounds absurd, but in many companies, something akin to this happens every day. The employee-customer encounter is assessed at the wrong level of specificity for the measurement to be useful. What does a cellular provider's description of itself as "an industry leader in customer satisfaction" mean to a customer who is routinely confronted with subpar service at a local level? And what does a company's label as "one of the country's best places to work" mean to an employee whose local workplace is miserable and depressing?

When the employee-customer encounter is assessed at the level of the local work group, executives can learn a lot about organizational performance. Let's say you manage one of several customer service call centers operated by a large telecommunications provider that we'll call Telecom A. Like its sibling centers, yours is a state-of-the-art facility, with an integrated CRM system that allows your CSRs to access each customer's relationship with the company – including account activity, revenue, and profitability – in real time. Calls are routed automatically to make the most efficient use of capacity. Every CSR is comprehensively trained, monitored, and coached, and there's little variation in the reps' pay from center to center.

To assess how well it is meeting its customers' requirements, Telecom A measures satisfaction at the company level by regularly surveying, and providing feedback from, a random sample of people who have recently called. Telecom A also conducts an annual employee survey. When you receive your copy of the quarterly customer satisfaction scorecard, you find that 88% of callers were satisfied with the service they received. The employee survey, meanwhile, reveals that just 40% of workers companywide feel they are adequately compensated. What exactly does this information tell you? Not very much. To truly understand the totality of the employee-customer encounter, you need metrics that go deeper into the organization. Fortunately, Telecom A has deployed just such metrics, and they have produced some startling insights.

FULLY ENGAGED CUSTOMERS DELIVER a 23% premium over the average customer in terms of share of wallet, profitability, revenue, and relationship growth.

One insight – and this is borne out by one of the largest CSR-level studies ever conducted (including some 5,000 reps) – is that the customer's experience still depends almost entirely on the particular rep who takes the call. The best 10% of CSRs produce six positive interactions for every negative one, based on postcontact interviews with customers. The worst 10% yield only three positive for every four negative encounters. Critical information of this type was hidden behind the overall summary score of 88% customer satisfaction. Without the deeper metrics, you as a call center manager would have been unable to identify or manage the sources of both poor and exceptional performance.

Or consider Bank B. Some time ago, its top executives recognized that employees affect profitability through two separate paths. The first might be described as *direct cost efficiencies*. Committed employees generate greater output at a higher quality level than uncommitted workers.

They also stay longer with the firm, reducing training and replacement expenses. These efficiencies translate directly into enhanced profitability. The second path could be called *indirect customer outcomes*. Productive and committed employees generate stronger customer connections, which lead to higher levels of customer retention, profitability, and growth.

Early in their efforts to understand how to boost employee productivity and commitment, Bank B executives routinely assessed workers' opinions by surveying a random sample. They hoped to identify a key set of issues that, if improved, would make employees happier and more productive. The results were disappointing. It was not until they assessed worker attitudes at the branch level that they started to make progress. At the branches, employee attitudes ran the gamut from delight to disgust. Because Bank B measured at the correct level of specificity, it discovered that some local work groups epitomized the highest standards of excellence, while others were totally demoralized.

Local performance variation is the scourge of organizations that aspire to high performance. While it is in the nature of performance distributions to show variation (after all, "average" is simply a summary that represents almost no one's actual experience), the magnitude of the variability is a critical measure of organizational health. More than two decades ago, W. Edwards Deming and Joseph Juran noted that variability on critical performance metrics is a threat to the vitality of an enterprise because it is evidence that the business is not being managed effectively. And intuitively, it makes sense that the greater the range of performance on critical performance measures, the more costly the business is to operate.

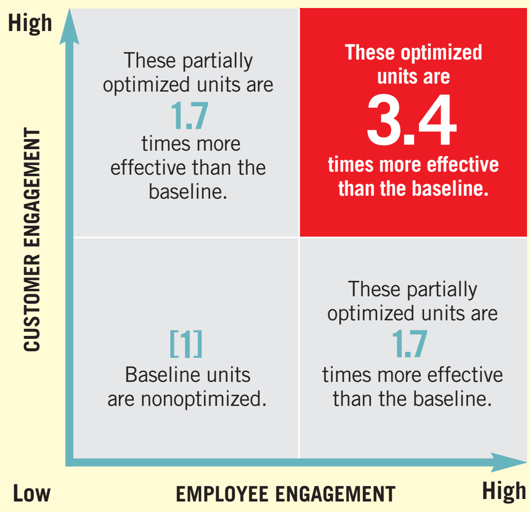
Unfortunately, in most organizations, variability in the effectiveness of the employee-customer encounter goes largely undiagnosed. As a result, revenues and profits are bled off, and growth is anemic. The extensive range of local performance variation that exists in every company we've studied means that there is really no such thing as a single corporate culture or unified brand. There are as many cultures and "brands" as there are local work groups and customer touch points.

Local managers sometimes blame variability from location to location on factors such as store size, age, or locale that are beyond their control. Our research doesn't back them up. For example, within a chain of retail stores, controlling for those and other "immutable" variables – including local demographics and the presence or absence of competitors – eliminates only a portion of the performance variation among stores.

What explains this local variability? We've controlled for the factors that can't be changed. And the factors that are common across the enterprise – product, price, processes, policies, and so forth – can't, by definition, explain local variability (they often play a critical role in driving customer engagement, of course). If these factors don't differ from place to place, the only remaining culprit is the way those processes and policies are implemented locally. But that brings us to a consideration of exactly who is doing the implementing and how the implementation is being managed. To reduce variability in the customer experience, businesses must focus on reducing variability in local "people" processes (the "who" and "how" of implementation). The power of a local focus on reducing variability lies in its simplicity and flexibility. Each unit can identify and correct its own problems.

The Interaction of Employee and Customer Engagement

Local business units with even moderately high levels of both worker and customer engagement are, on average, more effective financially than units with very high levels of only one form of engagement.



The Link to Financial Vitality

Conventional analyses of employee attitudes, customer requirements, and financial performance have emphasized the linearity of the relationships among them: Employee attitudes affect customer attitudes, and customer attitudes affect financial performance. We believe that the three factors also interact in complicated ways. Our Human Sigma metric combines employee and customer engagement into a single measurement that, we believe, provides a more comprehensive way of capturing and understanding this dynamic system.

The Human Sigma model grew out of a partially failed experiment. Several years ago, we were working with a large, multisite retailer on two separate initiatives to measure and improve its relationships with its employees and its customers. By surveying all workers as well as a sample of customers at each store, we were able to provide metrics for both relationships at the local level. We also found, not too surprisingly, that scores on both measures were strongly linked to the stores' financial performance.

As the project evolved, we wanted to understand what the top performers on each measure did differently from their less-stellar counterparts. We first identified the ten highest-performing stores on the basis of employee engagement, then did the same for customer engagement. Our working assumption was that at least a few of the top employee-engagement stores would also be top customer-engagement stores. We were wrong. Just one store appeared on both lists.

As we thought about that finding, we returned to the data and noticed two things: As we expected, stores that performed well (defined as simply being in the top half, rather than the top ten) on both employee and customer engagement produced considerably better financial results than those that did poorly on both measures. But stores that performed well on both metrics also outperformed stores that scored high on one but not the other. This observation suggested that customer and employee engagement interact to promote financial performance.

Our subsequent research has confirmed that customer and employee engagement augment each other at the local level, creating an opportunity for accelerated improvement and growth of overall financial performance. Our meta-analysis of the financial performance of the 1,979 business units in the ten companies in our present study reveals that local business units that score above our database median on both employee and customer engagement metrics are, on average, 3.4 times more effective financially (in terms of total sales and revenue, performance to target, and year-over-year gain in sales and revenue) than units that rank in the bottom half on both measures. The doubly stellar units are also roughly twice as effective financially as units that are high performers on one – but not both – of these critical vital signs. In one luxury retail chain, for example, the stores that scored high on both measures generated an average of $21 more in earnings per square foot of retail space than the remaining stores – a difference that translated into more than $32 million in additional annual profits for the entire chain. The exhibit "The Interaction of Employee and Customer Engagement" shows how the average net gain per business unit is associated with low and high engagement of workers and customers.

As we have refined the Human Sigma concept, we have developed a method for combining employee and customer engagement scores at the local unit level to yield a single score that is reliably related to the unit's overall financial vitality. (See the sidebar "The Math Behind the Human Sigma Score.") This score allows us to classify units into six broad performance levels. Units in the lower two levels are in dire need of improvement: Those that engage employees without engaging customers have become too inwardly focused and have lost direction. Those that engage customers without engaging employees are living on borrowed time; over the long term, customer engagement will tend to erode. We consider units in the top three levels to be optimized. Obviously, we believe that sales and services companies should strive to move all of their local units into the top performance level. This means that, over time, local performance variability must be reduced and overall performance increased. While difficult, such improvement is indeed possible. And the movement of units into successively higher Human Sigma levels brings with it enhanced financial performance.

HIGH-LEVEL AVERAGES of corporate performance may provide good marketing copy, but they obscure the considerable variation within a company.

How to Get There

A detailed look at how to manage and reduce variability at the local level would turn into a lengthy discussion, so we will make just three quick points.

Responsibility for Human Sigma must be centralized. Since employee and customer engagement are intimately connected – and since, taken together, they have an outsize effect on financial performance – they need to be managed holistically (at the same time that they're managed locally, which we'll get to in the next paragraph). That's easier said than done. In most companies, data about customers stay inside the marketing or quality department. Data about employee well-being reside, for the most part, in the HR department. And financial data, of course, live in finance. But only when these data are brought together on a single platform can a true picture of the health of the employee-customer encounter be drawn. It is simply not sufficient to provide managers with a "dashboard" of seemingly unrelated gauges and dials drawn from various and dispersed quarters of the organization. What this means in practice is that the responsibility for measuring and monitoring the health of the employee-customer relationship must reside within a single organizational structure, with an executive champion who has the authority to initiate and manage change.

LOCAL PERFORMANCE variation is the scourge of organizations that aspire to high performance.

The local manager is nonetheless the single most important factor in local group performance. Local-level managers have a huge role to play, for better or worse, in local performance. Earlier Gallup research suggested that employees join great companies but leave poor managers. That is, employees join a company for a variety of both high-minded and practical reasons. But, invariably, their working lives revolve around local environments that can either nourish them and foster their learning or starve them, causing them ultimately to leave the company – or to hang around, unproductively waiting for retirement. Local managers whose work groups show suboptimal performance should be encouraged to use the familiar tool kit of interventions: targeted training, performance reviews, action learning, and individual coaching. And managers themselves should be supported in similar ways. If none of these interventions leads to better performance, the local manager should be replaced.

Some companies will need to overhaul their HR practices. A set of longer-term, transformational interventions may be necessary in some instances. Executives or outside consultants may need to reexamine how local leaders do their jobs, how these managers are being developed, and how decisions are made and executed at the local level. If the Human Sigma numbers throughout the organization are lower than expected, or if parts of the organization sustain low numbers over time, then a broader intervention may be needed. The company may need to look at how it selects employees, promotes people into management, does performance appraisals, approaches succession planning, and recognizes performance.

• • •

Ask any chief executive to list his or her most pressing business challenges, and you will no doubt hear concerns about customer and employee retention, authentic and sustainable growth, eroding margins, and cost efficiencies. Clearly, there is no single solution to those challenges. But we are confident that measuring and managing two simple factors – employee and customer engagement – can lead to breakthrough improvements in all aspects of your business.

The Math Behind the Human Sigma Score

A business unit's Human Sigma score is computed by first converting its mean scores on employee and customer engagement into percentile equivalents (based on the observed distribution of scores for each metric). If a unit's converted scores on *both* metrics are above the median value for the distribution, the Human Sigma score is the square root of the product of the two percentile values, corrected for certain boundary conditions. (This correction value is equivalent to the ratio of the two percentiles – highest over lowest – raised to the 0.125 power.) If a unit's converted score on *either* metric is below the median value for the distribution, the Human Sigma score is the square root of the product of the two percentile values divided by 2. This produces a single bimodally distributed score that is then used to establish threshold values that define each of six Human Sigma levels, HS1 through HS6. The HS4 threshold is defined at 50. The HS3 threshold is defined as one standard deviation (SD) below that (using the standard deviation of the Human Sigma score distribution). The HS5 threshold is defined as one SD above the HS4 threshold. Successive thresholds are one SD away from the adjacent level. In algebraic terms: If employee engagement percentile and customer engagement percentile are both above 50, then:

$$HS = \sqrt{(EE\,percentile \times CE\,percentile)} \times \left(\frac{percentile\ Max}{percentile\ Min}\right)^{0.125}$$

If either employee engagement percentile or customer engagement percentile is less than or equal to 50, then:

$$HS = \frac{\sqrt{(EE\,percentile \times CE\,percentile)}}{2}$$

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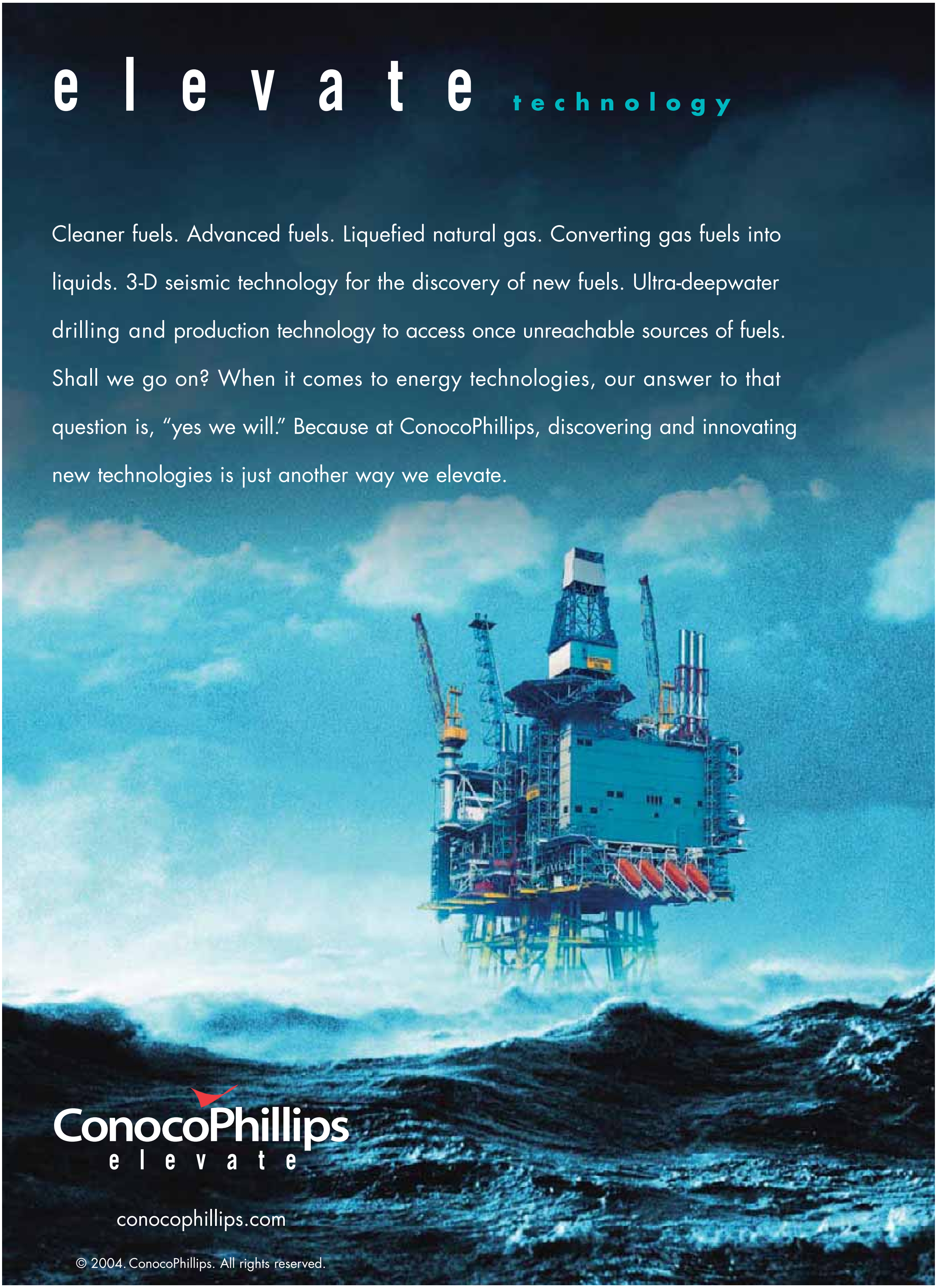
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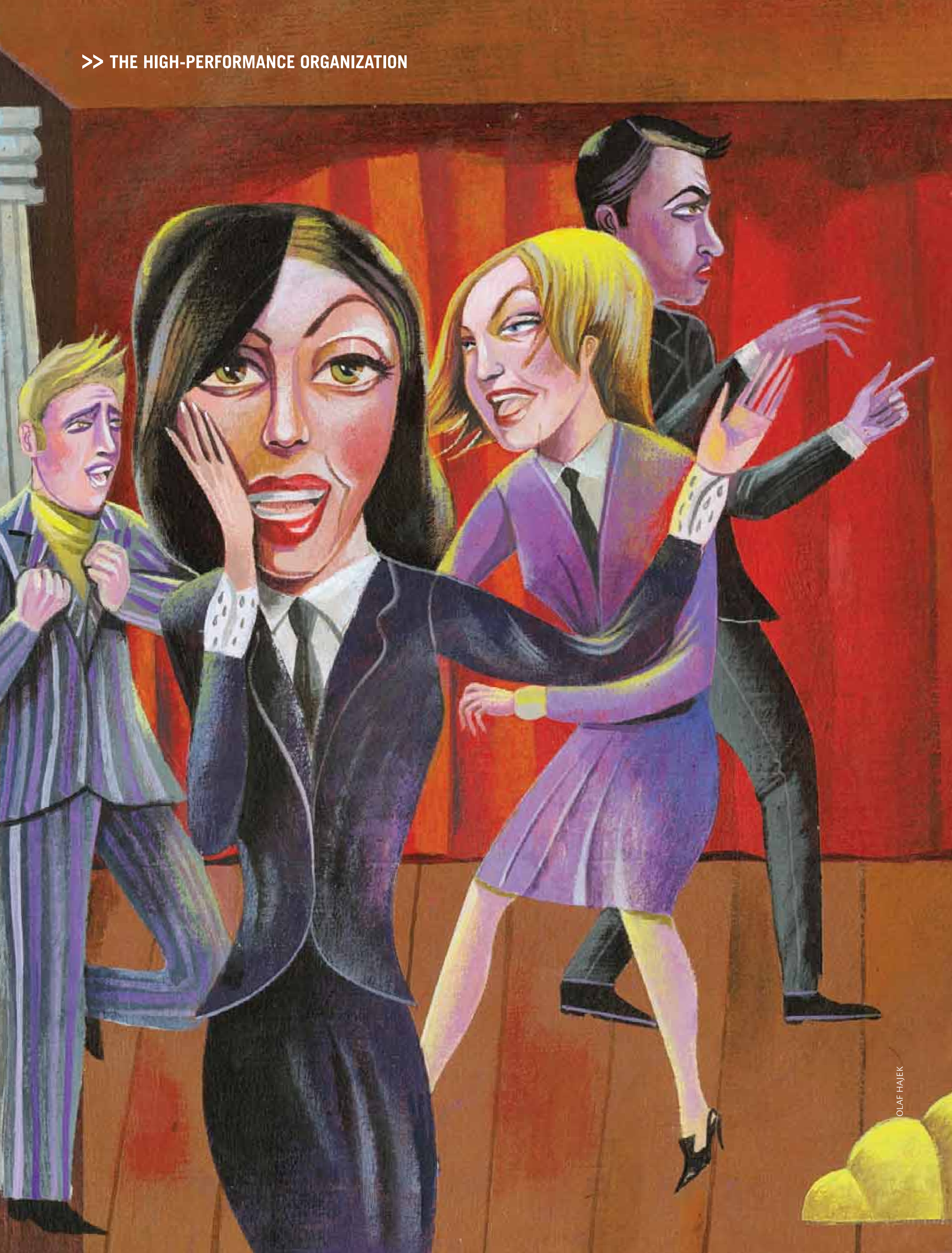

OLAF HAJEK

VIRTUOSO TEAMS

High-stakes projects need all-star teams. But all-stars often play by their own rules – and fight like cats and dogs.

by Bill Fischer and Andy Boynton

Blood on the stage, racial tensions turned violent, dissonant music, and dancing hoodlums – *West Side Story* was anything but the treacly Broadway musical typical of the late 1950s. It was a high-stakes, radical innovation that fundamentally changed the face of American popular drama. The movie version earned ten Oscars. Not a bad achievement for the team of virtuosos – choreographer Jerome Robbins, writer Arthur Laurents, composer Leonard Bernstein, and lyricist Stephen Sondheim – who created it.

In nearly any area of human achievement – business, the arts, science, athletics, politics – you can find teams that produce outstanding and innovative results. The business world offers a few examples. Think of the Whiz Kids – the team of ten former U.S. Air Force officers recruited en masse in 1946 – who brought Ford back from the doldrums. Recall Seymour Cray and his team of "supermen" who, in the early 1960s, developed the very first commercially available supercomputer, far outpacing IBM's most powerful processor. More recently, consider Microsoft's Xbox team, which pulled off the unthinkable by designing a gaming platform that put serious pressure on the top-selling Sony PlayStation 2 in its first few months on the market.

We call such work groups *virtuoso teams*, and they are fundamentally different from the garden-variety groups that most organizations form to pursue more modest goals. Virtuoso teams comprise the elite experts in their particular fields and are specially convened for ambitious projects. Their work style has a frenetic rhythm. They emanate a discernible energy. They are utterly unique in the ambitiousness of their goals, the intensity of their conversations, the degree of their esprit, and the extraordinary results they deliver.

Virtuoso teams play by a **DIFFERENT SET OF RULES** than other teams do.

Despite such potential, most companies deliberately avoid virtuoso teams, thinking that the risks are too high. For one thing, it's tough to keep virtuoso teams together once they achieve their goals – burnout and the lure of new challenges rapidly winnow the ranks. For another, most firms consider expert individuals to be too elitist, temperamental, egocentric, and difficult to work with. Force such people to collaborate on a high-stakes project and they just might come to fisticuffs. Even the very notion of managing such a group seems unimaginable. So most organizations fall into default mode, setting up project teams of people who get along nicely. The result is mediocrity. We've seen the pattern often.

For the past six years, we've studied the inner workings of teams charged with important projects in 20 of the world's best-known companies. We've found that some teams with big ambitions and considerable talent systematically fail, sometimes before our very eyes. In interviewing the managers involved, we discovered that virtuoso teams play by a different set of rules than other teams. The several dozen high-performance teams we studied, drawn from diverse fields, fit a few overarching criteria. Not only did they accomplish their enormous goals, but they also changed their businesses, their customers, even their industries.

Unlike traditional teams – which are typically made up of whoever's available, regardless of talent – virtuoso teams consist of star performers who are handpicked to play specific, key roles. These teams are intense and intimate, and they work best when members are forced together in cramped spaces under strict time constraints. They assume that their customers are every bit as smart and sophisticated as they are, so they don't cater to a stereotypical "average." Leaders of virtuoso teams put a premium on great collaboration – and they're not afraid to encourage creative confrontation to get it.

Among the work groups we studied were two from outside the mainstream business world – the creative teams behind *West Side Story* and the 1950s-era television hit *Your Show of Shows* and its successors. Both teams were vivid, unique, and, ultimately, managed to change their very competitive businesses. We also offer a more current business example from Norsk Hydro, the Norwegian energy giant. We intently studied a variety of sources, including diaries, interviews, video archive materials, and the impressions of many of the principals involved. In the following pages, we'll describe in more detail what constitutes a virtuoso team, how these teams work, and what they require in the way of leadership.

Assemble the Stars

Most traditional teams are more concerned with doing than with thinking. In other words, the working assumption is that execution is more important than generating breakthrough ideas. Team assignments, therefore, fall to people who seem to be able to get the work done. A less conventional approach, however, is more likely to produce exceptional results.

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In virtuoso teams, thinking is more important than doing: Individual members are hired for their skills and their willingness to dive into big challenges. Instead of assembling a variety of individuals and averaging their talents down to a mean, virtuoso team leaders push each player hard to reach his or her potential within the overall context of the team objective. Virtuoso team members are not shy; they typically want to take on a risky venture that can pull them away from their well-trodden paths. They love daunting challenges, and they accept the risk of exposure and career damage if their projects fail. The risk increases pressure on the team to deliver; accordingly, the individual members give their utmost to assure that radical innovation happens.

If you want great performances of any type, you have to start with great people. In 1949, a young comic named Sid Caesar distanced himself from his competition by relying on a group of virtuoso writers including Neil Simon, Mel Brooks, Carl Reiner, and Woody Allen. *Your Show of Shows* and Caesar's other weekly productions were the biggest commercial successes on TV at the time. Week after week over a period of nine years, Caesar and his cadre of writers created live, consistently award-winning performances in a string of TV comedy hits. Mel Brooks famously likened the group to a World Series ball club, echoing the sentiments of many who acclaimed the team as the greatest writing staff in the history of television.

They may have been the best comedy writers in America – but they weren't the nicest. As is the case with all virtuoso teams, Caesar's staffers engaged daily in high-energy contests. It was as if each writer knew he or she was the best; every day, each tried to top the others for the "best of the best" title. The interpersonal conflict often intensified as the writers jostled aggressively to see whose ideas would be accepted. Mel Brooks frequently irritated Max Liebman, producer of the *Admiral Broadway Revue* and *Your Show of Shows,* and vice versa: Liebman found Brooks arrogant and obnoxious, while Brooks, for his part, declared that he owed no allegiance to Liebman. The tension among team members led Caesar to describe the competitive atmosphere as one filled with "electricity and hate"; two other virtuosos translated Caesar's description into terms of "competition" and "collaboration."

The *West Side Story* group was also famously discordant. To build the team, Jerome Robbins, a young classical ballet choreographer with an impressive résumé, sought out Leonard Bernstein, one of the moving forces in classical music composition and conducting; Arthur Laurents, a highly regarded and successful screenwriter; and budding lyricist Stephen Sondheim. All of these talented players had enormous egos and greedy ambition. In their very first meeting, Laurents refused to play a subordinate role to the famously egotistical Bernstein, insisting vociferously that he was not about to write a libretto for any "goddamned Bernstein opera." All the team members engaged in similarly nasty tugs-of-war with one another. They needed each others' skills, not peace and quiet.

Build the Group Ego

Traditional teams typically operate under the tyranny of the "we" – that is, they put group consensus and constraint above individual freedom. Team harmony is important; conviviality compensates for missing talent. This produces teams with great attitudes and happy members, but, to paraphrase Liebman, "from a polite team comes a polite result."

When virtuoso teams begin their work, individuals are in and group consensus is out. As the project progresses, however, the individual stars harness themselves to the product of the group. Sooner or later, the members break through their own egocentrism and become a plurality with a single-minded focus on the goal. In short, they morph into a powerful team with a shared identity.

Consider how Norsk Hydro used a virtuoso team to handle a looming investor relations crisis. In 2002, Bloc 34, the potential site for a big oil find in Angola, turned out to be dry. Hydro had made a serious investment in the site. Somehow, senior management would have to convincingly explain the company's failure to the financial markets or Hydro's stock could plummet.

The senior managers understood that this problem was too critical to leave to conventional approaches, but Hydro was certainly not a natural environment for a virtuoso team. Rich in heritage, unwieldy, and traditional, with a strong engineering culture and a decidedly Nordic consensus-driven approach to decisions, the company never singled out or recognized individual performers. In fact, most of Hydro's business activities were specialized and separated. Teamwork was satisfactory but unexceptional, and tension among employees was firmly discouraged.

Defying precedent, team leader Kjell Sunde assembled a high-powered group comprising the very best technical people from across the company. Their task? To review a massive stream of data – one that had occupied the minds of some of the best professionals for more than four years. Their goal? To understand what had gone wrong in the original analysis of Bloc 34 and to assure key stakeholders that the company would prevent such an outcome from occurring again. Their deadline? A completely unreasonable six weeks.

Sunde's challenge was to strike a delicate balance between stroking the egos of the elites and focusing them on the task at hand. Each of the brilliant technologists was supremely confident in his abilities. Each had a reputation for being egocentric and difficult. Each had a tendency to dominate and aggressively seek the limelight. In a consensus-driven company like Hydro, the typical modus operandi would have been to exhort the individuals to surrender their egos and play nicely together.

But Sunde went in the opposite direction, completely breaking with corporate culture by publicly celebrating the selected members and putting them squarely in the spotlight. The Bloc 34 Task Force, nicknamed the "A-team," established a star mentality from its very inception. Selection for the project was clearly a sign of trust in each member's ability to perform outstanding work on a seemingly impossible task. For the most part, the members knew one another already, which eliminated the need for them to build polite relationships and helped them jump in right away.

Sunde then set about building the A-team's group ego. He guaranteed the members the respect they craved by assuring them that they would work autonomously – there would be no micromanagement or intrusive scrutiny from above. Team members would have absolute top priority and access to any resources they required, their conclusions would be definitive, and there would be no second-guessing. All this set a positive tone and bolstered group morale.

Still, there were plenty of early clashes. To control the friction, Sunde introduced an overall pattern to the teamwork. First, he paired off individual team members in accordance with their expertise and his sense of their psychological fit. Each half of the couple worked on a separate but related problem, and each pair's problem set fit together with the other sets to form the overall puzzle, which team members had to keep in mind as they worked.

When virtuoso teams begin their work,
INDIVIDUALS ARE IN
and group consensus is out.

Eventually, each team member understood that if the team failed, he would fail too. This kept any of the members from developing an entrenched sense of idea ownership. As it worked, the team transformed itself from a collection of egocentric individuals into one great totality. Had the group started out as a cohesive whole, individual talents might never have been realized and harnessed to the goal.

Make Work a Contact Sport

Typical teams are all too often spatially dispersed – they are managed remotely and get together only occasionally for debate and discussion. Most of the time, such a scenario works quite well. But when big change and high performance are required, these standard working conditions fall short of the mark. In virtuoso teams, individual players energize each other and stimulate ideas with frequent, intense, face-to-face conversations, often held in cramped spaces over long periods of time. The usual rounds of e-mails, phone calls, and occasional meetings just don't cut it.

When virtuoso teams are in action, impassioned dialogue becomes the critical driver of performance, not the work itself. The inescapable physical proximity of team members ensures that the right messages get to the right people – fast. As a result, virtuoso teams operate at a pace that is many times the speed of normal project teams.

Your Show of Shows and Caesar's other TV programs were developed each week in a small, chaotic suite of rooms on the sixth floor of 130 West 56th Street in Manhattan. Experimentation and rapid prototyping were the name of the game; only the best ideas survived. One team member compared the daily atmosphere to a Marx Brothers

Virtuoso teams differ from traditional teams along every dimension, from the way they recruit members to the way they enforce their processes and from the expectations they hold to the results they produce.

TRADITIONAL TEAMS VS VIRTUOSO TEAMS

TRADITIONAL TEAMS	VIRTUOSO TEAMS
Choose Members for Availability	**Choose Members for Skills**
❖ Assign members according to the individuals' availability and past experience with the problem.	❖ Insist on hiring only those with the best skills, regardless of the individuals' familiarity with the problem.
❖ Fill in the team as needed.	❖ Recruit specialists for each position on the team.
Emphasize the Collective	**Emphasize the Individual**
❖ Repress individual egos.	❖ Celebrate individual egos and elicit the best from each team member.
❖ Encourage members to get along.	❖ Encourage members to compete, and create opportunities for solo performances.
❖ Choose a solution based on consensus.	❖ Choose a solution based on merit.
❖ Assure that efficiency trumps creativity.	❖ Assure that creativity trumps efficiency.
Focus on Tasks	**Focus on Ideas**
❖ Complete critical tasks on time.	❖ Generate a frequent and rich flow of ideas among team members.
❖ Get the project done on time.	❖ Find and express the breakthrough idea on time.
Work Individually and Remotely	**Work Together and Intensively**
❖ Require individual members to complete tasks on their own.	❖ Force members into close physical proximity.
❖ Allow communication via e-mail, phone, and weekly meetings.	❖ Force members to work together at a fast pace.
❖ Encourage polite conversations.	❖ Force direct dialogue without sparing feelings.
Address the Average Customer	**Address the Sophisticated Customer**
❖ Attempt to reach the broadest possible customer base; appeal to the average.	❖ Attempt to surprise customers by stretching their expectations; appeal to the sophisticated.
❖ Base decisions on established market knowledge.	❖ Defy established market knowledge.
❖ Affirm common stereotypes.	❖ Reject common stereotypes.

movie: People shouted at the top of their lungs; piles of food and cigarette butts lay everywhere. The pace was dizzying, yet everyone stayed focused. The pressure-cooker environment resulted in fierce interpersonal clashes, but there wasn't time to sulk or stay angry. The tight work space and relentless deadlines created a cauldron of energy and a frenzy of ideas.

Members of Norsk Hydro's A-team joked that they were not a task force; rather, they were "forced to task." Sunde established a dedicated room for the team and filled it with computer workstations and other necessary scientific and communications equipment. The space functioned both as a workroom and as a common meeting place (members of the team spent as much as 90 hours per week together). The atmosphere was relaxed and informal, and the discussions that took place there were open, honest, and passionate. Team members "would continually interact," Sunde said, "bouncing ideas off each other and to a degree competing, or at least keeping their eyes on each other."

The intense pressure on virtuoso teams affects project duration as well. These work groups usually break up for one of two reasons: Either the sheer physical, intellectual, and emotional demands take their toll (though *Your Show of Shows* and the team's other comedy hits lasted for nine years, there was high turnover within the writing group) or the stars, who are always in high demand, find themselves drawn to other new and challenging projects. Still, as long as the team members remain passionately interested and feel they have the opportunity to leave a significant mark on their company or their industry, they will work long and hard.

Challenge the Customer

Virtuoso teams believe that customers want more, not less, and that they can appreciate the richness of an aggrandized proposition. Virtuoso teams deliver solutions that are consistent with this higher perception. The vision of the demanding customer becomes a self-fulfilling prophecy, for while competitors create diminished offerings for their clients, virtuoso teams redefine taste and expectations and raise the level of market acceptability.

Before *West Side Story,* Broadway musicals were typically limited to a conventional formula of nostalgia, comedy, and feel-good endings. They were easily marketable entertainment. A typical hit of the day was *Damn Yankees,* a musical about a baseball fan who makes a pact with the devil. There was no room for tragedy, social critique, or even art on the Great White Way.

Robbins, Bernstein, Laurents, and Sondheim believed otherwise, but few agreed with them. Getting *West Side Story* to the stage was a huge challenge because most producers thought the project too risky, dealing as it did with themes of social consciousness and racial violence. How could it possibly make money? As venture capital dried up, Robbins and the others persisted, laying their careers on the line to bring audiences something totally new, daring, and different from anything they had experienced before. The enormous success of their project vindicated them.

Sid Caesar similarly believed that nothing was too much for his audience. At a time when American TV was beginning its long slide into programming mediocrity, Caesar wanted to get away from the crude, pie-in-the-face, seltzer-bottle slapstick that he found degrading. In a turnabout from convention, he and his team regularly presented audiences with challenging material. Liebman put it this way: "We take for granted…that the mass audience we're trying to reach isn't a dumb one. It has a high quota of intelligence, and there's no need to play down to it.… We strive for adult entertainment, without compromise, and believe that the audience will understand it."

For Norsk Hydro, the "customers" were the equity market analysts. The team members' job was to manage the market's reaction; if their explanation was slapdash or incomplete, the company's market value would nosedive. Faced with a similar situation, most businesses would have tried to downplay the fact that a gigantic project had failed, offering a pallid apology and then weathering the ensuing storm. Some companies, however, are able to turn these incidents to their advantage. (In 1988, for instance, an Ashland Oil storage tank ruptured while being filled. Diesel fuel damaged ecosystems and contaminated drinking water. The company's full disclosure and aggressive cleanup efforts restored its good name.) Likewise, Norsk Hydro turned the Bloc 34 incident to its advantage. The thoughtful explanations the virtuoso team provided left market analysts impressed with the firm's ability to respond convincingly and quickly to market concerns. The company received kudos in the press and was spared from any serious financial erosion.

Herd the Cats

Most leaders of traditional teams – even those working on big projects – emphasize consensus and compromise. Their goal is to keep stress levels low, meet deadlines, and produce acceptable results. By contrast, leaders of virtuoso teams must be far more deft and forceful. Their goal is to help individual performers, and the group as a whole, achieve their utmost potential.

The worst thing you can do to highly talented, independent people is to constrain their expressiveness; you have to trust and encourage their talents. At the same time, however, a team made up of these individuals must meet strict goals and deadlines. Balancing the virtuosos' needs for individual attention and intellectual freedom with the uncompromising demands and time lines of a high-stakes project requires unusual skill. For this reason, leaders of virtuoso teams assume different kinds of roles, and use different management tools, than do leaders of traditional teams.

One way to manage a virtuoso team is to be a rigid – even villainous – perfectionist. Jerome Robbins was a perfect example of this. He combined the unforgiving discipline of a boot camp sergeant with an artist's attention to detail. He pushed, prodded, embarrassed, and demanded excellence from his people; he overlooked no detail in an effort to capture the cast's total attention. For example, he posted articles about interracial gang warfare on the theater walls and encouraged others to find and share similar reports. Each gang-member character had a biography – for the first time on Broadway, there was to be no anonymous chorus – and actors were forbidden to use any other names in the theater. Robbins segregated the cast into their respective gangs. "This stage is the only piece of territory you really own in this theater," he barked. "Nothing else belongs to you. You've got to fight for it." This sparked genuine antagonism between the groups, which imbued the final production with verisimilitude.

Needless to say, tensions ran high, and the stress on individual players was enormous. In the end, many cast members hated Robbins (one thespian observed, "If I go to Hell, I will not be afraid of the devil. Because I have worked with Jerome Robbins."). Still, his hard-nosed leadership won him great respect. Chita Rivera, who starred as Anita in the Broadway version of *West Side Story,* noted that "…if [Robbins] hadn't been the way he was, none of those people would have danced the way they did. None of them would have had the careers that they had…because people give up, we all give up, and we give up a lot of times too soon. He made you do what you were really capable of doing, something you never even dreamed you could possibly do."

Other leaders of virtuoso teams take the opposite tack: They strive for excellence by fostering a galloping sense of intellectual and creative freedom in individuals and in the group as a whole. Sid Caesar let his team members express themselves as freely as possible and encouraged creative pandemonium. Though the process might have looked chaotic to an outside observer – and to NBC's management – Caesar kept the group focused on the goal: to produce the very best comedy possible for each show. His team members would work shoulder to shoulder to write and rewrite the same scene many times in the same week – sometimes in the same day – in a frantic effort to perfect it through repeated testing. Ideas, situations, and lines would be tossed back and forth, and, though most would be rejected, a choice few would be accepted and pursued. In the brainstorming maelstrom, ownership of the ideas was difficult to pinpoint. This created a sense of mutual respect and unity in the group; the writers felt they belonged to something bigger than themselves. "He had total control, but we had total freedom," writer Larry Gelbart, a contributor to *Your Show of Shows,* said of Caesar's management style. This statement goes to the very heart of what it means to lead a virtuoso team.

Leaders of virtuoso teams assume **DIFFERENT KINDS OF ROLES,** and use different management tools, than do leaders of traditional teams.

Regardless of their personal approaches, all leaders of virtuoso teams exploit time as a management tool. At Norsk Hydro, Sunde used time in a very specific way. Because presentations were kept to a strict limit of 15 minutes, members used their allotment to maximum effect. And the time limit prevented the more aggressive members from imposing their points of view on others. The deadline pressure was so great that the team had no choice but to maintain its focus on the task at hand. As one technologist put it, the strong adherence to time "made everyone aware that they had to dance to the same rhythm."

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Companies in every industry pursue ambitious projects all the time, tackling big product changes, new market entries, and large reorganizations. But when breakthrough performance is called for, it's clear that business as usual won't suffice.

If you want to stamp out mediocrity, remember the instructive lessons from Sid Caesar's writers' group, the *West Side Story* team, and Norsk Hydro's A-team: Don't hesitate to assemble the very best and let their egos soar. Encourage intense dialogue – and then watch as the sparks fly. If you allow the most brilliant minds in your organization to collide and create, the result will be true excellence.

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To order, see page 195.

Managing for Creativity

Over many years, the leaders of SAS Institute have distilled a set of principles for getting peak performance from creative people. Among them: Value the work over the tools, reward excellence with challenges, and minimize hassles.

by Richard Florida and Jim Goodnight

A **company's most important** asset isn't raw materials, transportation systems, or political influence. It's *creative capital* – simply put, an arsenal of creative thinkers whose ideas can be turned into valuable products and services. Creative employees pioneer new technologies, birth new industries, and power economic growth. Professionals whose primary responsibilities include innovating, designing, and problem solving – the creative class – make up a third of the U.S. workforce and take home nearly half of all wages and salaries. If you want your company to succeed, these are the people you entrust it to. That much is certain. What's less certain is how to manage for maximum creativity. How do you increase efficiency, improve quality, and raise

JOHN RITTER

productivity, all while accommodating for the complex and chaotic nature of the creative process?

Many academics and businesses have made inroads into this field. Management guru Peter Drucker identified the role of knowledge workers and, long before the dot-com era, warned of the perils of trying to "bribe" them with stock options and other crude financial incentives. This view is supported by the research of Harvard Business School's Teresa Amabile and Yale University's Robert Sternberg, which shows that creative people are motivated from within and respond much better to intrinsic rewards than to extrinsic ones. Mihaly Csikszentmihalyi at Claremont Graduate University in California has documented the factors that generate creativity and its positive effects on organizations, advancing the concept of "flow" – the feeling people get when their activities require focus and concentration but are also incredibly enjoyable and rewarding.

While most students of the creative process have focused on what makes *individuals* creative, a growing number of thinkers such as Andrew Hargadon at the University of California, Davis, and John Seely Brown, former chief scientist of Xerox, are unlocking the social and management contexts in which creativity is most effectively nurtured, harnessed, and mobilized. Eric von Hippel of MIT and Henry Chesbrough of the University of California, Berkeley, have called attention to the critical role played by users and customers in the creative process and to a new model of "open innovation." Duke University's Wesley Cohen has shown that corporate creativity depends upon a firm's "absorptive capacity" – the ability of its research and development units not just to create innovations but to absorb them from outside sources. Business history is replete with examples of companies – from General Electric and Toyota to the design-intensive Electronic Arts, Pixar, and IDEO–that have tapped into the creativity of workers from a wide range of disciplines, as well as the creativity of users and customers, to become more innovative, more efficient, or both.

Despite such insights and advances, most businesses have been unable to pull these notions of creativity together into a coherent management framework. SAS Institute, the largest privately held software company in the world, is a notable exception. Based in Cary, North Carolina, SAS has been in the top 20 of *Fortune*'s 100 Best Companies to Work For list every year it's been published. The employee turnover rate hovers between 3% and 5%, compared with the industry average of nearly 20%. The governments and global corporations that rely on SAS's sophisticated business-intelligence software are overwhelmingly satisfied: The subscription renewal rate is an astounding 98%. And in 2004, the company enjoyed its 28th straight year of revenue growth, with revenues topping $1.5 billion.

What's the secret to all this success? As an academic and a CEO, the two of us approach this question differently, but we've come to the same conclusion. SAS has learned how to harness the creative energies of *all* its stakeholders, including its customers, software developers, managers, and support staff. Over the past three decades – through trial and error as well as organic evolution – SAS has developed a unique framework for managing creativity, one that rests on three guiding principles: Help employees do their best work by keeping them intellectually engaged and by removing distractions. Make managers responsible for sparking creativity and eliminate arbitrary distinctions between "suits" and "creatives." And engage customers as creative partners so you can deliver superior products.

These principles are driven by the premise that creative capital is not just a collection of individuals' ideas, but a product of interaction. As University of Chicago organization theorist Ronald Burt has shown, long-term relationships between employees and customers add to a company's bottom line by increasing the likelihood of "productive accidents." Thus, when SAS nurtures such relationships among developers, salespeople, and customers, it is investing in its future creative capital.

Managing with a framework like SAS's produces a corporate ecosystem where creativity and productivity flourish, where profitability and flexibility go hand in hand, and where hard work and work/life balance aren't mutually exclusive.

Help Workers Be Great

Creative people work for the love of a challenge. They crave the feeling of accomplishment that comes from cracking a riddle, be it technological, artistic, social, or logistical. They *want* to do good work. Though all people chafe under what they see as bureaucratic obstructionism, creative people actively hate it, viewing it not just as an impediment but as the enemy of good work. Do what you can to keep them intellectually engaged and clear petty obstacles out of their way, and they'll shine for you.

Stimulate their minds. SAS operates on the belief that invigorating mental work leads to superior performance and, ultimately, better products. It does not try to bribe workers with stock options; it has never offered them. At SAS, the most fitting thanks for a job well done is an even more challenging project.

An *InformationWeek* survey of tens of thousands of IT workers confirms that theory: On-the-job challenge ranks well above salary and other financial incentives as the key

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source of motivation. This is no surprise – since the pioneering work of Frederick Herzberg, managers have known that learning and being challenged motivate workers more than money or fear of disciplinarian bosses. What's different about SAS is that it goes to uncommon lengths to find the right intrinsic motivator for each group of employees.

Artists are inspired by the desire to create beauty. Salespeople respond to the thrill of the hunt and the challenge of making their quotas. Whatever the particular incentives, companies can take steps to help employees realize their goals. To ensure that its salespeople could make their quotas, for example, SAS developed a product-knowledge management system and created the position of sales engineer. That person's job is to answer staff questions and solve technical problems, so the sales reps can spend more time chasing down leads and less time digging up product specs.

Since developers thrive on intellectual stimulation, SAS sends them to industry- and technology-specific conferences, where they can hone their programming skills and build relationships within the larger software community. SAS stages its own R&D expos, where SAS developers share their work with the nontechnical staff. The company also encourages employees to write white papers and collaborate on articles and books in order to showcase their knowledge. And SAS maintains a healthy training budget so individuals can keep up with cutting edge technologies. When employees return to the office, they are energized to apply what they've learned to their own projects.

Another way SAS keeps employees engaged is by frequently updating their tools. With the most advanced third-party productivity tools on the market, it's hard to get bored. Homegrown defect-tracking tools and source-control tools are continually refined, as well, and help workers do their jobs efficiently. In all cases, form follows function. As much as leaders at SAS value technology, they strongly believe that it's people who make technology useful, not the other way around. If a tool is constrictive or makes people change their preferred ways of working, then it gets scrapped. The goal is always the same – to help workers be great.

That holds true for all types of positions. Everyone working on the SAS campus is an employee; the company doesn't outsource any job functions. Whether you're a chef or a programmer, a groundskeeper or a director, you are a full member of the SAS community, and you receive the same benefits package. SAS recognizes that 95% of its assets drive out the front gate every evening. Leaders consider it their job to bring them back the next morning.

Minimize hassles. In the creative economy, time is precious. And as much as creative people like to feel challenged, they don't want to have to surmount unnecessary obstacles. The former situation inspires greatness; the latter, migraines – hardly an ideal condition for creative thought. So SAS takes great pains to eliminate hassles for workers wherever and whenever it can, both off and on the job.

People who are preoccupied wondering "When can I fit in time at the gym?" or "Is that meeting going to waste my whole afternoon?" can't be entirely focused on the job at hand. The more distractions a company can remove, the more its employees can maximize their creative potential and, in turn, produce great work. *The Oprah Winfrey Show, 60 Minutes,* and lots of newspaper and magazine articles have publicized the perks SAS lavishes on its employees, but the company isn't just doling out treats willy-nilly. There's a deliberate process for choosing which benefits to offer (or, put another way, which distractions to eliminate). First, by conducting annual surveys and fielding employees' suggestions, HR finds out what people need. Next, it determines whether SAS can reasonably meet each need, asking, "Will we get enough of a return in terms of employee time saved to merit the investment?" If the answer is yes, SAS provides the benefit. If it's no, the company explains why. Even when SAS says no, it earns workers' trust and respect by engaging in a dialogue rather than issuing a seemingly arbitrary decision.

SAS has said yes to quite a lot. On campus, it has medical facilities for employees and dependents. Additionally, there's a Montessori day care center, and children are welcome in the company cafeteria, so families can eat lunch together. There are also basketball courts, a swimming pool, and an exercise room on-site, all of which make it easier for employees to fit a workout into their day. The

SAS recognizes that 95% of its assets drive out the front gate every evening. Leaders consider it their job to bring them back the next morning.

company's Work-Life Department provides educational, networking, and referral services to help employees choose the right colleges for their teenagers, say, or find the best home health aides for their parents. Massages, dry cleaning, haircuts, and auto detailing are offered on-site and at reduced costs. (But SAS doesn't have, for instance, a doggie day care center because the numbers didn't add up.)

Obviously, the perks cost the company something, but think about the net gain. Not only do the benefits make workers more productive, but they also help retain those workers, reducing the company's expenses for recruitment and replacement. SAS saves about $85 million a year in such costs, according to Stanford University's Jeffrey Pfeffer, a leading scholar of talent-based organizations. It takes roughly six months to get a new worker up to speed in terms of technical knowledge, but it takes years for the employee to truly absorb a company's culture and forge solid relationships. By retaining workers, SAS protects and continues to enrich long-standing relationships among sales and support staff, developers, and customers – and it is in these relationships that creative capital resides.

Of course, there are other, less tangible advantages. Having health care on-site, for instance, reduces the amount of time employees are away from work for doctor visits. And medical conditions are generally caught earlier – because if it's not a hassle to set up an appointment and there's no need to travel across town, most people will see a doctor in the earlier stages of illness. As a result, employee productivity is bolstered, and less time is lost for medical reasons.

Likewise, subsidizing two-thirds of the cost of day care is an investment for SAS, not an unnecessary expense. It helps parents afford to come back to work, which means both the company and the employees win. SAS acknowledges and respects that employees have lives outside the office. The corporate philosophy is, if your fifth grader is in his first school play, you should be there to see it. SAS has earned a spot on *Working Mother*'s list of best companies so many times that professionals are lining up to apply.

SAS takes equal care to reduce administrative and other on-the-job hassles for its employees. At SAS, you won't find two-hour weekly staff meetings slotted into everyone's day planner. People meet when demands warrant it, not because "it's time." The CEO has been known to stand up and leave the room when a meeting becomes unproductive. The informal culture fosters impromptu discussions, and one of managers' responsibilities is to make sure the people who need to be sharing information are talking to one another.

It's not just useless meetings that SAS is out to eliminate – it's also outdated beliefs about proper ways of working. Take the standard workday. Creativity is a fickle thing. It often can't be shoehorned between the hours of nine and five; the Muses don't always show up on time for appointments. It's more important to capture the innovative insight – whenever it strikes – than to keep rigid work hours. To support the creative process and meet the demands of family life, flexible workday guidelines encourage people to start each day at whatever time is best for them. Some SAS jobs do require set schedules. Landscapers, for instance, arrive at 6 AM to get the bulk of their work done before the sun gets too hot. But in general, flexibility is appropriate, and it yields more output from workers, not less.

Creativity can't be shoehorned between the hours of nine and five. The Muses don't always show up on time for appointments.

Although the press has played up the company's 35-hour workweek, the truth is, employees often put in extra time to complete a project or fulfill a responsibility. But make no mistake: This is a far cry from some Silicon Valley start-up. The company actively discourages people from working 70-hour weeks. "After eight hours, you're probably just adding bugs" is a company proverb, repeated often enough by the CEO and others that managers take it seriously. SAS encourages employees to disconnect from work for a time and then come back recharged. Creative people can be trusted to manage their own workloads; their inner drive to achieve, not to mention accountability among colleagues, compels a high level of productivity.

We're All Creatives

Few companies place as high a value on an egalitarian work culture as SAS does. There's no artificial dichotomy between suits and creatives because everyone there is a creative. The fact that the CEO still writes code is well

known, but all of SAS's managers do hands-on work. Gale Adcock, the director of SAS's on-site health care center, for instance, is a nurse practitioner who sees her own patients one afternoon a week. The willingness – even eagerness – of managers to roll up their sleeves and delve into the "real" work of the organization sends an important message: We are all on the same team, striving toward the same goal of providing a superior product.

The importance of that point cannot be overstated. Knowing that your boss thoroughly understands and respects the work you do – because he or she has actually done it – has many positive outcomes. In addition to feeling that your contributions are appreciated, you'll probably be less hesitant to ask questions, because you know your manager "gets it," and you'll have more faith in your boss's decisions. Business life abounds with stories about managers who've failed to earn the respect of professional, technical, and other creative employees: the university president with no scholarly credentials, the law school administrator who's not a member of the bar, the movie studio executive who provokes a rebellion among directors, actors, and other talent.

Because colleagues at SAS earn one another's respect by producing excellent work, not by having a position near the top of the org chart, people aren't overly concerned with titles. Consequently, it's not in keeping with the corporate culture to withhold constructive criticism of higher-ups or hide problems from them; doing so would just result in an inferior product. In fact, most of SAS's leaders have an open-door policy. People are free to pop in to talk over an issue or pitch a new product idea. And the CEO might stop by your office to ask you questions about the project you're working on.

As egalitarian as they may be, creative companies must find the right role for their managers. At SAS, that role is to spark the creativity of the people around them. Managers do that, first, by asking lots of questions. As Carl LaChapelle, director of the Display Products Division, explains, "If you tell everyone, 'Here is how to do it,' then all you are really measuring is their typing skills."

The managers also bring groups of people together to facilitate the exchange of ideas and to spur innovation. For example, a number of years ago, the CEO believed so strongly in the importance of creating Enterprise Guide – a Windows-based forecasting application for business analysts – that he moved developers from various units down to the basement of one building so they could collaborate on the project full-time. To help shepherd it along, the CEO kept a satellite office in this Skunk Works area. Having him there not only motivated the team but also broadcast the company's commitment to the effort.

Finally, the managers clear away obstacles for employees by procuring whatever materials they need. Larnell Lennon, who leads the software-testing team, describes his job as "Go get it, go get it, go get it." When his people come to him asking for a software package or financial support, he doesn't pepper them with questions. If it's a reasonable request, he takes care of it. He knows he doesn't have time for anything less than complete trust in his employees, and vice versa. If the outcomes aren't up to snuff, that's a different matter. But in his seven years in the position, he says, he hasn't been given one reason to mistrust his people.

That's not to say that SAS never has difficulties with employees. With its enticing array of benefits, SAS is bound to attract a few people who would rather enjoy the perks than do the work. The company uses rigorous hiring practices to prevent such candidates from getting in the door; applicants may have to wait months for a decision while the company conducts a thorough vetting.

Once they make the cut, they enter a highly collaborative work culture. And since peers as well as managers are technically savvy, it becomes clear pretty quickly when someone isn't performing up to expectations. That person is given a corrective action plan and can either try to improve his or her behavior in the next three months or leave immediately with a parting compensation package. Either way, the process serves both the company and the employee well. Some have described SAS's philosophy as "Hire hard, manage soft." But "Hire hard, manage open, fire hard" is more apt. SAS, in other words, takes a relaxed approach toward controls; but the culture is allergic to couch potatoes.

There's absolutely no penalty for making honest mistakes in the pursuit of better products, though. Experimentation is crucial for breakthroughs, and some paths are bound to be dead ends. In fact, senior research and development director Deva Kumar gets upset only when people *don't* do something, because stasis can't lead to new insights. A few years back, SAS announced a new video game division, and managers let developers migrate there. When the department ended up failing, the developers were welcomed back where they came from. Even though the initiative didn't succeed, it taught management some valuable lessons and reminded employees that their company supported them, earning their loyalty.

Keep the Customer Satisfied

So far, we've shown how SAS keeps workers stimulated and provides perks that make employees at most other companies green with envy. We've described a management system that builds collegiality and trust. In the business world, though, it all boils down to deliverables. There are plenty of companies whose supposedly enlightened, "new age" management policies led them straight to financial ruin – and where new management came in and imposed neo-Taylorist controls in an attempt to undo the damage. Ultimately, if you don't build a product that people want (or, better yet, need), you won't be around for long. Engaging customers – the final piece of the management framework – is what keeps SAS from turning into a country club for talented techies.

Every company needs a constituency that holds its feet to the fire. For publicly held companies, it's Wall Street. Sure, they have customers, too, but Wall Street is so quick and ruthless that, in practice, it's hard to do the right thing by customers if the Street wants something else. SAS needs discipline as much as any company, but being private, it gets that from customers. That has big advantages, the greatest of which is this: While the stock price just tells you thumbs-up or thumbs-down, a customer tells you why, and how to get better, and will work with you to improve. But because the message from customers is more nuanced, it can also be more ambiguous. It's important, therefore, for management to make sure people throughout the organization hear customers' voices loud, clear, and unfiltered – so they're as unambiguous as a stock quote.

Day in and day out, SAS gathers – and acts on – customer complaints and suggestions through its Web site and over the phone. The company also solicits feedback once a year through its Web-based SASware Ballot, which asks users about additional features they would like. SAS prioritizes complaints and comments and routes them to the appropriate experts. Problems and suggestions are tracked in a database. When it's time to develop the next version of software, SAS resolves all recorded glitches and incorporates as many suggestions as feasible. For most of the company's 29 years, it has implemented the top ten customer requests. It has taken action on approximately 80% of all requests fielded.

Additionally, SAS collects feedback at an annual users' conference, which is quite unlike the usual sales-pitch-in-disguise event. Jeffrey Pfeffer described it as more like a Grateful Dead show than a standard software-industry hole-mending session. What it is, really, is a hotbed of creative energy. It's a forum for two groups of mutually respectful stakeholders to challenge each other to improve and innovate.

Imagine for a moment the vast creative potential of millions of users–highly intelligent professionals hailing from diverse disciplines and 110 countries. (SAS provides software to 96 of the top 100 companies on the *Fortune* Global 500, and to 90% of all 500.) This is the biggest and best focus group that loyalty can buy. Since these customers have access to all the latest software on the market, they're in a unique position to think comparatively about what the product they need should do, as well as what it shouldn't do. According to SAS's marketing creative director, Steve Benfield, it's difficult to develop software "when you don't have some external validation of one particular set of ideas over another…. But finding out what resonates with those beyond the office walls – that's gold!"

Creative capital is generated every time SAS's employees and customers interact. Consultants and technical support staff don't just troubleshoot; they collaborate with users to invent new solutions. Salespeople don't just sell software; they build long-term relationships and, in the process, learn surprising things about their clients' needs. SAS might be the only company that prints the names of its software developers in product manuals. Customers can – and do – call them up. And because employee loyalty is so high, the developers actually answer the phone: They haven't moved down the road to start-up number seven.

It's important to make sure people throughout the organization hear customers' voices loud, clear, and unfiltered – so they're as unambiguous as a stock quote.

In large part, SAS can thank its subscription-plan business model for these regular interactions between employees and customers, and for its relatively stable revenue flows in a volatile industry. Customer loyalty is so high that the company saves money on advertising and other sales efforts. As a result, fully 26% of SAS's budget gets channeled directly into research and development. The average for high-tech companies is 10%. A well-funded R&D department leads to better products, which leads to happier customers, which leads to – you can see where this is going.

Another factor in customer allegiance is SAS's devotion to creating bug-free products. Users of most software products have been conditioned to accept glitches as inevitable in new releases; imagine their surprise (and gratitude) when that isn't the case. Twenty years ago, a particularly costly coding mistake was made at SAS. The product was sent to market, and fixing the error proved to be enormously expensive for customers and technical support staff alike. Lesson learned. These days, SAS performs some of the most robust premarket testing in the business. Testing teams run through a product from a developer's standpoint, a salesperson's standpoint, and a customer's standpoint. If the product isn't painless to evolve, sell, and use right away, SAS goes back to the drawing board.

SAS doesn't waste time and money patching up what it could have gotten right from the start. An ounce of prevention is worth a pound of, well, tech support. That doesn't mean support people aren't needed. But those creative professionals should be spending most of their time working with users to find ways to make the products and relationships better, not untangling messes that could have been avoided. By all accounts, that's exactly what happens. The average wait time on the tech support line is 34 seconds. And more than three-quarters of customer issues are solved within 24 hours. These are motivated employees providing first-rate solutions to very happy customers.

• • •

The creative economy is here to stay, and companies that figure out how to manage for creativity will have a crucial advantage in the ever-increasing competition for global talent. We believe that executives can look to SAS's management principles for guidance in boosting innovation, productivity, and business performance. If you leverage the intrinsic motivation of creative workers by stimulating their minds and minimizing hassles; if you raze barriers between managers and workers by ensuring that your managers are creatives, too; if you tap into the creative talents of your customers instead of looking just to your workers for new ideas; and if you nurture long-term relationships with users and employees alike, you will increase your creative capital manifold.

There's a virtuous cycle in play at SAS. How quickly other corporations can readjust the way they manage their own creative workers will determine how gracefully we are all able to transition into the creative age.

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2001

If there's one management expert who is synonymous with the term "high-performance organization," it is Jim Collins, who has spent the past 20 years trying to understand how some companies are able to sustain superlative performance.

It may seem surprising that of the seven factors Collins identified as essential to take a company from good to great, he chose to focus on leadership in this 2001 piece. However, even a casual rereading of the article will convince you that he was right to do so.

Collins argues that the key ingredient that allows a company to become great is having a Level 5 leader: an executive in whom genuine personal humility blends with intense professional will. To learn that such CEOs exist still comes as a pleasant shock. But while the idea may sound counterintuitive today, it was downright heretical when Collins first wrote about it – the corporate scandals in the United States hadn't broken out, and almost everyone believed that CEOs should be charismatic, larger-than-life figures. Collins was the first to blow that belief out of the water.

Level 5 Leadership: The Triumph of Humility and Fierce Resolve

by Jim Collins

What catapults a company from merely good to truly great? A five-year research project searched for the answer to that question, and its discoveries ought to change the way we think about leadership.

In 1971, a seemingly ordinary man named Darwin E. Smith was named chief executive of Kimberly-Clark, a stodgy old paper company whose stock had fallen 36% behind the general market during the previous 20 years. Smith, the company's mild-mannered in-house lawyer, wasn't so sure the board had made the right choice – a feeling that was reinforced when a Kimberly-Clark director pulled him aside and reminded him that he lacked some of the qualifications for the position. But CEO he was, and CEO he remained for 20 years.

What a 20 years it was. In that period, Smith created a stunning transformation at Kimberly-Clark, turning it into the leading consumer paper products company in the world. Under his stewardship, the company beat its rivals Scott Paper and Procter & Gamble. And in doing so, Kimberly-Clark generated cumulative stock returns that were 4.1 times greater than those of the general market, outperforming venerable companies such as Hewlett-Packard, 3M, Coca-Cola, and General Electric.

Smith's turnaround of Kimberly-Clark is one the best examples in the twentieth century of a leader taking a company from merely good to truly great. And yet few people – even ardent students of business history – have heard of Darwin Smith. He probably would have liked it that way. Smith is a classic example of a Level 5 leader – an individual

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who blends extreme personal humility with intense professional will. According to our five-year research study, executives who possess this paradoxical combination of traits are catalysts for the statistically rare event of transforming a good company into a great one. (The research is described in the sidebar "One Question, Five Years, 11 Companies.")

"Level 5" refers to the highest level in a hierarchy of executive capabilities that we identified during our research. Leaders at the other four levels in the hierarchy can produce high degrees of success but not enough to elevate companies from mediocrity to sustained excellence. (For more details about this concept, see the exhibit "The Level 5 Hierarchy.") And while Level 5 leadership is not the only requirement for transforming a good company into a great one – other factors include getting the right people on the bus (and the wrong people off the bus) and creating a culture of discipline – our research shows it to be essential. Good-to-great transformations don't happen without Level 5 leaders at the helm. They just don't.

Good-to-great transformations don't happen without Level 5 leaders at the helm. They just don't.

Not What You Would Expect

Our discovery of Level 5 leadership is counterintuitive. Indeed, it is countercultural. People generally assume that transforming companies from good to great requires larger-than-life leaders – big personalities like Lee Iacocca, Al Dunlap, Jack Welch, and Stanley Gault, who make headlines and become celebrities.

Compared with those CEOs, Darwin Smith seems to have come from Mars. Shy, unpretentious, even awkward, Smith shunned attention. When a journalist asked him to describe his management style, Smith just stared back at the scribe from the other side of his thick black-rimmed glasses. He was dressed unfashionably, like a farm boy wearing his first J.C. Penney suit. Finally, after a long and uncomfortable silence, he said, "Eccentric." Needless to say, the *Wall Street Journal* did not publish a splashy feature on Darwin Smith.

But if you were to consider Smith soft or meek, you would be terribly mistaken. His lack of pretense was coupled with a fierce, even stoic, resolve toward life. Smith grew up on an Indiana farm and put himself through night school at Indiana University by working the day shift at International Harvester. One day, he lost a finger on the job. The story goes that he went to class that evening and returned to work the very next day. Eventually, this poor but determined Indiana farm boy earned admission to Harvard Law School.

He showed the same iron will when he was at the helm of Kimberly-Clark. Indeed, two months after Smith became CEO, doctors diagnosed him with nose and throat cancer and told him he had less than a year to live. He duly informed the board of his illness but said he had no plans to die anytime soon. Smith held to his demanding work schedule while commuting weekly from Wisconsin to Houston for radiation therapy. He lived 25 more years, 20 of them as CEO.

Smith's ferocious resolve was crucial to the rebuilding of Kimberly-Clark, especially when he made the most dramatic decision in the company's history: selling the mills.

To explain: Shortly after he took over, Smith and his team had concluded that the company's traditional core business – coated paper – was doomed to mediocrity. Its economics were bad and the competition weak. But, they reasoned, if Kimberly-Clark were thrust into the fire of the consumer paper products business, better economics and world-class competition like Procter & Gamble would force it to achieve greatness or perish.

And so, like the general who burned the boats upon landing on enemy soil, leaving his troops to succeed or die, Smith announced that Kimberly-Clark would sell its mills – even the namesake mill in Kimberly, Wisconsin. All proceeds would be thrown into the consumer business, with investments in brands like Huggies diapers and Kleenex tissues. The business media called the move stupid, and Wall Street analysts downgraded the stock. But Smith never wavered. Twenty-five years later, Kimberly-Clark owned Scott Paper and beat Procter & Gamble in six of eight product categories. In retirement, Smith reflected on his exceptional performance, saying simply, "I never stopped trying to become qualified for the job."

Not What We Expected, Either

We'll look in depth at Level 5 leadership, but first let's set an important context for our findings. We were not looking for Level 5 or anything like it. Our original question was, Can a good company become a great one and, if so, how? In fact, I gave the research teams explicit instructions to downplay the role of top executives in their analyses of this question so we wouldn't slip into the simplistic "credit the leader" or "blame the leader" thinking that is so common today.

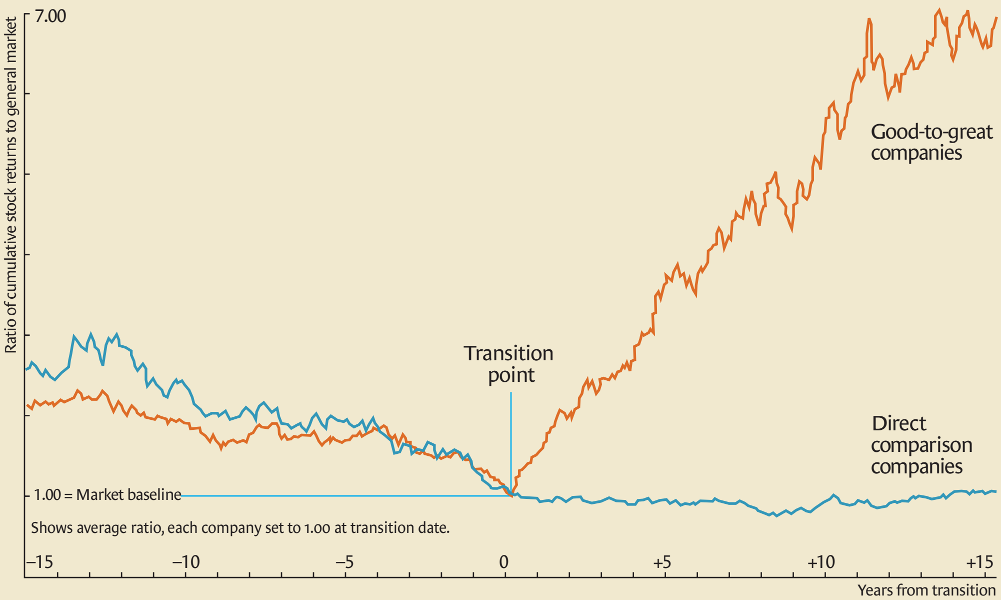
But Level 5 found us. Over the course of the study, research teams kept saying, "We can't ignore the top executives even if we want to. There is something consistently unusual about them." I would push back, arguing, "The comparison companies also had leaders. So what's different here?" Back and forth the

***Jim Collins** operates a management research laboratory in Boulder, Colorado. He is a coauthor with Jerry I. Porras of* Built to Last: Successful Habits of Visionary Companies *(HarperBusiness, 2002). The ideas in this article appeared in his book* Good to Great: Why Some Companies Make the Leap…and Others Don't *(HarperBusiness, 2001).*

One Question, Five Years, 11 Companies

The Level 5 discovery derives from a research project that began in 1996, when my research teams and I set out to answer one question: Can a good company become a great company and, if so, how? Most great companies grew up with superb parents – people like George Merck, David Packard, and Walt Disney – who instilled greatness early on. But what about the vast majority of companies that wake up partway through life and realize that they're good but not great?

To answer that question, we looked for companies that had shifted from good performance to great performance – and sustained it. We identified comparison companies that had failed to make that sustained shift. We then studied the contrast between the two groups to discover common variables that distinguished those who made and sustained a shift from those who could have but didn't.



More precisely, we searched for a specific pattern: cumulative stock returns at or below the general stock market for 15 years, punctuated by a transition point, then cumulative returns at least three times the market over the next 15 years. (See the accompanying exhibit.) We used data from the University of Chicago Center for Research in Security Prices and adjusted for stock splits and all dividends reinvested. The shift had to be distinct from the industry; if the whole industry showed the same shift, we'd drop the company. We began with 1,435 companies that appeared on the *Fortune* 500 from 1965 to 1995; we found 11 good-to-great examples. That's not a sample; that's the total number that jumped all our hurdles and passed into the study.

Those that made the cut averaged cumulative stock returns 6.9 times the general stock market for the 15 years after the point of transition. To put that in perspective, General Electric under Jack Welch outperformed the general stock market by 2.8:1 during his tenure from 1986 to 2000. One dollar invested in a mutual fund of the good-to-great companies in 1965 grew to $470 by 2000 compared with $56 in the general stock market. These are remarkable numbers, made all the more so by the fact that they came from previously unremarkable companies.

For each good-to-great example, we selected the best direct comparison, based on similarity of business, size, age, customers, and performance leading up to the transition. We also constructed a set of six "unsustained" comparisons (companies that showed a short-lived shift but then fell off) to address the question of sustainability. To be conservative, we consistently picked comparison companies that, if anything, were in better shape than the good-to-great companies were in the years just before the transition.

With 22 research associates working in groups of four to six at a time from 1996 to 2000, our study involved a wide range of both qualitative and quantitative analyses. On the qualitative front, we collected nearly 6,000 articles, conducted 87 interviews with key executives, analyzed companies' internal strategy documents, and culled through analysts' reports. On the quantitative front, we ran financial metrics, examined executive compensation, compared patterns of management turnover, quantified company layoffs and restructurings, and calculated the effect of acquisitions and divestitures on companies' stocks. We then synthesized the results to identify the drivers of good-to-great transformations. One was Level 5 leadership. (The others are described in the sidebar "Not by Level 5 Alone.")

Since only 11 companies qualified as good-to-great, a research finding had to meet a stiff standard before we would deem it significant. Every component in the final framework showed up in all 11 good-to-great companies during the transition era, regardless of industry (from steel to banking), transition decade (from the 1950s to the 1990s), circumstances (from plodding along to dire crisis), or size (from tens of millions to tens of billions). Additionally, every component had to show up in less than 30% of the comparison companies during the relevant years. Level 5 easily made it into the framework as one of the strongest, most consistent contrasts between the good-to-great and the comparison companies.

debate raged. Finally, as should always be the case, the data won. The executives at companies that went from good to great and sustained that performance for 15 years or more were all cut from the same cloth – one remarkably different from that which produced the executives at the comparison companies in our study. It didn't matter whether the company was in crisis or steady state, consumer or industrial, offering services or products. It didn't matter when the transition took place or how big the company. The successful organizations all had a Level 5 leader at the time of transition.

Furthermore, the absence of Level 5 leadership showed up consistently across the comparison companies. The point: Level 5 is an empirical finding, not an ideological one. And that's important to note, given how much the Level 5 finding contradicts not only conventional wisdom but much of management theory to date. (For more about our findings on good-to-great transformations, see the sidebar "Not by Level 5 Alone.")

Humility + Will = Level 5

Level 5 leaders are a study in duality: modest and willful, shy and fearless. To grasp this concept, consider Abraham Lincoln, who never let his ego get in the way of his ambition to create an enduring great nation. Author Henry Adams called him "a quiet, peaceful, shy figure." But those who thought Lincoln's understated manner signaled weakness in the man found themselves terribly mistaken – to the scale of 250,000 Confederate and 360,000 Union lives, including Lincoln's own.

It might be a stretch to compare the 11 Level 5 CEOs in our research to Lincoln, but they did display the same kind of duality. Take Colman M. Mockler, CEO of Gillette from 1975 to 1991. Mockler, who faced down three takeover attempts, was a reserved, gracious man with a gentle, almost patrician manner. Despite epic battles with raiders – he took on Ronald Perelman twice and the former Coniston Partners once – he never lost his shy, courteous style. At the height of crisis, he maintained a calm business-as-usual demeanor, dispensing first with ongoing business before turning to the takeover.

And yet, those who mistook Mockler's outward modesty as a sign of inner weakness were beaten in the end. In one proxy battle, Mockler and other senior executives called thousands of investors, one by one, to win their votes. Mockler simply would not give in. He chose to fight for the future greatness of Gillette even though he could have pocketed millions by flipping his stock.

Consider the consequences had Mockler capitulated. If a share flipper had accepted the full 44% price premium offered by Perelman and then invested those shares in the general market for ten years, he still would have come out 64% behind a shareholder who stayed with Mockler and Gillette. If Mockler had given up the fight, it's likely that none of us would be shaving with Sensor, Lady Sensor, or the Mach III – and hundreds of millions of people would have a more painful battle with daily stubble.

Sadly, Mockler never had the chance to enjoy the full fruits of his efforts. In January 1991, Gillette received an advance copy of *Forbes*. The cover featured an artist's rendition of the publicity-shy Mockler standing on a mountaintop, holding a giant razor above his head in a triumphant pose. Walking back to his office just minutes after seeing this public acknowledgment of his 16 years of

The Level 5 Hierarchy

The Level 5 leader sits on top of a hierarchy of capabilities and is, according to our research, a necessary requirement for transforming an organization from good to great. But what lies beneath? Four other layers, each one appropriate in its own right but none with the power of Level 5. Individuals do not need to proceed sequentially through each level of the hierarchy to reach the top, but to be a full-fledged Level 5 requires the capabilities of all the lower levels, plus the special characteristics of Level 5.

Level 5
Executive

Builds enduring greatness through a paradoxical combination of personal humility plus professional will.

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Level 3
Competent Manager

Organizes people and resources toward the effective and efficient pursuit of predetermined objectives.

Level 2
Contributing Team Member

Contributes to the achievement of group objectives; works effectively with others in a group setting.

Level 1
Highly Capable Individual

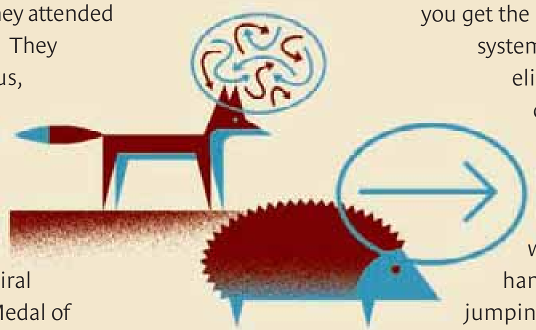
Makes productive contributions through talent, knowledge, skills, and good work habits.

Not by Level 5 Alone

Level 5 leadership is an essential factor for taking a company from good to great, but it's not the only one. Our research uncovered multiple factors that deliver companies to greatness. And it is the combined package – Level 5 plus these other drivers – that takes companies beyond unremarkable. There is a symbiotic relationship between Level 5 and the rest of our findings: Level 5 enables implementation of the other findings, and practicing the other findings may help you get to Level 5. We've already talked about who Level 5 leaders are; the rest of our findings describe what they do. Here is a brief look at some of the other key findings.

First Who

We expected that good-to-great leaders would start with the vision and strategy. Instead, they attended to people first, strategy second. They got the right people on the bus, moved the wrong people off, ushered the right people to the right seats – and then they figured out where to drive it.



Stockdale Paradox

This finding is named after Admiral James Stockdale, winner of the Medal of Honor, who survived seven years in a Vietcong POW camp by hanging on to two contradictory beliefs: His life couldn't be worse at the moment, and his life would someday be better than ever. Like Stockdale, people at the good-to-great companies in our research confronted the most brutal facts of their current reality, yet simultaneously maintained absolute faith that they would prevail in the end. And they held both disciplines – faith and facts – at the same time, all the time.

Buildup-Breakthrough Flywheel

Good-to-great transformations do not happen overnight or in one big leap. Rather, the process resembles relentlessly pushing a giant, heavy flywheel in one direction. At first, pushing it gets the flywheel to turn once. With consistent effort, it goes two turns, then five, then ten, building increasing momentum until – bang! – the wheel hits the breakthrough point, and the momentum really kicks in. Our comparison companies never sustained the kind of breakthrough momentum that the good-to-great companies did; instead, they lurched back and forth with radical change programs, reactionary moves, and restructurings.

The Hedgehog Concept

In a famous essay, philosopher and scholar Isaiah Berlin described two approaches to thought and life using a simple parable: The fox knows a little about many things, but the hedgehog knows only one big thing very well. The fox is complex; the hedgehog simple. And the hedgehog wins. Our research shows that breakthroughs require a simple, hedgehog-like understanding of three intersecting circles: what a company can be the best in the world at, how its economics work best, and what best ignites the passions of its people. Breakthroughs happen when you get the hedgehog concept and become systematic and consistent with it, eliminating virtually anything that does not fit in the three circles.

Technology Accelerators

The good-to-great companies had a paradoxical relationship with technology. On the one hand, they assiduously avoided jumping on new technology bandwagons. On the other, they were pioneers in the application of carefully selected technologies, making bold, farsighted investments in those that directly linked to their hedgehog concept. Like turbochargers, these technology accelerators create an explosion in flywheel momentum.

A Culture of Discipline

When you look across the good-to-great transformations, they consistently display three forms of discipline: disciplined people, disciplined thought, and disciplined action. When you have disciplined people, you don't need hierarchy. When you have disciplined thought, you don't need bureaucracy. When you have disciplined action, you don't need excessive controls. When you combine a culture of discipline with an ethic of entrepreneurship, you get the magical alchemy of great performance.

GREG MABLY

struggle, Mockler crumpled to the floor and died of a massive heart attack.

Even if Mockler had known he would die in office, he could not have changed his approach. His placid persona hid an inner intensity, a dedication to making anything he touched the best – not just because of what he would get but because he couldn't imagine doing it any other way. Mockler could not give up the company to those who would destroy it, any more than Lincoln would risk losing the chance to build an enduring great nation.

A Compelling Modesty

The Mockler story illustrates the modesty typical of Level 5 leaders. (For a summary of Level 5 traits, see the exhibit "The Yin and Yang of Level 5.") Indeed, throughout our interviews with such executives, we were struck by the way they talked about themselves – or rather, didn't talk about themselves. They'd go on and on about the company and the contributions of other executives, but they would instinctively deflect discussion about their own role. When pressed to talk about themselves, they'd say things like, "I hope I'm not sounding like a big shot," or "I don't think I can take much credit for what happened. We were blessed with marvelous people." One Level 5 leader even asserted, "There are a lot of people in this company who could do my job better than I do."

The great irony is that the animus and personal ambition that often drives people to become a Level 4 leader stands at odds with the humility required to rise to Level 5.

By contrast, consider the courtship of personal celebrity by the comparison CEOs. Scott Paper, the comparison company to Kimberly-Clark, hired Al Dunlap as CEO – a man who would tell anyone who would listen (and many who would have preferred not to) about his accomplishments. After 19 months atop Scott Paper, Dunlap said in *BusinessWeek*, "The Scott story will go down in the annals of American business history as one of the most successful, quickest turnarounds ever. It makes other turnarounds pale by comparison." He personally accrued $100 million for 603 days of work at Scott Paper – about $165,000 per day – largely by slashing the workforce, halving the R&D budget, and putting the company on growth steroids in preparation for sale. After selling off the company and pocketing his quick millions, Dunlap wrote an autobiography in which he boastfully dubbed himself "Rambo in pinstripes." It's hard to imagine Darwin Smith thinking, "Hey, that Rambo character reminds me of me," let alone stating it publicly.

Granted, the Scott Paper story is one of the more dramatic in our study, but it's not an isolated case. In more than two-thirds of the comparison companies, we noted the presence of a gargantuan ego that contributed to the demise or continued mediocrity of the company. We found this pattern particularly strong in the unsustained comparison companies – the companies that would show a shift in performance under a talented yet egocentric Level 4 leader, only to decline in later years.

The Yin and Yang of Level 5

> **Personal Humility**	> **Professional Will**
Demonstrates a compelling modesty, shunning public adulation; never boastful.	Creates superb results, a clear catalyst in the transition from good to great.
Acts with quiet, calm determination; relies principally on inspired standards, not inspiring charisma, to motivate.	Demonstrates an unwavering resolve to do whatever must be done to produce the best long-term results, no matter how difficult.
Channels ambition into the company, not the self; sets up successors for even more greatness in the next generation.	Sets the standard of building an enduring great company; will settle for nothing less.
Looks in the mirror, not out the window, to apportion responsibility for poor results, never blaming other people, external factors, or bad luck.	Looks out the window, not in the mirror, to apportion credit for the success of the company – to other people, external factors, and good luck.

Lee Iacocca, for example, saved Chrysler from the brink of catastrophe, performing one of the most celebrated (and deservedly so) turnarounds in U.S. business history. The automaker's stock rose 2.9 times higher than the general market about halfway through his tenure. But then Iacocca diverted his attention to transforming himself. He appeared regularly on talk shows like the *Today Show* and *Larry King Live*, starred in more than 80 commercials, entertained the idea of running for president of the United States, and promoted his autobiography, which sold 7 million copies worldwide. Iacocca's personal stock soared, but Chrysler's stock fell 31% below the market in the second half of his tenure.

And once Iacocca had accumulated all the fame and perks, he found it difficult to leave center stage. He postponed his retirement so many times that Chrysler's insiders began to joke that Iacocca stood for "I Am Chairman of Chrysler Corporation Always." When he finally retired, he demanded that the board continue to provide a private jet and stock options. Later, he joined forces with noted takeover artist Kirk Kerkorian to launch a hostile bid for Chrysler. (It failed.) Iacocca did make one final brilliant decision: He picked a modest yet determined man – perhaps even a Level 5 – as his successor. Bob Eaton rescued Chrysler from its second

near-death crisis in a decade and set the foundation for a more enduring corporate transition.

An Unwavering Resolve

Besides extreme humility, Level 5 leaders also display tremendous professional will. When George Cain became CEO of Abbott Laboratories, it was a drowsy, family-controlled business sitting at the bottom quartile of the pharmaceutical industry, living off its cash cow, erythromycin. Cain was a typical Level 5 leader in his lack of pretense; he didn't have the kind of inspiring personality that would galvanize the company. But he had something much more powerful: inspired standards. He could not stand mediocrity in any form and was utterly intolerant of anyone who would accept the idea that good is good enough. For the next 14 years, he relentlessly imposed his will for greatness on Abbott Labs.

Among Cain's first tasks was to destroy one of the root causes of Abbott's middling performance: nepotism. By systematically rebuilding both the board and the executive team with the best people he could find, Cain made his statement. Family ties no longer mattered. If you couldn't become the best executive in the industry within your span of responsibility, you would lose your paycheck.

Such near-ruthless rebuilding might be expected from an outsider brought in to turn the company around, but Cain was an 18-year insider – and a part of the family, the son of a previous president. Holiday gatherings were probably tense for a few years in the Cain clan – "Sorry I had to fire you. Want another slice of turkey?" – but in the end, family members were pleased with the performance of their stock. Cain had set in motion a profitable growth machine. From its transition in 1974 to 2000, Abbott created shareholder returns that beat the market 4.5:1, outperforming industry superstars Merck and Pfizer by a factor of two.

Another good example of iron-willed Level 5 leadership comes from Charles R. "Cork" Walgreen III, who transformed dowdy Walgreens into a company that outperformed the stock market 16:1 from its transition in 1975 to 2000. After years of dialogue and debate within his executive team about what to do with Walgreens' food-service operations, this CEO sensed the team had finally reached a watershed: The company's brightest future lay in convenient drugstores, not in food service. Dan Jorndt, who succeeded Walgreen in 1988, describes what happened next:

> Cork said at one of our planning committee meetings, "Okay, now I am going to draw the line in the sand. We are going to be out of the restaurant business completely in five years." At the time we had more than 500 restaurants. You could have heard a pin drop. He said, "I want to let everybody know the clock is ticking." Six months later we were at our next planning committee meeting and someone mentioned just in passing that we had only five years to be out of the restaurant business. Cork was not a real vociferous fellow. He sort of tapped on the table and said, "Listen, you now have four and a half years. I said you had five years six months ago. Now you've got four and a half years." Well, that next day things really clicked into gear for winding down our restaurant business. Cork never wavered. He never doubted. He never second-guessed.

Like Darwin Smith selling the mills at Kimberly-Clark, Cork Walgreen required stoic resolve to make his decisions. Food service was not the largest part of the business, although it did add substantial profits to the bottom line. The real problem was more emotional than financial. Walgreens had, after all, invented the malted milk shake, and food service had been a long-standing family tradition dating back to Cork's grandfather. Not only that, some food-service outlets were even named after the CEO – for example, a restaurant chain named Corky's. But no matter; if Walgreen had to fly in the face of family tradition in order to refocus on the one arena in which Walgreens could be the best in the world – convenient drugstores – and terminate everything else that would not produce great results, then Cork would do it. Quietly, doggedly, simply.

We keep putting people in positions of power who lack the seed to become a Level 5 leader, and that is one major reason why there are so few companies that make a sustained and verifiable shift from good to great.

One final, yet compelling, note on our findings about Level 5: Because Level 5 leaders have ambition not for themselves but for their companies, they routinely select superb successors. Level 5 leaders want to see their companies become even more successful in the next generation and are comfortable with the idea that most people won't even know that the roots of that success trace back to them. As one Level 5 CEO said, "I want to look from my porch, see the company as one of the great companies in the world someday, and be able to say, 'I used to work there.'" By contrast, Level 4 leaders often fail to set up the company for enduring success. After all, what better testament to your own personal greatness than that the place falls apart after you leave?

In more than three-quarters of the comparison companies, we found executives who set up their successors for failure, chose weak successors, or both. Consider the case of Rubbermaid, which grew from obscurity to become one of *Fortune*'s most admired companies – and then, just as quickly, disintegrated into such sorry shape that it had to be acquired by Newell.

The architect of this remarkable story was a charismatic and brilliant leader named Stanley C. Gault, whose name became synonymous in the late 1980s with Rubbermaid's success. Across the 312 articles collected by our research team about the company, Gault comes through as a hard-driving, egocentric executive. In one article, he responds to the accusation of being a tyrant with the statement, "Yes, but I'm a sincere tyrant." In another, drawn directly from his own comments on leading change, the word "I" appears 44 times, while the word "we" appears 16 times. Of course, Gault had every reason to be proud of his executive success: Rubbermaid generated 40 consecutive quarters of earnings growth under his leadership – an impressive performance, to be sure, and one that deserves respect.

But Gault did not leave behind a company that would be great without him. His chosen successor lasted a year on the job and the next in line faced a management team so shallow that he had to temporarily shoulder four jobs while scrambling to identify a new number-two executive. Gault's successors struggled not only with a management void but also with strategic voids that would eventually bring the company to its knees.

Of course, you might say – as one *Fortune* article did – that the fact that Rubbermaid fell apart after Gault left proves his greatness as a leader. Gault was a tremendous Level 4 leader, perhaps one of the best in the last 50 years. But he was not at Level 5, and that is one crucial reason why Rubbermaid went from good to great for a brief, shining moment and then just as quickly went from great to irrelevant.

The Window and the Mirror

As part of our research, we interviewed Alan L. Wurtzel, the Level 5 leader responsible for turning Circuit City from a ramshackle company on the edge of bankruptcy into one of America's most successful electronics retailers. In the 15 years after its transition date in 1982, Circuit City outperformed the market 18.5:1.

We asked Wurtzel to list the top five factors in his company's transformation, ranked by importance. His number one factor? Luck. "We were in a great industry, with the wind at our backs," he said. But wait a minute, we retorted, Silo – your comparison company – was in the same industry, with the same wind and bigger sails. The conversation went back and forth, with Wurtzel refusing to take much credit for the transition, preferring to attribute it largely to just being in the right place at the right time. Later, when we asked him to discuss the factors that would sustain a good-to-great transformation, he said, "The first thing that comes to mind is luck. I was lucky to find the right successor."

Luck. What an odd factor to talk about. Yet the Level 5 leaders we identified invoked it frequently. We asked an executive at steel company Nucor why it had such a remarkable track record for making good decisions. His response? "I guess we were just lucky." Joseph F. Cullman III, the Level 5 CEO of Philip Morris, flat out refused to take credit for his company's success, citing his good fortune to have great colleagues, successors, and predecessors. Even the book he wrote about his career – which he penned at the urging of his colleagues and which he never intended to distribute widely outside the company – had the unusual title *I'm a Lucky Guy*.

At first, we were puzzled by the Level 5 leaders' emphasis on good luck. After all, there is no evidence that the companies that had progressed from good to great were blessed with more good luck (or more bad luck, for that matter) than the comparison companies. But then we began to notice an interesting pattern in the executives at the comparison companies: They often blamed their situations on bad luck, bemoaning the difficulties of the environment they faced.

Compare Bethlehem Steel and Nucor, for example. Both steel companies operated with products that are hard to differentiate, and both faced a competitive challenge from cheap imported steel. Both companies paid significantly higher wages than most of their foreign competitors. And yet executives at the two companies held completely different views of the same environment.

Bethlehem Steel's CEO summed up the company's problems in 1983 by blaming the imports: "Our first, second, and third problems are imports." Meanwhile, Ken Iverson and his crew at Nucor saw the imports as a blessing: "Aren't we lucky; steel is heavy, and they have to ship it all the way across the ocean, giving us a huge advantage." Indeed, Iverson saw the first, second, and third problems facing the U.S. steel industry not in imports but in management. He even went so far as to speak out publicly against government protection against imports, telling a gathering of stunned steel executives in 1977 that the real problems facing the industry lay in the fact that management had failed to keep pace with technology.

The emphasis on luck turns out to be part of a broader pattern that we have come to call "the window and the mirror." Level 5 leaders, inherently humble, look out the window to apportion credit – even undue credit – to factors outside themselves. If they can't find a specific person or event to give credit to, they credit good luck. At the same time, they look in the mirror to assign responsibility, never citing bad luck or external factors when things go poorly. Conversely, the comparison executives frequently looked out the window for factors to blame but preened in the mirror to credit themselves when things went well.

The funny thing about the window-and-mirror concept is that it does not reflect reality. According to our research, the Level 5 leaders were responsible for their companies' transformations. But they would never admit that. We can't climb inside their heads and assess whether they deeply believed what they saw through the window and in the mirror. But it doesn't really matter, because they acted as if they believed it, and they acted with such consistency that it produced exceptional results.

Born or Bred?

Not long ago, I shared the Level 5 finding with a gathering of senior executives. A woman who had recently become chief executive of her company raised her hand. "I believe what you've told us about Level 5 leadership," she said, "but I'm disturbed because I know I'm not there yet, and maybe I never will be. Part of the reason I got this job is because of my strong ego. Are you telling me that I can't make my company great if I'm not Level 5?"

"Let me return to the data," I responded. "Of 1,435 companies that appeared on the *Fortune* 500 since 1965, only 11 made it into our study. In those 11, all of them had Level 5 leaders in key positions, including the CEO role, at the pivotal time of transition. Now, to reiterate, we're not saying that Level 5 is the only element required for the move from good to great, but it appears to be essential."

She sat there, quiet for a moment, and you could guess what many people in the room were thinking. Finally, she raised her hand again. "Can you learn to become Level 5?" I still do not know the answer to that question. Our research, frankly, did not delve into how Level 5 leaders come to be, nor did we attempt to explain or codify the nature of their emotional lives. We speculated on the unique psychology of Level 5 leaders. Were they "guilty" of displacement – shifting their own raw ambition onto something other than themselves? Were they sublimating their egos for dark and complex reasons rooted in childhood trauma? Who knows? And perhaps more important, do the psychological roots of Level 5 leadership matter any more than do the roots of charisma or intelligence? The question remains: Can Level 5 be developed?

My preliminary hypothesis is that there are two categories of people: those who don't have the Level 5 seed within them and those who do. The first category consists of people who could never in a million years bring themselves to subjugate their own needs to the greater ambition of something larger and more lasting than themselves. For those people, work will always be first and foremost about what they get – the fame, fortune, power, adulation, and so on. Work will never be about what they build, create, and contribute. The great irony is that the animus and personal ambition that often drives people to become a Level 4 leader stands at odds with the humility required to rise to Level 5.

When you combine that irony with the fact that boards of directors frequently operate under the false belief that a larger-than-life, egocentric leader is required to make a company great, you can quickly see why Level 5 leaders rarely appear at the top of our institutions. We keep putting people in positions of power who lack the seed to become a Level 5 leader, and that is one major reason why there are so few companies that make a sustained and verifiable shift from good to great.

The second category consists of people who could evolve to Level 5; the capability resides within them, perhaps buried or ignored or simply nascent. Under the right circumstances – with self-reflection, a mentor, loving parents, a significant life experience, or other factors – the seed can begin to develop. Some of the Level 5 leaders in our study had significant life experiences that might have sparked development of the seed. Darwin Smith fully blossomed as a Level 5 after his near-death experience with cancer. Joe Cullman was profoundly affected by his World War II experiences, particularly the last-minute change of orders that took him off a doomed ship on which he surely would have died; he considered the next 60-odd years a great gift. A strong religious belief or conversion might also nurture the seed. Colman Mockler, for example, converted to evangelical Christianity while getting his MBA at Harvard, and later, according to the book *Cutting Edge* by Gordon McKibben, he became a prime mover in a group of Boston business executives that met frequently over breakfast to discuss the carryover of religious values to corporate life.

We would love to be able to give you a list of steps for getting to Level 5 – other than contracting cancer, going through a religious conversion, or getting different parents – but we have no solid research data that would support a credible list. Our research exposed Level 5 as a key component inside the black box of what it takes to shift a company from good to great. Yet inside that black box is another – the inner development of a person to Level 5 leadership. We could speculate on what that inner box might hold, but it would mostly be just that: speculation.

In short, Level 5 is a very satisfying idea, a truthful idea, a powerful idea, and, to make the move from good to great, very likely an essential idea. But to provide "ten steps to Level 5 leadership" would trivialize the concept.

My best advice, based on the research, is to practice the other good-to-great-disciplines that we discovered. Since we found a tight symbiotic relationship between each of the other findings and Level 5, we suspect that conscientiously trying to lead using the other disciplines can help you move in the right direction. There is no guarantee that doing so will turn executives into full-fledged Level 5 leaders, but it gives them a tangible place to begin, especially if they have the seed within.

We cannot say for sure what percentage of people have the seed within, nor how many of those can nurture it enough to become Level 5. Even those of us on the research team who identified Level 5 do not know whether we will succeed in evolving to its heights. And yet all of us who worked on the finding have been inspired by the idea of trying to move toward Level 5. Darwin Smith, Colman Mockler, Alan Wurtzel, and all the other Level 5 leaders we learned about have become role models for us. Whether or not we make it to Level 5, it is worth trying. For like all basic truths about what is best in human beings, when we catch a glimpse of that truth, we know that our own lives and all that we touch will be the better for making the effort to get there.

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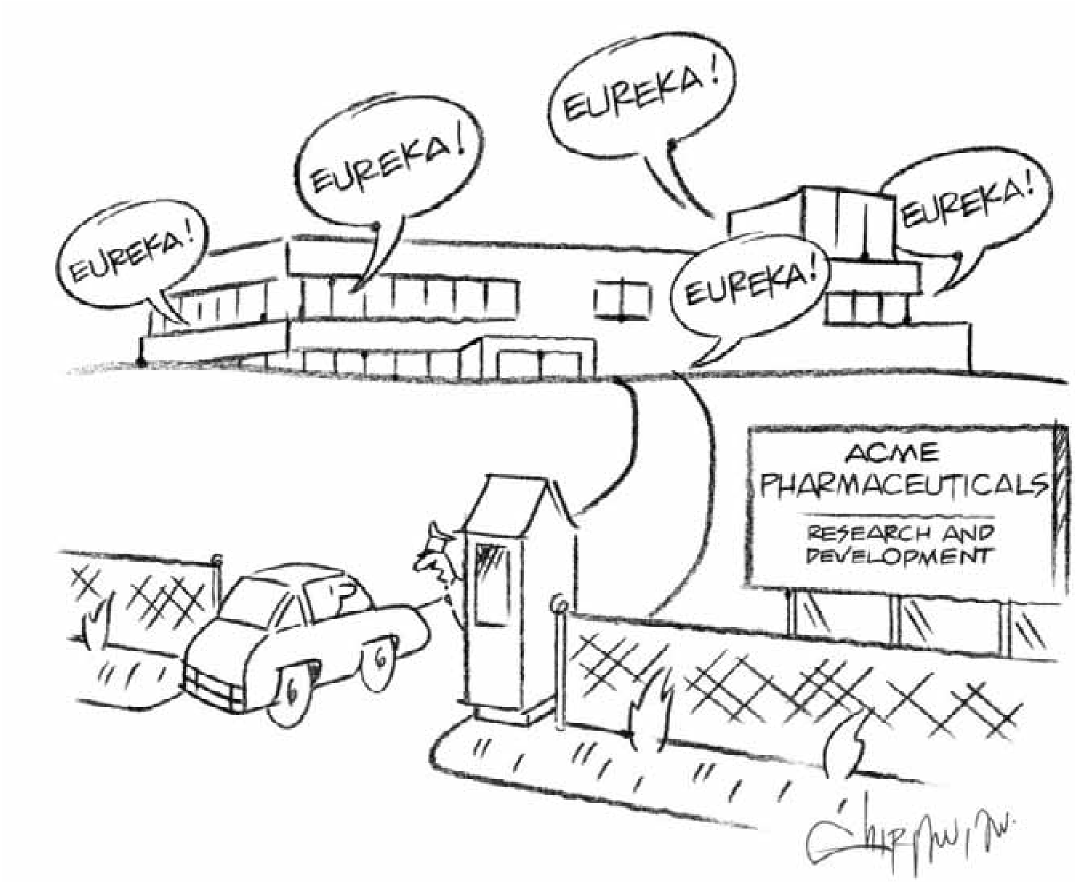
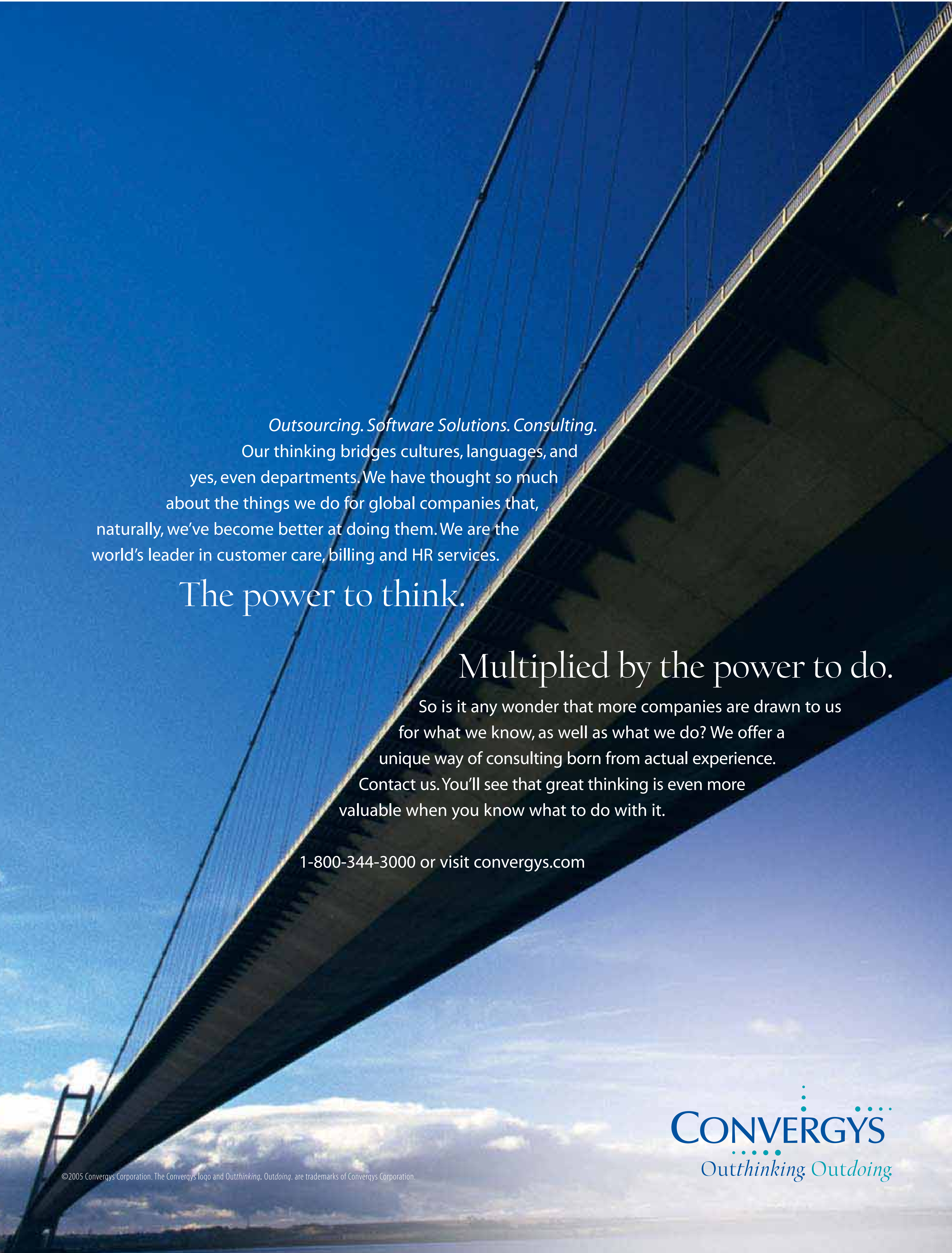


"Other days you can hear a pin drop."

VAHAN SHIRVANIAN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Sixteen years ago, when Gary Hamel, then a lecturer at London Business School, and C.K. Prahalad, a University of Michigan professor, wrote "Strategic Intent," the article signaled that a major new force had arrived in management.

Hamel and Prahalad argue that Western companies focus on trimming their ambitions to match resources and, as a result, search only for advantages they can sustain. By contrast, Japanese corporations leverage resources by accelerating the pace of organizational learning and try to attain seemingly impossible goals. These firms foster the desire to succeed among their employees and maintain it by spreading the vision of global leadership. This is how Canon sought to "beat Xerox" and Komatsu set out to "encircle Caterpillar."

This strategic intent usually incorporates stretch targets, which force companies to compete in innovative ways. In this McKinsey Award–winning article, Hamel and Prahalad describe four techniques that Japanese companies use: building layers of advantage, searching for "loose bricks," changing the terms of engagement, and competing through collaboration.

Strategic Intent

by Gary Hamel and C.K. Prahalad

Most leading global companies started with ambitions that were far bigger than their resources and capabilities. But they created an obsession with winning at all levels of the organization and sustained that obsession for decades.

Today managers in many industries are working hard to match the competitive advantages of their new global rivals. They are moving manufacturing offshore in search of lower labor costs, rationalizing product lines to capture global scale economies, instituting quality circles and just-in-time production, and adopting Japanese human resource practices. When competitiveness still seems out of reach, they form strategic alliances – often with the very companies that upset the competitive balance in the first place.

Important as these initiatives are, few of them go beyond mere imitation. Too many companies are expending enormous energy simply to reproduce the cost and quality advantages their global competitors already enjoy. Imitation may be the sincerest form of flattery, but it will not lead to competitive revitalization. Strategies based on imitation are transparent to competitors who have already mastered them. Moreover, successful competitors rarely stand still. So it is not surprising that many executives feel trapped in a seemingly endless game of catch-up, regularly surprised by the new accomplishments of their rivals.

For these executives and their companies, regaining competitiveness will mean rethinking many of the basic concepts of strategy.[1] As "strategy" has blossomed, the competitiveness of Western companies has withered. This may be coincidence, but we think not. We

believe that the application of concepts such as "strategic fit" (between resources and opportunities), "generic strategies" (low cost versus differentiation versus focus), and the "strategy hierarchy" (goals, strategies, and tactics) has often abetted the process of competitive decline. The new global competitors approach strategy from a perspective that is fundamentally different from that which underpins Western management thought. Against such competitors, marginal adjustments to current orthodoxies are no more likely to produce competitive revitalization than are marginal improvements in operating efficiency. (The sidebar "Remaking Strategy" describes our research and summarizes the two contrasting approaches to strategy we see in large multinational companies.)

Few Western companies have an enviable track record anticipating the moves of new global competitors. Why? The explanation begins with the way most companies have approached competitor analysis. Typically, competitor analysis focuses on the existing resources (human, technical, and financial) of present competitors. The only companies seen as a threat are those with the resources to erode margins and market share in the next planning period. Resourcefulness, the pace at which new competitive advantages are being built, rarely enters in.

In this respect, traditional competitor analysis is like a snapshot of a moving car. By itself, the photograph yields little information about the car's speed or direction – whether the driver is out for a quiet Sunday drive or warming up for the Grand Prix. Yet many managers have learned through painful experience that a business's initial resource endowment (whether bountiful or meager) is an unreliable predictor of future global success.

Think back: In 1970, few Japanese companies possessed the resource base, manufacturing volume, or technical prowess of U.S. and European industry leaders. Komatsu was less than 35% as large as Caterpillar (measured by sales), was scarcely represented outside Japan, and relied on just one product line – small bulldozers – for most of its revenue. Honda was smaller than American Motors and had not yet begun to export cars to the United States. Canon's first halting steps in the reprographics business looked pitifully small compared with the $4 billion Xerox powerhouse.

If Western managers had extended their competitor analysis to include these companies, it would merely have underlined how dramatic the resource discrepancies between them were. Yet by 1985, Komatsu was a $2.8 billion company with a product scope encompassing a broad range of earth-moving equipment, industrial robots, and semiconductors. Honda manufactured almost as many cars worldwide in 1987 as Chrysler. Canon had matched Xerox's global unit market share.

The lesson is clear: Assessing the current tactical advantages of known competitors will not help you understand the resolution, stamina, or inventiveness of potential competitors. Sun-tzu, a Chinese military strategist, made the point 3,000 years ago: "All men can see the tactics whereby I conquer," he wrote, "but what none can see is the strategy out of which great victory is evolved."

Companies that have risen to global leadership over the past 20 years invariably began with ambitions that were out of all proportion to their resources and capabilities. But they created an obsession with winning at all levels of the organization and then sustained that obsession over the 10- to 20-year quest for global leadership. We term this obsession "strategic intent."

For smart competitors, the goal is not competitive imitation but competitive innovation, the art of containing competitive risks within manageable proportions.

On the one hand, strategic intent envisions a desired leadership position and establishes the criterion the organization will use to chart its progress. Komatsu set out to "encircle Caterpillar." Canon sought to "beat Xerox." Honda strove to become a second Ford – an automotive pioneer. All are expressions of strategic intent.

At the same time, strategic intent is more than simply unfettered ambition. (Many companies possess an ambitious strategic intent yet fall short of their goals.) The concept also encompasses an active management process that includes focusing the organization's attention on the essence of winning, motivating people by communicating the value of the target, leaving room for individual and team contributions, sustaining enthusiasm by providing new operational definitions as circumstances change, and using intent consistently to guide resource allocations.

Strategic intent captures the essence of winning. The Apollo program – landing a man on the moon ahead of the Soviets – was as competitively focused as Komatsu's drive against Caterpillar. The space program became the scorecard for America's technology race with the USSR. In the turbulent information technology industry, it was hard to pick

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a single competitor as a target, so NEC's strategic intent, set in the early 1970s, was to acquire the technologies that would put it in the best position to exploit the convergence of computing and telecommunications. Other industry observers foresaw this convergence, but only NEC made convergence the guiding theme for subsequent strategic decisions by adopting "computing and communications" as its intent. For Coca-Cola, strategic intent has been to put a Coke within "arm's reach" of every consumer in the world.

Strategic intent is stable over time. In battles for global leadership, one of the most critical tasks is to lengthen the organization's attention span. Strategic intent provides consistency to short-term action, while leaving room for reinterpretation as new opportunities emerge. At Komatsu, encircling Caterpillar encompassed a succession of medium-term programs aimed at exploiting specific

Remaking Strategy

Over the last ten years, our research on global competition, international alliances, and multinational management has brought us into close contact with senior managers in the United States, Europe, and Japan. As we tried to unravel the reasons for success and surrender in global markets, we became more and more suspicious that executives in Western and Far Eastern companies often operated with very different conceptions of competitive strategy. Understanding these differences, we thought, might help explain the conduct and outcome of competitive battles as well as supplement traditional explanations for Japan's ascendance and the West's decline.

We began by mapping the implicit strategy models of managers who had participated in our research. Then we built detailed histories of selected competitive battles. We searched for evidence of divergent views of strategy, competitive advantage, and the role of top management.

Two contrasting models of strategy emerged. One, which most Western managers will recognize, centers on the problem of maintaining strategic fit. The other centers on the problem of leveraging resources. The two are not mutually exclusive, but they represent a significant difference in emphasis – an emphasis that deeply affects how competitive battles get played out over time.

Both models recognize the problem of competing in a hostile environment with limited resources. But while the emphasis in the first is on trimming ambitions to match available resources, the emphasis in the second is on leveraging resources to reach seemingly unattainable goals.

Both models recognize that relative competitive advantage determines relative profitability. The first emphasizes the search for advantages that are inherently sustainable, the second emphasizes the need to accelerate organizational learning to outpace competitors in building new advantages.

Both models recognize the difficulty of competing against larger competitors. But while the first leads to a search for niches (or simply dissuades the company from challenging an entrenched competitor), the second produces a quest for new rules that can devalue the incumbent's advantages.

Both models recognize that balance in the scope of an organization's activities reduces risk. The first seeks to reduce financial risk by building a balanced portfolio of cash-generating and cash-consuming businesses. The second seeks to reduce competitive risk by ensuring a well-balanced and sufficiently broad portfolio of advantages.

Both models recognize the need to disaggregate the organization in a way that allows top management to differentiate among the investment needs of various planning units. In the first model, resources are allocated to product-market units in which relatedness is defined by common products, channels, and customers. Each business is assumed to own all the critical skills it needs to execute its strategy successfully. In the second, investments are made in core competences (microprocessor controls or electronic imaging, for example) as well as in product-market units. By tracking these investments across businesses, top management works to assure that the plans of individual strategic units don't undermine future developments by default.

Both models recognize the need for consistency in action across organizational levels. In the first, consistency between corporate and business levels is largely a matter of conforming to financial objectives. Consistency between business and functional levels comes by tightly restricting the means the business uses to achieve its strategy – establishing standard operating procedures, defining the served market, adhering to accepted industry practices. In the second model, business-corporate consistency comes from allegiance to a particular strategic intent. Business-functional consistency comes from allegiance to intermediate-term goals or challenges with lower-level employees encouraged to invent how those goals will be achieved.

weaknesses in Caterpillar or building particular competitive advantages. When Caterpillar threatened Komatsu in Japan, for example, Komatsu responded by first improving quality, then driving down costs, then cultivating export markets, and then underwriting new product development.

Strategic intent sets a target that deserves personal effort and commitment. Ask the CEOs of many American corporations how they measure their contributions to their companies' success, and you're likely to get an answer expressed in terms of shareholder wealth. In a company that possesses a strategic intent, top management is more likely to talk in terms of global market leadership. Market share leadership typically yields shareholder wealth, to be sure. But the two goals do not have the same motivational impact. It is hard to imagine middle managers, let alone blue-collar employees, waking up each day with the sole thought of creating more shareholder wealth. But mightn't they feel different given the challenge to "beat Benz" – the rallying cry at one Japanese auto producer? Strategic intent gives employees the only goal that is worthy of commitment: to unseat the best or remain the best, worldwide.

Many companies are more familiar with strategic planning than they are with strategic intent. The planning process typically acts as a "feasibility sieve." Strategies are accepted or rejected on the basis of whether managers can be precise about the "how" as well as the "what" of their plans. Are the milestones clear? Do we have the necessary skills and resources? How will competitors react? Has the market been thoroughly researched? In one form or another, the admonition "Be realistic!" is given to line managers at almost every turn.

But can you *plan* for global leadership? Did Komatsu, Canon, and Honda have detailed, 20-year strategies for attacking Western markets? Are Japanese and Korean managers better planners than their Western counterparts? No. As valuable as strategic planning is, global leadership is an objective that lies outside the range of planning. We know of few companies with highly developed planning systems that have managed to set a strategic intent. As tests of strategic fit become more stringent, goals that cannot be planned for fall by the wayside. Yet companies that are afraid to commit to goals that lie outside the range of planning are unlikely to become global leaders.

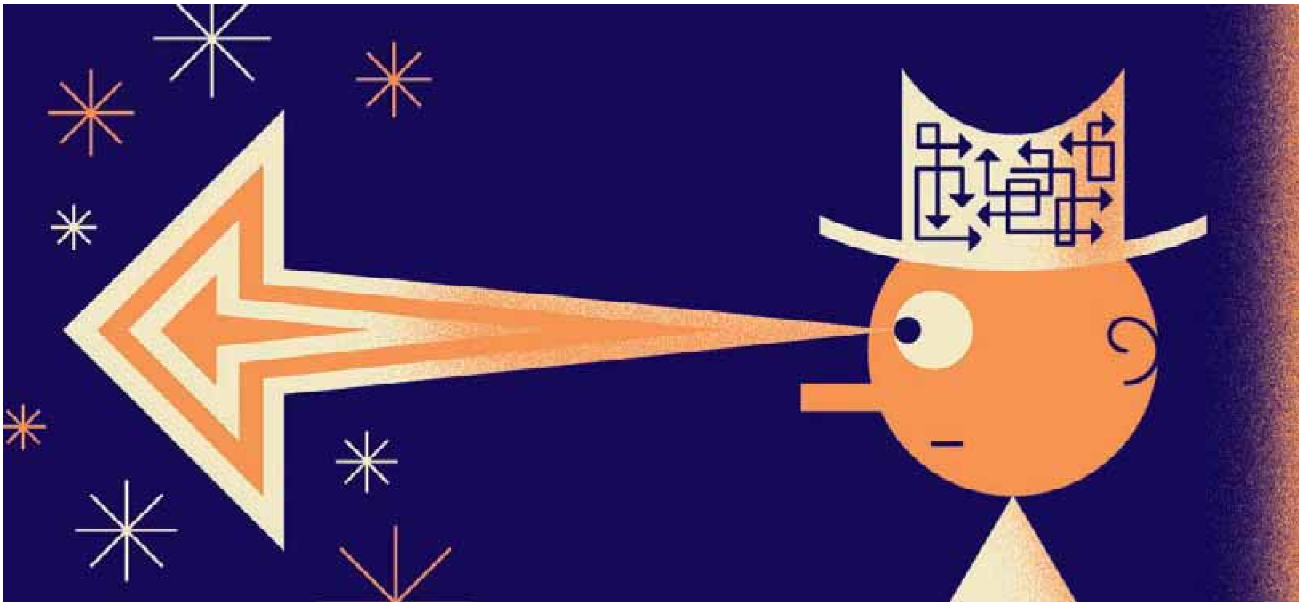
Although strategic planning is billed as a way of becoming more future oriented, most managers, when pressed, will admit that their strategic plans reveal more about today's problems than tomorrow's opportunities. With a fresh set of problems confronting managers at the beginning of every planning cycle, focus often shifts dramatically from year to year. And with the pace of change accelerating in most industries, the predictive horizon is becoming shorter and shorter. So plans do little more than project the present forward incrementally. The goal of strategic intent is to fold the future back into the present. The important question is not "How will next year be different from this year?" but "What must we do differently next year to get closer to our strategic intent?" Only with a carefully articulated and adhered to strategic intent will a succession of year-on-year plans sum up to global leadership.

Just as you cannot plan a ten- to 20-year quest for global leadership, the chance of falling into a leadership position by accident is also remote. We don't believe that global leadership comes from an undirected process of intrapreneurship. Nor is it the product of a Skunk Works or other technique for internal venturing. Behind such programs lies a nihilistic assumption: that the organization is so hidebound, so orthodox ridden, the only way to innovate is to put a few bright people in a dark room, pour in some money, and hope that something wonderful will happen. In this Silicon Valley approach to innovation, the only role for top managers is to retrofit their corporate strategy to the entrepreneurial successes that emerge from below. Here the value added of top management is low indeed.

Sadly, this view of innovation may be consistent with reality in many large companies.[2] On the one hand, top management lacks any particular point of view about desirable ends beyond satisfying shareholders and keeping raiders at bay. On the other, the planning format, reward criteria, definition of served market, and belief in accepted industry practice all work together to tightly constrain the range of available means. As a result, innovation is necessarily an isolated activity. Growth depends more on the inventive capacity of individuals and small teams than on the ability of top management to aggregate the efforts of multiple teams toward an ambitious strategic intent.

In companies that have overcome resource constraints to build leadership positions, we see a different relationship between means and ends. While strategic intent is clear about ends, it is flexible as to means – it leaves room for improvisation. Achieving strategic intent requires enormous creativity with respect to means: Witness Fujitsu's use of strategic alliances in Europe to attack IBM. But this creativity comes in the service of a clearly prescribed end. Creativity is unbridled but not uncorralled,

The strategist's goal is not to find a niche within the existing industry space but to create new space that is uniquely suited to the company's own strengths – space that is off the map.



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because top management establishes the criterion against which employees can pretest the logic of their initiatives. Middle managers must do more than deliver on promised financial targets; they must also deliver on the broad direction implicit in their organization's strategic intent.

Strategic intent implies a sizable stretch for an organization. Current capabilities and resources will not suffice. This forces the organization to be more inventive, to make the most of limited resources. Whereas the traditional view of strategy focuses on the degree of fit between existing resources and current opportunities, strategic intent creates an extreme misfit between resources and ambitions. Top management then challenges the organization to close the gap by systematically building new advantages. For Canon, this meant first understanding Xerox's patents, then licensing technology to create a product that would yield early market experience, then gearing up internal R&D efforts, then licensing its own technology to other manufacturers to fund further R&D, then entering market segments in Japan and Europe where Xerox was weak, and so on.

In this respect, strategic intent is like a marathon run in 400-meter sprints. No one knows what the terrain will look like at mile 26, so the role of top management is to focus the organization's attention on the ground to be covered in the next 400 meters. In several companies, management did this by presenting the organization with a series of corporate challenges, each specifying the next hill in the race to achieve strategic intent. One year the challenge might be quality, the next it might be total customer care, the next, entry into new markets, and the next, a rejuvenated product line. As this example indicates, corporate challenges are a way to stage the acquisition of new competitive advantages, a way to identify the focal point for employees' efforts in the near to medium term. As with strategic intent, top management is specific about the ends (reducing product development times by 75%, for example) but less prescriptive about the means.

Like strategic intent, challenges stretch the organization. To preempt Xerox in the personal copier business, Canon set its engineers a target price of $1,000 for a home copier. At the time, Canon's least expensive copier sold for several thousand dollars. Trying to reduce the cost of existing models would not have given Canon the radical price-performance improvement it needed to delay or deter Xerox's entry into personal copiers. Instead, Canon engineers were challenged to reinvent the copier–a challenge they met by substituting a disposable cartridge for the complex image-transfer mechanism used in other copiers.

Corporate challenges come from analyzing competitors as well as from the foreseeable pattern of industry evolution. Together these reveal potential competitive openings and identify the new skills the organization will need to take the initiative away from better-positioned players. (The exhibit "Building Competitive Advantage at Komatsu" illustrates the way challenges helped Komatsu achieve its intent.)

For a challenge to be effective, individuals and teams throughout the organization must understand it and see its implications for their own jobs. Companies that set corporate challenges to create new competitive advantages (as Ford and IBM did with quality improvement) quickly discover that engaging the entire organization requires top management to do the following:

• *Create a sense of urgency,* or quasi crisis, by amplifying weak signals in the environment that point up the need to improve, instead of allowing inaction to precipitate a real crisis. Komatsu, for example, budgeted on the basis of worst-case exchange rates that overvalued the yen.

• *Develop a competitor focus at every level through widespread use of competitive intelligence.* Every employee should be able to benchmark his or her efforts against best-in-class competitors so that the challenge becomes personal. For instance, Ford showed production-line workers videotapes of operations at Mazda's most efficient plant.

• *Provide employees with the skills they need to work effectively* – training in statistical tools, problem solving, value engineering, and team building, for example.

• *Give the organization time to digest one challenge before launching another.* When competing initiatives overload the organization, middle managers often try to protect their people from the whipsaw of shifting priorities. But this "wait and see if they're serious this time" attitude ultimately destroys the credibility of corporate challenges.

• *Establish clear milestones and review mechanisms* to track progress, and ensure that internal recognition and rewards reinforce desired behaviors. The goal is to make the challenge inescapable for everyone in the company.

It is important to distinguish between the process of managing corporate challenges and the advantages that the process creates. Whatever the actual challenge may be – quality, cost, value engineering, or something else – there is the same need to engage employees intellectually and emotionally in the development of new skills. In each case, the challenge will take root only if senior executives and lower-level employees feel a reciprocal responsibility for competitiveness.

We believe workers in many companies have been asked to take a disproportionate share of the blame for competitive failure. In one U.S. company, for example, management had sought a 40% wage-package concession from hourly employees to bring labor costs into line with Far Eastern competitors. The result was a long strike and, ultimately, a 10% wage concession from employees on the line. However, direct labor costs in manufacturing accounted for less than 15% of total value added. The company thus succeeded in demoralizing its entire blue-collar workforce for the sake of a 1.5% reduction in total costs. Ironically, further analysis showed that their competitors' most significant costs savings came not from lower hourly wages but from better work methods invented by employees. You can imagine how eager the U.S. workers were to make similar contributions after the strike and concessions. Contrast this situation with what happened at Nissan when the yen strengthened: Top management took a big pay cut and then asked middle managers and line employees to sacrifice relatively less.

Reciprocal responsibility means shared gain and shared pain. In too many companies, the pain of revitalization falls almost exclusively on the employees least responsible for the enterprise's decline. Too often, workers are asked to commit to corporate goals without any matching commitment from top management – be it employment security, gain sharing, or an ability to influence the direction of the business. This one-sided approach to regaining competitiveness keeps many companies from harnessing the intellectual horsepower of their employees.

Creating a sense of reciprocal responsibility is crucial because competitiveness ultimately depends on the pace at which a company embeds new advantages deep within its organization, not on its stock of advantages at any given time. Thus, the concept of competitive advantage must be expanded beyond the scorecard many managers now use: Are my costs lower? Will my product command a price premium?

Few competitive advantages are long lasting. Uncovering a new competitive advantage is a bit like getting a hot tip on a stock: The first person to act on the insight makes more money than the last. When the experience curve was young, a company that built capacity ahead of competitors, dropped prices to fill plants, and reduced costs as volume rose went to the bank. The first mover traded on the fact that competitors undervalued market share – they didn't price to capture additional share because they didn't understand how market share leadership could be translated into lower costs and better margins. But there is no more undervalued market share when each of 20 semiconductor companies builds enough capacity to serve 10% of the world market.

Building Competitive Advantage at Komatsu

Corporate Challenge	**Protect Komatsu's Home Market Against Caterpillar**		**Reduce Costs While Maintaining Quality**	
Programs	**early 1960s**	Licensing deals with Cummins Engine, International Harvester, and Bucyrus-Erie to acquire technology and establish benchmarks	**1965**	Cost Down (CD) program
	1961	Project A (for Ace) to advance the product quality of Komatsu's small and midsize bulldozers above Caterpillar's	**1966**	Total CD program
	1962	Quality circles companywide to provide training for all employees		

Economies of scope may be as important as economies of scale in entering global markets. But capturing economies of scope demands interbusiness coordination that only top management can provide.

Keeping score of existing advantages is not the same as building new advantages. The essence of strategy lies in creating tomorrow's competitive advantages faster than competitors mimic the ones you possess today. In the 1960s, Japanese producers relied on labor and capital cost advantages. As Western manufacturers began to move production offshore, Japanese companies accelerated their investment in process technology and created scale and quality advantages. Then, as their U.S. and European competitors rationalized manufacturing, they added another string to their bow by accelerating the rate of product development. Then they built global brands. Then they de-skilled competitors through alliances and outsourcing deals. The moral? An organization's capacity to improve existing skills and learn new ones is the most defensible competitive advantage of all.

To achieve a strategic intent, a company must usually take on larger, better-financed competitors. That means carefully managing competitive engagements so that scarce resources are conserved. Managers cannot do that simply by playing the same game better – making marginal improvements to competitors' technology and business practices. Instead, they must fundamentally change the game in ways that disadvantage incumbents: devising novel approaches to market entry, advantage building, and competitive warfare. For smart competitors, the goal is not competitive imitation but competitive innovation, the art of containing competitive risks within manageable proportions.

Four approaches to competitive innovation are evident in the global expansion of Japanese companies. These are: building layers of advantage, searching for loose bricks, changing the terms of engagement, and competing through collaboration.

The wider a company's portfolio of advantages, the less risk it faces in competitive battles. New global competitors have built such portfolios by steadily expanding their arsenals of competitive weapons. They have moved inexorably from less defensible advantages such as low wage costs to more defensible advantages such as global brands. The Japanese color television industry illustrates this layering process.

By 1967, Japan had become the largest producer of black-and-white television sets. By 1970, it was closing the gap in color televisions. Japanese manufacturers used their competitive advantage – at that time, primarily, low labor costs – to build a base in the private-label business, then moved quickly to establish world-scale plants. This investment gave them additional layers of advantage – quality and reliability – as well as further cost reductions from process improvements. At the same time, they recognized that these cost-based advantages were vulnerable to changes in labor costs, process and product technology, exchange rates, and trade policy. So throughout the 1970s, they also invested heavily in building channels and brands, thus creating another layer of advantage: a global franchise. In the late 1970s, they enlarged the scope of their products and businesses to amortize these grand investments, and by 1980 all the major players – Matsushita, Sharp, Toshiba, Hitachi, Sanyo – had established related sets of businesses that could support global marketing investments. More recently, they have been investing in regional manufacturing and design centers to tailor their products more closely to national markets.

These manufacturers thought of the various sources of competitive advantage as mutually desirable layers, not

Make Komatsu an International Enterprise and Build Export Markets

- **early 1960s** Develop Eastern bloc countries
- **1967** Komatsu Europe marketing subsidiary established
- **1970** Komatsu America established
- **1972** Project B to improve the durability and reliability and to reduce costs of large bulldozers
- **1972** Project C to improve payloaders
- **1972** Project D to improve hydraulic excavators
- **1974** Establish presales and service departments to assist newly industrializing countries in construction projects

Respond to External Shocks That Threaten Markets

- **1975** V-10 program to reduce costs by 10% while maintaining quality; reduce parts by 20%; rationalize manufacturing system
- **1977** ¥180 program to budget companywide for 180 yen to the dollar when exchange rate was 240
- **1979** Project E to establish teams to redouble cost and quality efforts in response to oil crisis

Create New Products and Markets

- **late 1970s** Accelerate product development to expand line
- **1979** Future and Frontiers program to identify new businesses based on society's needs and company's know-how
- **1981** EPOCHS program to reconcile greater product variety with improved production efficiencies

mutually exclusive choices. What some call competitive suicide – pursuing both cost and differentiation – is exactly what many competitors strive for.[3] Using flexible manufacturing technologies and better marketing intelligence, they are moving away from standardized "world products" to products like Mazda's minivan, developed in California expressly for the U.S. market.

Another approach to competitive innovation, searching for loose bricks, exploits the benefits of surprise, which is just as useful in business battles as it is in war. Particularly in the early stages of a war for global markets, successful new competitors work to stay below the response threshold of their larger, more powerful rivals. Staking out underdefended territory is one way to do this.

To find loose bricks, managers must have few orthodoxies about how to break into a market or challenge a competitor. For example, in one large U.S. multinational, we asked several country managers to describe what a Japanese competitor was doing in the local market. The first executive said, "They're coming at us in the low end. Japanese companies always come in at the bottom." The second speaker found the comment interesting but disagreed: "They don't offer any low-end products in my market, but they have some exciting stuff at the top end. We really should reverse engineer that thing." Another colleague told still another story. "They haven't taken any business away from me," he said, "but they've just made me a great offer to supply components." In each country, the Japanese competitor had found a different loose brick.

The search for loose bricks begins with a careful analysis of the competitor's conventional wisdom: How does the company define its "served market"? What activities are most profitable? Which geographic markets are too troublesome to enter? The objective is not to find a corner of the industry (or niche) where larger competitors seldom tread but to build a base of attack just outside the market territory that industry leaders currently occupy. The goal is an uncontested profit sanctuary, which could be a particular product segment (the "low end" in motorcycles), a slice of the value chain (components in the computer industry), or a particular geographic market (Eastern Europe).

When Honda took on leaders in the motorcycle industry, for example, it began with products that were just outside the conventional definition of the leaders' product-market domains. As a result, it could build a base of operations in underdefended territory and then use that base to launch an expanded attack. What many competitors failed to see was Honda's strategic intent and its growing competence in engines and power trains. Yet even as Honda was selling 50cc motorcycles in the United States, it was already racing larger bikes in Europe – assembling the design skills and technology it would need for a systematic expansion across the entire spectrum of motor-related businesses.

Honda's progress in creating a core competence in engines should have warned competitors that it might enter a series of seemingly unrelated industries – automobiles, lawn mowers, marine engines, generators. But with each company fixated on its own market, the threat of Honda's horizontal diversification went unnoticed. Today, companies like Matsushita and Toshiba are similarly poised to move in unexpected ways across industry boundaries. In protecting loose bricks, companies must extend their peripheral vision by tracking and anticipating the migration of global competitors across product segments, businesses, national markets, value-added stages, and distribution channels.

Changing the terms of engagement – refusing to accept the front-runner's definition of industry and segment boundaries – represents still another form of competitive innovation. Canon's entry into the copier business illustrates this approach.

During the 1970s, both Kodak and IBM tried to match Xerox's business system in terms of segmentation, products, distribution, service, and pricing. As a result, Xerox had no trouble decoding the new entrants' intentions and developing countermoves. IBM eventually withdrew from the copier business, while Kodak remains a distant second in the large copier market that Xerox still dominates.

Canon, on the other hand, changed the terms of competitive engagement. While Xerox built a wide range of copiers, Canon standardized machines and components to reduce costs. It chose to distribute through office product dealers rather than try to match Xerox's huge direct sales force. It also avoided the need to create a national service network by designing reliability and serviceability into its product and then delegating service responsibility to the dealers. Canon copiers were sold rather than leased, freeing Canon from the burden of financing the lease base. Finally, instead of selling to the heads of corporate duplicating departments, Canon appealed to secretaries and department managers who wanted distributed copying. At each stage, Canon neatly sidestepped a potential barrier to entry.

Almost every strategic management theory and nearly every corporate planning system is premised on a strategy hierarchy in which corporate goals guide business unit strategies and business unit strategies guide functional tactics.

Canon's experience suggests that there is an important distinction between barriers to entry and barriers to imitation. Competitors that tried to match Xerox's business system had to pay the same entry costs – the barriers to imitation were high. But Canon dramatically reduced the barriers to entry by changing the rules of the game.

Changing the rules also short-circuited Xerox's ability to retaliate quickly against its new rival. Confronted with the need to rethink its business strategy and organization, Xerox was paralyzed for a time. Its managers realized that the faster they downsized the product line, developed new channels, and improved reliability, the faster they would erode the company's traditional profit base. What might have been seen as critical success factors–Xerox's national sales force and service network, its large installed base of leased machines, and its reliance on service revenues – instead became barriers to retaliation. In this sense, competitive innovation is like judo: The goal is to use a larger competitor's weight against it. And that happens not by matching the leader's capabilities but by developing contrasting capabilities of one's own.

Competitive innovation works on the premise that a successful competitor is likely to be wedded to a recipe for success. That's why the most effective weapon new competitors possess is probably a clean sheet of paper. And why an incumbent's greatest vulnerability is its belief in accepted practice.

Through licensing, outsourcing agreements, and joint ventures, it is sometimes possible to win without fighting. For example, Fujitsu's alliances in Europe with Siemens and STC (Britain's largest computer maker) and in the United States with Amdahl yield manufacturing volume and access to Western markets. In the early 1980s, Matsushita established a joint venture with Thorn (in the United Kingdom), Telefunken (in Germany), and Thomson (in France), which allowed it to quickly multiply the forces arrayed against Philips in the battle for leadership in the European VCR business. In fighting larger global rivals by proxy, Japanese companies have adopted a maxim as old as human conflict itself: My enemy's enemy is my friend.

Hijacking the development efforts of potential rivals is another goal of competitive collaboration. In the consumer electronics war, Japanese competitors attacked traditional businesses like TVs and hi-fis while volunteering to manufacture next generation products like VCRs, camcorders, and CD players for Western rivals. They hoped their rivals would ratchet down development spending, and, in most cases, that is precisely what happened. But companies that abandoned their own development efforts seldom reemerged as serious competitors in subsequent new product battles.

Collaboration can also be used to calibrate competitors' strengths and weaknesses. Toyota's joint venture with GM, and Mazda's with Ford, give these automakers an invaluable vantage point for assessing the progress their U.S. rivals have made in cost reduction, quality, and technology. They can also learn how GM and Ford compete–when they will fight and when they won't. Of course, the reverse is also true: Ford and GM have an equal opportunity to learn from their partner-competitors.

The route to competitive revitalization we have been mapping implies a new view of strategy. Strategic intent assures consistency in resource allocation over the long term. Clearly articulated corporate challenges focus the efforts of individuals in the medium term. Finally, competitive innovation helps reduce competitive risk in the short term. This consistency in the long term, focus in the medium term, and inventiveness and involvement in the short term provide the key to leveraging limited resources in pursuit of ambitious goals. But just as there is a process of winning, so there is a process of surrender. Revitalization requires understanding that process, too.

Given their technological leadership and access to large regional markets, how did U.S. and European countries lose their apparent birthright to dominate global industries? There is no simple answer. Few companies recognize the value of documenting failure. Fewer still search their own managerial orthodoxies for the seeds of competitive surrender. But we believe there is a pathology of surrender that gives some important clues. (See the sidebar "The Process of Surrender.")

It is not very comforting to think that the essence of Western strategic thought can be reduced to eight rules for excellence, seven S's, five competitive forces, four product life-cycle stages, three generic strategies, and innumerable two-by-two matrices.[4] Yet for the past 20 years, "advances" in strategy have taken the form of ever more typologies, heuristics, and laundry lists, often with dubious empirical bases. Moreover, even reasonable concepts like the product life cycle, experience curve, product portfolios, and generic strategies often have toxic side effects: They reduce the number of strategic options management is willing to consider. They create a preference for selling businesses rather than defending them. They yield predictable strategies that rivals easily decode.

Strategy recipes limit opportunities for competitive innovation. A company may have 40 businesses and only four strategies – invest, hold, harvest, or divest. Too often, strategy is seen as a positioning exercise in which options are tested by how they fit the existing industry structure. But current industry structure reflects the strengths of the industry leader, and playing by the leader's rules is usually competitive suicide.

Armed with concepts like segmentation, the value chain, competitor benchmarking, strategic groups, and mobility barriers, many managers have become better and better at drawing industry maps. But while they have been busy mapmaking, their competitors have been moving entire continents. The strategist's goal is not to find a niche within the existing industry space but to create new space that is uniquely suited to the company's own strengths – space that is off the map.

This is particularly true now that industry boundaries are becoming more and more unstable. In industries such as financial services and communications, rapidly changing technology, deregulation, and globalization have undermined the value of traditional industry analysis. Mapmaking skills are worth little in the epicenter of an earthquake. But an industry in upheaval presents opportunities for ambitious companies to redraw the map in their favor, so long as they can think outside traditional industry boundaries.

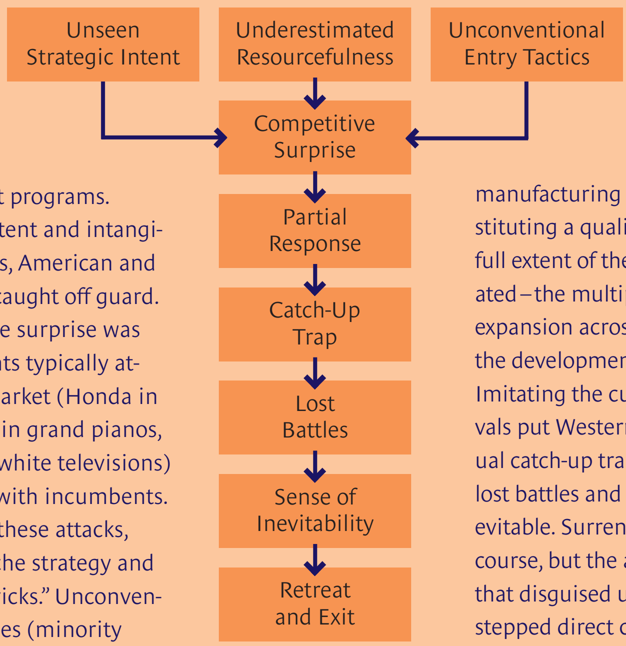
Concepts like "mature" and "declining" are largely definitional. What most executives mean when they label a business "mature" is that sales growth has stagnated in their current geographic markets for existing products sold through existing channels. In such cases, it's not the industry that is mature, but the executives' conception of the industry. Asked if the piano business was mature, a senior executive at Yamaha replied, "Only if we can't take any market share from anybody anywhere in the world and still make money. And anyway, we're not in the 'piano' business, we're in the 'keyboard' business." Year after year, Sony has revitalized its radio and tape recorder businesses, despite the fact that other manufacturers long ago abandoned these businesses as mature.

A narrow concept of maturity can foreclose a company from a broad stream of future opportunities. In the 1970s, several U.S. companies thought that consumer electronics had become a mature industry. What could possibly top the color TV? they asked themselves. RCA and GE, distracted by opportunities in more "attractive" industries like mainframe computers, left Japanese producers with a virtual mo-

The Process of Surrender

On the battles for global leadership that have taken place during the past two decades, we have seen a pattern of competitive attack and retrenchment that was remarkably similar across industries. We call this the process of surrender.

The process started with unseen intent. Not possessing long-term, competitor-focused goals themselves, Western companies did not ascribe such intentions to their rivals. They also calculated the threat posed by potential competitors in terms of their existing resources rather than their resourcefulness. This led to systematic underestimation of smaller rivals who were fast gaining technology through licensing arrangements, acquiring market understanding from downstream OEM partners, and improving product quality and manufacturing productivity through company-wide employee involvement programs. Oblivious of the strategic intent and intangible advantages of their rivals, American and European businesses were caught off guard.



Adding to the competitive surprise was the fact that the new entrants typically attacked the periphery of a market (Honda in small motorcycles, Yamaha in grand pianos, Toshiba in small black-and-white televisions) before going head-to-head with incumbents. Incumbents often misread these attacks, seeing them as part of a niche strategy and not as a search for "loose bricks." Unconventional market entry strategies (minority holdings in less-developed countries, use of nontraditional channels, extensive corporate advertising) were ignored or dismissed as quirky. For example, managers we spoke with said Japanese companies' position in the European computer industry was nonexistent. In terms of brand share that's nearly true, but the Japanese control as much as one-third of the manufacturing value added in the hardware sales of European-based computer businesses. Similarly, German auto producers claimed to feel unconcerned over the proclivity of Japanese producers to move upmarket. But with its low-end models under tremendous pressure from Japanese producers, Porsche has now announced that it will no longer make "entry level" cars.

Western managers often misinterpreted their rivals' tactics. They believed that Japanese and Korean companies were competing solely on the basis of cost and quality. This typically produced a partial response to those competitors' initiatives: moving manufacturing offshore, outsourcing, or instituting a quality program. Seldom was the full extent of the competitive threat appreciated – the multiple layers of advantage, the expansion across related product segments, the development of global brand positions. Imitating the currently visible tactics of rivals put Western businesses into a perpetual catch-up trap. One by one, companies lost battles and came to see surrender as inevitable. Surrender was not inevitable, of course, but the attack was staged in a way that disguised ultimate intentions and sidestepped direct confrontation.

nopoly in VCRs, camcorders, and CD players. Ironically, the TV business, once thought mature, is on the verge of a dramatic renaissance. A $20 billion-a-year business will be created when high-definition television is launched in the United States. But the pioneers of television may capture only a small part of this bonanza.

Most of the tools of strategic analysis are focused domestically. Few force managers to consider global opportunities and threats. For example, portfolio planning portrays top management's investment options as an array of businesses rather than as an array of geographic markets. The result is predictable: As businesses come under attack from foreign competitors, the company attempts to abandon them and enter other areas in which the forces of global competition are not yet so strong. In the short term, this may be an appropriate response to waning competitiveness, but there are fewer and fewer businesses in which a domestic-oriented company can find refuge. We seldom hear such companies asking, Can we move into emerging markets overseas ahead of our global rivals and prolong the profitability of this business? Can we counterattack in our global competitors' home market and slow the pace of their expansion? A senior executive in one successful global company made a telling comment: "We're glad to find a competitor managing by the portfolio concept – we can almost predict how much share we'll have to take away to put the business on the CEO's 'sell list.'"

Companies can also be overcommitted to organizational recipes, such as strategic business units (SBUs) and the decentralization an SBU structure implies. Decentralization is seductive because it places the responsibility for success or failure squarely on the shoulders of line managers. Each business is assumed to have all the resources it needs to execute its strategies successfully, and in this no-excuses environment, it is hard for top management to fail. But desirable as clear lines of responsibility and accountability are, competitive revitalization requires positive value added from top management.

Few companies with a strong SBU orientation have built successful global distribution and brand positions. Investments in a global brand franchise typically transcend the resources and risk propensity of a single business. While some Western companies have had global brand positions for 30 or 40 years or more (Heinz, Siemens, IBM, Ford, and Kodak, for example), it is hard to identify any American or European company that has created a new global brand franchise in the past ten to 15 years. Yet Japanese companies have created a score or more – NEC, Fujitsu, Panasonic (Matsushita), Toshiba, Sony, Seiko, Epson, Canon, Minolta, and Honda among them.

General Electric's situation is typical. In many of its businesses, this American giant has been almost unknown in Europe and Asia. GE made no coordinated effort to build a global corporate franchise. Any GE business with international ambitions had to bear the burden of establishing its credibility and credentials in the new market alone. Not surprisingly, some once-strong GE businesses opted out of the difficult task of building a global brand position. By contrast, smaller Korean companies like Samsung, Daewoo, and Lucky-Goldstar are busy building global-brand umbrellas that will ease market entry for a whole range of businesses. The underlying principle is simple: Economies of scope may be as important as economies of scale in entering global markets. But capturing economies of scope demands interbusiness coordination that only top management can provide.

We believe that inflexible SBU-type organizations have also contributed to the de-skilling of some companies. For a single SBU, incapable of sustaining an investment in a core competence such as semiconductors, optical media, or combustion engines, the only way to remain competitive is to purchase key components from potential (often Japanese or Korean) competitors. For an SBU defined in product market terms, competitiveness means offering an end product that is competitive in price and performance. But that gives an SBU manager little incentive to distinguish between external sourcing that achieves "product embodied" competitiveness and internal development that yields deeply embedded organizational competencies that can be exploited across multiple businesses. Where upstream component-manufacturing activities are seen as cost centers with cost-plus transfer pricing, additional investment in the core activity may seem a less profitable use of capital than investment in downstream activities. To make matters worse, internal accounting data may not reflect the competitive value of retaining control over a core competence.

Together, a shared global corporate brand franchise and a shared core competence act as mortar in many Japanese companies. Lacking this mortar, a company's businesses are truly loose bricks – easily knocked out by global competitors that steadily invest in core competences. Such competitors can co-opt domestically oriented companies into long-term sourcing dependence and capture the economies of scope of global brand investment through interbusiness coordination.

A threat that everyone perceives but no one talks about creates more anxiety than a threat that has been clearly identified and made the focal point for the problem-solving efforts of the entire company.

Last in decentralization's list of dangers is the standard of managerial performance typically used in SBU organizations. In many companies, business unit managers are rewarded solely on the basis of their performance against return on investment targets. Unfortunately, that often leads to denominator management because executives soon discover that reductions in investment and head count–the denominator–"improve" the financial ratios by which they are measured more easily than growth in the numerator: revenues. It also fosters a hair-trigger sensitivity to industry downturns that can be very costly. Managers who are quick to reduce investment and dismiss workers find it takes much longer to regain lost skills and catch up on investment when the industry turns upward again. As a result, they lose market share in every business cycle. Particularly in industries where there is fierce competition for the best people and where competitors invest relentlessly, denominator management creates a retrenchment ratchet.

The concept of the general manager as a movable peg reinforces the problem of denominator management. Business schools are guilty here because they have perpetuated the notion that a manager with net present value calculations in one hand and portfolio planning in the other can manage any business anywhere.

In many diversified companies, top management evaluates line managers on numbers alone because no other basis for dialogue exists. Managers move so many times as part of their "career development" that they often do not understand the nuances of the businesses they are managing. At GE, for example, one fast-track manager heading an important new venture had moved across five businesses in five years. His series of quick successes finally came to an end when he confronted a Japanese competitor whose managers had been plodding along in the same business for more than a decade.

Regardless of ability and effort, fast-track managers are unlikely to develop the deep business knowledge they need to discuss technology options, competitors' strategies, and global opportunities substantively. Invariably, therefore, discussions gravitate to "the numbers," while the value added of managers is limited to the financial and planning savvy they carry from job to job. Knowledge of the company's internal planning and accounting systems substitutes for substantive knowledge of the business, making competitive innovation unlikely.

When managers know that their assignments have a two- to three-year time frame, they feel great pressure to create a good track record fast. This pressure often takes one of two forms. Either the manager does not commit to goals whose time line extends beyond his or her expected tenure. Or ambitious goals are adopted and squeezed into an unrealistically short time frame. Aiming to be number one in a business is the essence of strategic intent; but imposing a three- to four-year horizon on the effort simply invites disaster. Acquisitions are made with little attention to the problems of integration. The organization becomes overloaded with initiatives. Collaborative ventures are formed without adequate attention to competitive consequences.

Almost every strategic management theory and nearly every corporate planning system is premised on a strategy hierarchy in which corporate goals guide business unit strategies and business unit strategies guide functional tactics.[5] In this hierarchy, senior management makes strategy and lower levels execute it. The dichotomy between formulation and implementation is familiar and widely accepted. But the strategy hierarchy undermines competitiveness by fostering an elitist view of management that tends to disenfranchise most of the organization. Employees fail to identify with corporate goals or involve themselves deeply in the work of becoming more competitive.

The strategy hierarchy isn't the only explanation for an elitist view of management, of course. The myths that grow up around successful top managers–"Lee Iacocca saved Chrysler," "Carlo De Benedetti rescued Olivetti," "John Sculley turned Apple around"–perpetuate it. So does the turbulent business environment. Middle managers buffeted by circumstances that seem to be beyond their control desperately want to believe that top management has all the answers. And top management, in turn, hesitates to admit it does not for fear of demoralizing lower-level employees.

The result of all this is often a code of silence in which the full extent of a company's competitiveness problem is not widely shared. We interviewed business unit managers in one company, for example, who were extremely anxious because top management wasn't talking openly about the competitive challenges the company faced. They assumed the lack of communication indicated a lack of awareness on their senior managers' part. But when asked whether they were open with their own employees, these same managers replied that while they could face up to the problems, the people below them could not. Indeed, the only time the workforce heard about the company's competitiveness problems was during wage negotiations when problems were used to extract concessions.

Japanese companies realize that top managers are a bit like the astronauts who circle the Earth in the space shuttle. It may be the astronauts who get all the glory, but everyone knows that the real intelligence behind the mission is located firmly on the ground.

Unfortunately, a threat that everyone perceives but no one talks about creates more anxiety than a threat that has been clearly identified and made the focal point for the problem-solving efforts of the entire company. That is one reason honesty and humility on the part of top management may be the first prerequisite of revitalization. Another reason is the need to make "participation" more than a buzzword.

Programs such as quality circles and total customer service often fall short of expectations because management does not recognize that successful implementation requires more than administrative structures. Difficulties in embedding new capabilities are typically put down to "communication" problems, with the unstated assumption that if only downward communication were more effective – "if only middle management would get the message straight" – the new program would quickly take root. The need for upward communication is often ignored, or assumed to mean nothing more than feedback. In contrast, Japanese companies win not because they have smarter managers but because they have developed ways to harness the "wisdom of the anthill." They realize that top managers are a bit like the astronauts who circle the Earth in the space shuttle. It may be the astronauts who get all the glory, but everyone knows that the real intelligence behind the mission is located firmly on the ground.

Where strategy formulation is an elitist activity, it is also difficult to produce truly creative strategies. For one thing, there are not enough heads and points of view in divisional or corporate planning departments to challenge conventional wisdom. For another, creative strategies seldom emerge from the annual planning ritual. The starting point for next year's strategy is almost always this year's strategy. Improvements are incremental. The company sticks to the segments and territories it knows, even though the real opportunities may be elsewhere. The impetus for Canon's pioneering entry into the personal copier business came from an overseas sales subsidiary – not from planners in Japan.

The goal of the strategy hierarchy remains valid – to ensure consistency up and down the organization. But this consistency is better derived from a clearly articulated strategic intent than from inflexibly applied top-down plans. In the 1990s, the challenge will be to enfranchise employees to invent the means to accomplish ambitious ends.

We seldom found cautious administrators among the top managements of companies that came from behind to challenge incumbents for global leadership. But in studying organizations that had surrendered, we invariably found senior managers who, for whatever reason, lacked the courage to commit their companies to heroic goals – goals that lay beyond the reach of planning and existing resources. The conservative goals they set failed to generate pressure and enthusiasm for competitive innovation or give the organization much useful guidance. Financial targets and vague mission statements just cannot provide the consistent direction that is a prerequisite for winning a global competitive war.

This kind of conservatism is usually blamed on the financial markets. But we believe that in most cases, investors' so-called short-term orientation simply reflects a lack of confidence in the ability of senior managers to conceive and deliver stretch goals. The chairman of one company complained bitterly that even after improving return on capital employed to over 40% (by ruthlessly divesting lackluster businesses and downsizing others), the stock market held the company to an 8:1 price/earnings ratio. Of course, the market's message was clear: "We don't trust you. You've shown no ability to achieve profitable growth. Just cut out the slack, manage the denominators, and perhaps you'll be taken over by a company that can use your resources more creatively." Very little in the track record of most large Western companies warrants the confidence of the stock market. Investors aren't hopelessly short-term, they're justifiably skeptical.

The goal of the strategy hierarchy remains valid – to ensure consistency up and down the organization. But this consistency is better derived from a clearly articulated strategic intent than from inflexibly applied top-down plans.

We believe that top management's caution reflects a lack of confidence in its own ability to involve the entire organization in revitalization, as opposed to simply raising financial targets. Developing faith in the organization's ability to deliver on tough goals, motivating it to do so, focusing its attention long enough to internalize new capabilities – this is the real challenge for top management. Only by rising to this challenge will senior managers gain the courage they need to commit themselves and their companies to global leadership.

1. Among the first to apply the concept of strategy to management were H. Igor Ansoff in *Corporate Strategy: An Analytic Approach to Business Policy for Growth and Expansion* (McGraw-Hill, 1965) and Kenneth R. Andrews in *The Concept of Corporate Strategy* (Dow Jones-Irwin, 1971).

2. Robert A. Burgelman, "A Process Model of Internal Corporate Venturing in the Diversified Major Firm," *Administrative Science Quarterly,* June 1983.

3. For example, see Michael E. Porter, *Competitive Strategy* (Free Press, 1980).

4. Strategic frameworks for resource allocation in diversified companies are summarized in Charles W. Hofer and Dan E. Schendel, *Strategy Formulation: Analytical Concepts* (West Publishing, 1978).

5. For example, see Peter Lorange and Richard F. Vancil, *Strategic Planning Systems* (Prentice-Hall, 1977).

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1993

It won't surprise anyone to find an article on teams by Jon Katzenbach and Douglas Smith figuring into an issue devoted to high performance. While Peter Drucker may have been the first to point out that a team-based organization can be highly effective, Katzenbach and Smith's work made it possible for companies to implement the idea.

In this groundbreaking 1993 article, the authors say that if managers want to make better decisions about teams, they must be clear about what a team is. They define a team as "a small number of people with complementary skills who are committed to a common purpose, set of performance goals, and approach for which they hold themselves mutually accountable." That definition lays down the discipline that teams must share to be effective.

Katzenbach and Smith discuss the four elements – common commitment and purpose, performance goals, complementary skills, and mutual accountability – that make teams function. They also classify teams into three varieties – teams that recommend things, teams that make or do things, and teams that run things – and describe how each type faces different challenges.

The Discipline of Teams

by Jon R. Katzenbach and Douglas K. Smith

What makes the difference between a team that performs and one that doesn't?

Early in the 1980s, Bill Greenwood and a small band of rebel railroaders took on most of the top management of Burlington Northern and created a multibillion-dollar business in "piggybacking" rail services despite widespread resistance, even resentment, within the company. The Medical Products Group at Hewlett-Packard owes most of its leading performance to the remarkable efforts of Dean Morton, Lew Platt, Ben Holmes, Dick Alberding, and a handful of their colleagues who revitalized a health care business that most others had written off. At Knight Ridder, Jim Batten's "customer obsession" vision took root at the *Tallahassee Democrat* when 14 frontline enthusiasts turned a charter to eliminate errors into a mission of major change and took the entire paper along with them.

Such are the stories and the work of teams – real teams that perform, not amorphous groups that we call teams because we think that the label is motivating and energizing. The difference between teams that perform and other groups that don't is a subject to which most of us pay far too little attention. Part of the problem is that "team" is a word and concept so familiar to everyone. (See the exhibit "Not All Groups Are Teams: How to Tell the Difference.")

Or at least that's what we thought when we set out to do research for our book *The Wisdom of Teams* (HarperBusiness, 1993). We wanted to discover what differentiates various levels of

team performance, where and how teams work best, and what top management can do to enhance their effectiveness. We talked with hundreds of people on more than 50 different teams in 30 companies and beyond, from Motorola and Hewlett-Packard to Operation Desert Storm and the Girl Scouts.

We found that there is a basic discipline that makes teams work. We also found that teams and good performance are inseparable: You cannot have one without the other. But people use the word "team" so loosely that it gets in the way of learning and applying the discipline that leads to good performance. For managers to make better decisions about whether, when, or how to encourage and use teams, it is important to be more precise about what a team is and what it isn't.

Most executives advocate teamwork. And they should. Teamwork represents a set of values that encourage listening and responding constructively to views expressed by others, giving others the benefit of the doubt, providing support, and recognizing the interests and achievements of others. Such values help teams perform, and they also promote individual performance as well as the performance of an entire organization. But teamwork values by themselves are not exclusive to teams, nor are they enough to ensure team performance. (See the sidebar "Building Team Performance.")

Nor is a team just any group working together. Committees, councils, and task forces are not necessarily teams. Groups do not become teams simply because that is what someone calls them. The entire workforce of any large and complex organization is *never* a team, but think about how often that platitude is offered up.

To understand how teams deliver extra performance, we must distinguish between teams and other forms of working groups. That distinction turns on performance results. A working group's performance is a function of what its members do as individuals. A team's performance includes both individual results and what we call "collective work products." A collective work product is what two or more members must work on together, such as interviews, surveys, or experiments. Whatever it is, a collective work product reflects the joint, real contribution of team members.

Working groups are both prevalent and effective in large organizations where individual accountability is most important. The best working groups come together to share information, perspectives, and insights; to make decisions that help each person do his or her job better; and to reinforce individual performance standards. But the focus is always on individual goals and accountabilities. Working-group members don't take responsibility for results other than their own. Nor do they try to develop incremental performance contributions requiring the combined work of two or more members.

Teams differ fundamentally from working groups because they require both individual and mutual accountability. Teams rely on more than group discussion, debate, and decision, on more than sharing information and best-practice performance standards. Teams produce discrete work products through the joint contributions of their members. This is what makes possible performance levels greater than the sum of all the individual bests of team members. Simply stated, a team is more than the sum of its parts.

The first step in developing a disciplined approach to team management is to think about teams as discrete units of performance and not just as positive sets of values. Having observed and worked with scores of teams in action, both successes and failures, we offer the following. Think of it as a working defi-

Not All Groups Are Teams: How to Tell the Difference

Working Group
- Strong, clearly focused leader
- Individual accountability
- The group's purpose is the same as the broader organizational mission
- Individual work products
- Runs efficient meetings
- Measures its effectiveness indirectly by its influence on others (such as financial performance of the business)
- Discusses, decides, and delegates

Team
- Shared leadership roles
- Individual and mutual accountability
- Specific team purpose that the team itself delivers
- Collective work products
- Encourages open-ended discussion and active problem-solving meetings
- Measures performance directly by assessing collective work products
- Discusses, decides, and does real work together

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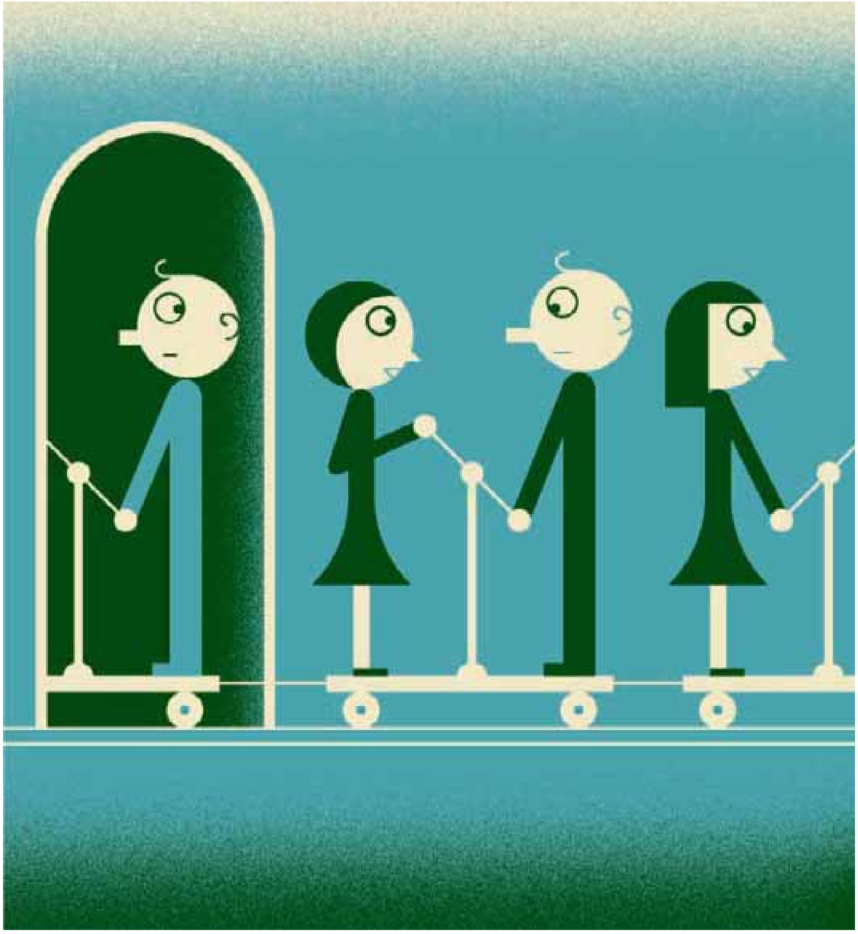
nition or, better still, an essential discipline that real teams share: *A team is a small number of people with complementary skills who are committed to a common purpose, set of performance goals, and approach for which they hold themselves mutually accountable.*

The essence of a team is common commitment. Without it, groups perform as individuals; with it, they become a powerful unit of collective performance. This kind of commitment requires a purpose in which team members can believe. Whether the purpose is to "transform the contributions of suppliers into the satisfaction of customers," to "make our company one we can be proud of again," or to "prove that all children can learn," credible team purposes have an element related to winning, being first, revolutionizing, or being on the cutting edge.

Teams develop direction, momentum, and commitment by working to shape a meaningful purpose. Building ownership and commitment to team purpose, however, is not incompatible with taking initial direction from outside the team. The often-asserted assumption that a team cannot "own" its purpose unless management leaves it alone actually confuses more potential teams than it helps. In fact, it is the exceptional case – for example, entrepreneurial situations – when a team creates a purpose entirely on its own.

Most successful teams shape their purposes in response to a demand or opportunity put in their path, usually by higher management. This helps teams get started by broadly framing the company's performance expectation. Management is responsible for clarifying the charter, rationale, and performance challenge for the team, but management must also leave enough flexibility for the team to develop commitment around its own spin on that purpose, set of specific goals, timing, and approach.

The best teams invest a tremendous amount of time and effort exploring, shaping, and agreeing on a purpose that belongs to them both collectively and individually. This "purposing" activity continues throughout the life of the team. By contrast, failed teams rarely develop a common purpose. For whatever reason – an insufficient focus on performance, lack of effort, poor leadership – they do not coalesce around a challenging aspiration.



GREG MABLY

People use the word "team" so loosely that it gets in the way of learning and applying the discipline that leads to good performance.

The best teams also translate their common purpose into specific performance goals, such as reducing the reject rate from suppliers by 50% or increasing the math scores of graduates from 40% to 95%. Indeed, if a team fails to establish specific performance goals or if those goals do not relate directly to the team's overall purpose, team members become confused, pull apart, and revert to mediocre performance. By contrast, when purposes and goals build on one another and are combined with team commitment, they become a powerful engine of performance.

Transforming broad directives into specific and measurable performance goals is the surest first step for a team trying to shape a purpose meaningful to its members. Specific goals, such as getting a new product to market in less than half the normal time, responding to all customers within 24 hours, or achieving a zero-defect rate while simultaneously cutting costs by 40%, all provide firm footholds for teams. There are several reasons:

• Specific team-performance goals help define a set of work products that are different both from an organization-wide

Building Team Performance

Although there is no guaranteed how-to recipe for building team performance, we observed a number of approaches shared by many successful teams.

Establish urgency, demanding performance standards, and direction. All team members need to believe the team has urgent and worthwhile purposes, and they want to know what the expectations are. Indeed, the more urgent and meaningful the rationale, the more likely it is that the team will live up to its performance potential, as was the case for a customer-service team that was told that further growth for the entire company would be impossible without major improvements in that area. Teams work best in a compelling context. That is why companies with strong performance ethics usually form teams readily.

Select members for skill and skill potential, not personality. No team succeeds without all the skills needed to meet its purpose and performance goals. Yet most teams figure out the skills they will need after they are formed. The wise manager will choose people for their existing skills and their potential to improve existing skills and learn new ones.

Pay particular attention to first meetings and actions. Initial impressions always mean a great deal. When potential teams first gather, everyone monitors the signals given by others to confirm, suspend, or dispel assumptions and concerns. They pay particular attention to those in authority: the team leader and any executives who set up, oversee, or otherwise influence the team. And, as always, what such leaders do is more important than what they say. If a senior executive leaves the team kickoff to take a phone call ten minutes after the session has begun and he never returns, people get the message.

Set some clear rules of behavior. All effective teams develop rules of conduct at the outset to help them achieve their purpose and performance goals. The most critical initial rules pertain to attendance (for example, "no interruptions to take phone calls"), discussion ("no sacred cows"), confidentiality ("the only things to leave this room are what we agree on"), analytic approach ("facts are friendly"), end-product orientation ("everyone gets assignments and does them"), constructive confrontation ("no finger pointing"), and, often the most important, contributions ("everyone does real work").

Set and seize upon a few immediate performance-oriented tasks and goals. Most effective teams trace their advancement to key performance-oriented events. Such events can be set in motion by immediately establishing a few challenging goals that can be reached early on. There is no such thing as a real team without performance results, so the sooner such results occur, the sooner the team congeals.

Challenge the group regularly with fresh facts and information. New information causes a team to redefine and enrich its understanding of the performance challenge, thereby helping the team shape a common purpose, set clearer goals, and improve its common approach. A plant quality improvement team knew the cost of poor quality was high, but it wasn't until they researched the different types of defects and put a price tag on each one that they knew where to go next. Conversely, teams err when they assume that all the information needed exists in the collective experience and knowledge of their members.

Spend lots of time together. Common sense tells us that team members must spend a lot of time together, scheduled and unscheduled, especially in the beginning. Indeed, creative insights as well as personal bonding require impromptu and casual interactions just as much as analyzing spreadsheets and interviewing customers. Busy executives and managers too often intentionally minimize the time they spend together. The successful teams we've observed all gave themselves the time to learn to be a team. This time need not always be spent together physically; electronic, fax, and phone time can also count as time spent together.

Exploit the power of positive feedback, recognition, and reward. Positive reinforcement works as well in a team context as elsewhere. Giving out "gold stars" helps shape new behaviors critical to team performance. If people in the group, for example, are alert to a shy person's initial efforts to speak up and contribute, they can give the honest positive reinforcement that encourages continued contributions. There are many ways to recognize and reward team performance beyond direct compensation, from having a senior executive speak directly to the team about the urgency of its mission to using awards to recognize contributions. Ultimately, however, the satisfaction shared by a team in its own performance becomes the most cherished reward.

mission and from individual job objectives. As a result, such work products require the collective effort of team members to make something specific happen that, in and of itself, adds real value to results. By contrast, simply gathering from time to time to make decisions will not sustain team performance.

• The specificity of performance objectives facilitates clear communication and constructive conflict within the team. When a plant-level team, for example, sets a goal of reducing average machine changeover time to two hours, the clarity of the goal forces the team to concentrate on what it would take either to achieve or to reconsider the goal. When such goals are clear, discussions can focus on how to pursue them or whether to change them; when goals are ambiguous or nonexistent, such discussions are much less productive.

• The attainability of specific goals helps teams maintain their focus on getting results. A product-development team at Eli Lilly's Peripheral Systems Division set definite yardsticks for the market introduction of an ultrasonic probe to help doctors locate deep veins and arteries. The probe had to have an audible signal through a specified depth of tissue, be capable of being manufactured at a rate of 100 per day, and have a unit cost less than a preestablished amount. Because the team could measure its progress against each of these specific objectives, the team knew throughout the development process where it stood. Either it had achieved its goals or not.

• As Outward Bound and other team-building programs illustrate, specific objectives have a leveling effect conducive to team behavior. When a small group of people challenge themselves to get over a wall or to reduce cycle time by 50%, their respective titles, perks, and other stripes fade into the background. The teams that succeed evaluate what and how each individual can best contribute to the team's goal and, more important, do so in terms of the performance objective itself rather than a person's status or personality.

• Specific goals allow a team to achieve small wins as it pursues its broader purpose. These small wins are invaluable to building commitment and overcoming the inevitable obstacles that get in the way of a long-term purpose. For example, the Knight Ridder team mentioned at the outset turned a narrow goal to eliminate errors into a compelling customer service purpose.

• Performance goals are compelling. They are symbols of accomplishment that motivate and energize. They challenge the people on a team to commit themselves, as a team, to make a difference. Drama, urgency, and a healthy fear of failure combine to drive teams that have their collective eye on an attainable, but challenging, goal. Nobody but the team can make it happen. It's their challenge.

The combination of purpose and specific goals is essential to performance. Each depends on the other to remain relevant and vital. Clear performance goals help a team keep track of progress and hold itself accountable; the broader, even nobler, aspirations in a team's purpose supply both meaning and emotional energy.

Virtually all effective teams we have met, read or heard about, or been members of have ranged between two and 25 people. For example, the Burlington Northern piggybacking team had seven members, and the Knight Ridder newspaper team had 14. The majority of them have numbered less than ten. Small size is admittedly more of a pragmatic guide than an absolute necessity for success. A large number of people, say 50 or more, can theoretically become a team. But groups of such size are more likely to break into subteams rather than function as a single unit.

Why? Large numbers of people have trouble interacting constructively as a group, much less doing real work together. Ten people are far more likely than 50 to work through their individual, functional, and hierarchical differences toward a common plan and to hold themselves jointly accountable for the results.

Large groups also face logistical issues, such as finding enough physical space and time to meet. And they confront more complex constraints, like crowd or herd behaviors, which prevent the intense sharing of viewpoints needed to build a team. As a result, when they try to develop a common purpose, they usually produce only superficial "missions" and well-meaning intentions that cannot be translated into concrete objectives. They tend fairly quickly to reach a point when meetings become a chore, a clear sign that most of the people in the group are uncertain why they have gathered, beyond some notion of getting along better. Anyone who has been through one of these exercises understands how frustrating it can be. This kind of failure tends to foster cynicism, which gets in the way of future team efforts.

In addition to finding the right size, teams must develop the right mix of skills; that is, each of the complementary skills necessary to do the team's job. As obvious as it sounds, it is a common failing in potential teams. Skill requirements fall into three fairly self-evident categories.

Technical or Functional Expertise. It would make little sense for a group of

For managers to make better decisions about whether, when, or how to encourage and use teams, it is important to be more precise about what a team is and what it isn't.

doctors to litigate an employment discrimination case in a court of law. Yet teams of doctors and lawyers often try medical malpractice or personal injury cases. Similarly, product development groups that include only marketers or engineers are less likely to succeed than those with the complementary skills of both.

Problem-Solving and Decision-Making Skills. Teams must be able to identify the problems and opportunities they face, evaluate the options they have for moving forward, and then make necessary trade-offs and decisions about how to proceed. Most teams need some members with these skills to begin with, although many will develop them best on the job.

Interpersonal Skills. Common understanding and purpose cannot arise without effective communication and constructive conflict, which in turn depend on interpersonal skills. These skills include risk taking, helpful criticism, objectivity, active listening, giving the benefit of the doubt, and recognizing the interests and achievements of others.

Obviously, a team cannot get started without some minimum complement of skills, especially technical and functional ones. Still, think about how often you've been part of a team whose members were chosen primarily on the basis of personal compatibility or formal position in the organization, and in which the skill mix of its members wasn't given much thought.

It is equally common to overemphasize skills in team selection. Yet in all the successful teams we've encountered, not one had all the needed skills at the outset. The Burlington Northern team, for example, initially had no members who were skilled marketers despite the fact that their performance challenge was a marketing one. In fact, we discovered that teams are powerful vehicles for developing the skills needed to meet the team's performance challenge. Accordingly, team member selection ought to ride as much on skill potential as on skills already proven.

Effective teams develop strong commitment to a common approach; that is, to how they will work together to accomplish their purpose. Team members must agree on who will do particular jobs, how schedules will be set and adhered to, what skills need to be developed, how continuing membership in the team is to be earned, and how the group will make and modify decisions. This element of commitment is as important to team performance as the team's commitment to its purpose and goals.

Agreeing on the specifics of work and how they fit together to integrate individual skills and advance team performance lies at the heart of shaping a common approach. It is perhaps self-evident that an approach that delegates all the real work to a few members (or staff outsiders) and thus relies on reviews and meetings for its only "work together" aspects, cannot sustain a real team. Every member of a successful team does equivalent amounts of real work; all members, including the team leader, contribute in concrete ways to the team's work product. This is a very important element of the emotional logic that drives team performance.

When individuals approach a team situation, especially in a business setting, each has preexisting job assignments as well as strengths and weaknesses reflecting a variety of talents, backgrounds, personalities, and prejudices. Only through the mutual discovery and understanding of how to apply all its human resources to a common purpose can a team develop and agree on the best approach to achieve its goals. At the heart of such long and, at times, difficult interactions lies a commitment-building process in which the team candidly explores who is best suited to each task as well as how individual roles will come together. In effect, the team establishes a social contract among members that relates to their purpose and guides and obligates how they must work together.

No group ever becomes a team until it can hold itself accountable as a team. Like common purpose and approach, mutual accountability is a stiff test. Think, for example, about the subtle but critical difference between "the boss holds me accountable" and "we hold ourselves accountable." The first case can lead to the second, but without the second, there can be no team.

Companies like Hewlett-Packard and Motorola have an ingrained performance ethic that enables teams to form organically whenever there is a clear performance challenge requiring collective rather than individual effort. In these companies, the factor of mutual accountability is commonplace. "Being in the boat together" is how their performance game is played.

At its core, team accountability is about the sincere promises we make to ourselves and others, promises that underpin two critical aspects of effective teams: commitment and trust. Most of us enter a potential team situation cautiously because ingrained individualism and experience discourage us from putting our fates in the hands of others or accepting responsibility for others. Teams do not succeed by ignoring or wishing away such behavior.

Mutual accountability cannot be coerced any more than people can be made to trust one another. But when a team shares a common purpose, goals, and approach, mutual accountability grows as a natural counterpart. Accountability arises from and reinforces the time, energy, and action invested in figuring out what the team is trying to accomplish and how best to get it done.

A team opportunity exists anywhere hierarchy or organizational boundaries inhibit the skills and perspectives needed for optimal results.

When people work together toward a common objective, trust and commitment follow. Consequently, teams enjoying a strong common purpose and approach inevitably hold themselves responsible, both as individuals and as a team, for the team's performance. This sense of mutual accountability also produces the rich rewards of mutual achievement in which all members share. What we heard over and over from members of effective teams is that they found the experience energizing and motivating in ways that their "normal" jobs never could match.

On the other hand, groups established primarily for the sake of becoming a team or for job enhancement, communication, organizational effectiveness, or excellence rarely become effective teams, as demonstrated by the bad feelings left in many companies after experimenting with quality circles that never translated "quality" into specific goals. Only when appropriate performance goals are set does the process of discussing the goals and the approaches to them give team members a clearer and clearer choice: They can disagree with a goal and the path that the team selects and, in effect, opt out, or they can pitch in and become accountable with and to their teammates.

The discipline of teams we've outlined is critical to the success of all teams. Yet it is also useful to go one step further. Most teams can be classified in one of three ways: teams that recommend things, teams that make or do things, and teams that run things. In our experience, each type faces a characteristic set of challenges.

Teams That Recommend Things. These teams include task forces; project groups; and audit, quality, or safety groups asked to study and solve particular problems. Teams that recommend things almost always have predetermined completion dates. Two critical issues are unique to such teams: getting off to a fast and constructive start and dealing with the ultimate handoff that's required to get recommendations implemented.

The key to the first issue lies in the clarity of the team's charter and the composition of its membership. In addition to wanting to know why and how their efforts are important, task forces need a clear definition of whom management expects to participate and the time commitment required. Management can help by ensuring that the team includes people with the skills and influence necessary for crafting practical recommendations that will carry weight throughout the organization. Moreover, management can help the team get the necessary cooperation by opening doors and dealing with political obstacles.

Missing the handoff is almost always the problem that stymies teams that recommend things. To avoid this, the transfer of responsibility for recommendations to those who must implement them demands top management's time and attention. The more top managers assume that recommendations will "just happen," the less likely it is that they will. The more involvement task force members have in implementing their recommendations, the more likely they are to get implemented.

To the extent that people outside the task force will have to carry the ball, it is critical to involve them in the process early and often, certainly well before recommendations are finalized. Such involvement may take many forms, including participating in interviews, helping with analyses, contributing and critiquing ideas, and conducting experiments and trials. At a minimum, anyone responsible for implementation should receive a briefing on the task force's purpose, approach, and objectives at the beginning of the effort as well as regular reviews of progress.

Teams That Make or Do Things. These teams include people at or near the front lines who are responsible for doing the basic manufacturing, development, operations, marketing, sales, service, and other value-adding activities of a business. With some exceptions, such as new-product development or process design teams, teams that make or do things tend to have no set completion dates because their activities are ongoing.

In deciding where team performance might have the greatest impact, top management should concentrate on what we call the company's "critical delivery points" – that is, places in the organization where the cost and value of the company's products and services are most directly determined. Such critical delivery points might include where accounts get managed, customer service performed, products designed, and productivity determined. If performance at critical delivery points depends on combining multiple skills, perspectives, and judgments in real time, then the team option is the smartest one.

When an organization does require a significant number of teams at these points, the sheer challenge of maximizing the performance of so many groups will demand a carefully constructed and performance-focused set of management processes. The issue here for top management is how to build the necessary systems and process supports without falling into the trap of appearing to promote teams for their own sake.

The imperative here, returning to our earlier discussion of the basic discipline of teams, is a relentless focus on performance. If management fails to pay persistent attention to the link between teams and performance, the organization becomes convinced that "this year, we are doing 'teams'." Top management can help by instituting processes like pay schemes and training for teams responsive to their real time needs, but more than anything else, top management must make clear and compelling demands on the teams themselves and then pay constant attention to their progress with respect to both team basics and performance results. This means focusing on specific teams and specific performance challenges. Otherwise "performance," like "team," will become a cliché.

Every company faces specific performance challenges for which teams are the most practical and powerful vehicle at top management's disposal.

Teams That Run Things. Despite the fact that many leaders refer to the group reporting to them as a team, few groups really are. And groups that become real teams seldom think of themselves as a team because they are so focused on performance results. Yet the opportunity for such teams includes groups from the top of the enterprise down through the divisional or functional level. Whether it is in charge of thousands of people or just a handful, as long as the group oversees some business, ongoing program, or significant functional activity, it is a team that runs things.

The main issue these teams face is determining whether a real team approach is the right one. Many groups that run things can be more effective as working groups than as teams. The key judgment is whether the sum of individual bests will suffice for the performance challenge at hand or whether the group must deliver substantial incremental performance requiring real joint work products. Although the team option promises greater performance, it also brings more risk, and managers must be brutally honest in assessing the trade-offs.

Members may have to overcome a natural reluctance to trust their fate to others. The price of faking the team approach is high: At best, members get diverted from their individual goals, costs outweigh benefits, and people resent the imposition on their time and priorities. At worst, serious animosities develop that undercut even the potential personal bests of the working-group approach.

Working groups present fewer risks. Effective working groups need little time to shape their purpose, since the leader usually establishes it. Meetings are run against well-prioritized agendas. And decisions are implemented through specific individual assignments and accountabilities. Most of the time, therefore, if performance aspirations can be met through individuals doing their respective jobs well, the working-group approach is more comfortable, less risky, and less disruptive than trying for more elusive team performance levels. Indeed, if there is no performance need for the team approach, efforts spent to improve the effectiveness of the working group make much more sense than floundering around trying to become a team.

Having said that, we believe the extra level of performance teams can achieve is becoming critical for a growing number of companies, especially as they move through major changes during which company performance depends on broad-based behavioral change. When top management uses teams to run things, it should make sure the team succeeds in identifying specific purposes and goals.

This is a second major issue for teams that run things. Too often, such teams confuse the broad mission of the total organization with the specific purpose of their small group at the top. The discipline of teams tells us that for a real team to form, there must be a team purpose that is distinctive and specific to the small group and that requires its members to roll up their sleeves and accomplish something beyond individual end products. If a group of managers looks only at the economic performance of the part of the organization it runs to assess overall effectiveness, the group will not have any team performance goals of its own.

While the basic discipline of teams does not differ for them, teams at the top are certainly the most difficult. The complexities of long-term challenges, heavy demands on executive time, and the deep-seated individualism of senior people conspire against teams at the top. At the same time, teams at the top are the most powerful. At first we thought such teams were nearly impossible. That is because we were looking at the teams as defined by the formal organizational structure; that is, the leader and all his or her direct reports equals the team. Then we discovered that real teams at the top were often smaller and less formalized: Whitehead and Weinberg at Goldman Sachs; Hewlett and Packard at HP; Krasnoff, Pall, and Hardy at Pall Corporation; Kendall, Pearson, and Calloway at Pepsi; Haas and Haas at Levi Strauss; Batten and Ridder at Knight Ridder. They were mostly twos and threes, with an occasional fourth.

Nonetheless, real teams at the top of large, complex organizations are still few and far between. Far too many groups at the top of large corporations needlessly constrain themselves from achieving real team levels of performance because they assume that all direct reports must be on the team, that team goals must be identical to corporate goals, that the team members' positions rather than skills determine their respective roles, that a team must be a team all the time, and that the team leader is above doing real work.

As understandable as these assumptions may be, most of them are unwarranted. They do not apply to the teams at the top we have observed, and when replaced with more realistic and flexible assumptions that permit the team discipline to be applied, real team performance at the top can and does occur. Moreover, as more and more companies are confronted with the need to manage major change across their organizations, we will see more real teams at the top.

We believe that teams will become the primary unit of performance in high-performance organizations. But that does not mean that teams will crowd out individual opportunity or formal hierarchy and process. Rather, teams will enhance existing structures without replacing them. A team opportunity exists anywhere hierarchy or organizational boundaries inhibit the skills and perspectives needed for optimal results. Thus, new-product innovation requires preserving functional excellence through structure while eradicating functional bias through teams. And frontline productivity requires preserving direction and guidance through hierarchy while drawing on energy and flexibility through self-managing teams.

We are convinced that every company faces specific performance challenges for which teams are the most practical and powerful vehicle at top management's disposal. The critical role for senior managers, therefore, is to worry about company performance and the kinds of teams that can deliver it. This means top management must recognize a team's unique potential to deliver results, deploy teams strategically when they are the best tool for the job, and foster the basic discipline of teams that will make them effective. By doing so, top management creates the kind of environment that enables team as well as individual and organizational performance.

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By the 1980s, many executives were convinced that traditional measures of financial performance didn't let them manage effectively and wanted to replace them with operational measures. Arguing that executives should track both financial and operational metrics, Robert Kaplan and David Norton suggested four sets of parameters.

First, how do customers see your company? Find out by measuring lead times, quality, performance and service, and costs. Second, what must your company excel at? Determine the processes and competencies that are most critical, and specify measures, such as cycle time, quality, employee skills, and productivity, to track them. Third, can your company continue to improve and create value? Monitor your ability to launch new products, create more value for customers, and improve operating efficiencies. Fourth, how has your company done by its shareholders? Measure cash flow, quarterly sales growth, operating income by division, and increased market share by segment and return on equity.

The balanced scorecard lets executives see whether they have improved in one area at the expense of another. Knowing that, say the authors, will protect companies from posting suboptimal performance.

The Balanced Scorecard:
Measures That Drive Performance

by Robert S. Kaplan and David P. Norton

The balanced scorecard tracks all the important elements of a company's strategy – from continuous improvement and partnerships to teamwork and global scale. And that allows companies to excel.

What you measure is what you get. Senior executives understand that their organization's measurement system strongly affects the behavior of managers and employees. Executives also understand that traditional financial accounting measures like return on investment and earnings per share can give misleading signals for continuous improvement and innovation – activities today's competitive environment demands. The traditional financial performance measures worked well for the industrial era, but they are out of step with the skills and competencies companies are trying to master today.

As managers and academic researchers have tried to remedy the inadequacies of current performance measurement systems, some have focused on making financial measures more relevant. Others have said, "Forget the financial measures; improve operational measures like cycle time and defect rates. The financial results will follow." But managers should not have to choose between financial and operational measures. In observing and working with many companies, we have found that senior executives do not rely on one set of measures to the exclusion of the other. They realize that no single measure can provide a clear performance target or focus attention on the critical areas of the business. Managers want a balanced presentation of both financial and operational measures.

During a yearlong research project with 12 companies at the leading edge of performance measurement, we devised a "balanced scorecard" – a set of measures that gives top managers a fast but comprehensive view of the business. The balanced scorecard includes financial measures that tell the results of actions already taken. And it complements the financial measures with operational measures on customer satisfaction, internal processes, and the organization's innovation and improvement activities – operational measures that are the drivers of future financial performance.

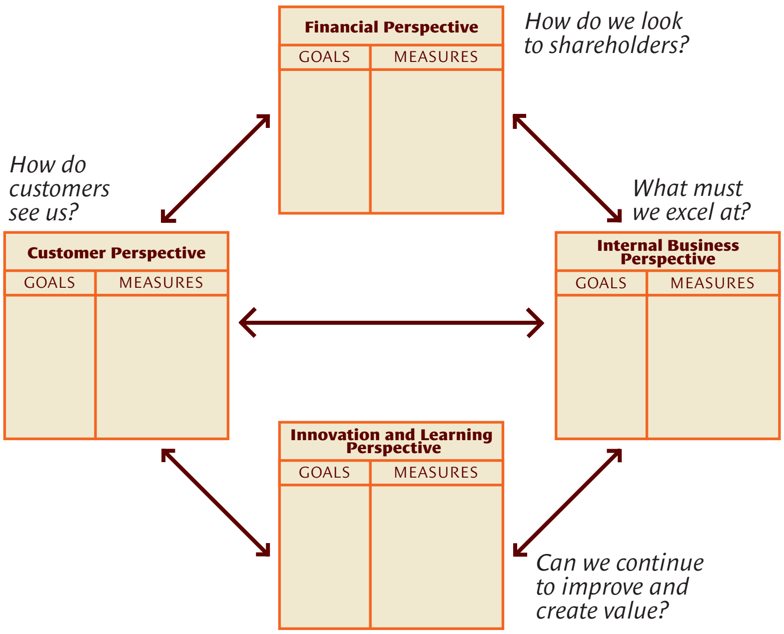
Think of the balanced scorecard as the dials and indicators in an airplane cockpit. For the complex task of navigating and flying a plane, pilots need detailed information about many aspects of the flight. They need information on fuel, airspeed, altitude, bearing, destination, and other indicators that summarize the current and predicted environment. Reliance on one instrument can be fatal. Similarly, the complexity of managing an organization today requires that managers be able to view performance in several areas at once.

The balanced scorecard allows managers to look at the business from four important perspectives. (See the exhibit "The Balanced Scorecard Links Performance Measures.") It provides answers to four basic questions:

- How do customers see us? (customer perspective)
- What must we excel at? (internal business perspective)
- Can we continue to improve and create value? (innovation and learning perspective)
- How do we look to shareholders? (financial perspective)

While giving senior managers information from four different perspectives, the balanced scorecard minimizes information overload by limiting the number of measures used. Companies rarely suffer from having too few measures. More commonly, they keep adding new measures whenever an employee or a consultant makes a worthwhile suggestion. One manager described the proliferation of new measures at his company as its "kill another tree program." The balanced scorecard forces managers to focus on the handful of measures that are most critical.

The Balanced Scorecard Links Performance Measures



Several companies have already adopted the balanced scorecard. Their early experiences using the scorecard have demonstrated that it meets several managerial needs. First, the scorecard brings together, in a single management report, many of the seemingly disparate elements of a company's competitive agenda: becoming customer oriented, shortening response time, improving quality, emphasizing teamwork, reducing new product launch times, and managing for the long term.

Second, the scorecard guards against suboptimization. By forcing senior managers to consider all the important operational measures together, the balanced scorecard lets them see whether improvement in one area may have been achieved at the expense of another. Even the best objective can be achieved badly. Companies can reduce time to market, for example, in two very different ways: by improving the management of new product introductions or by releasing only products that are incrementally different from existing products. Spending on setups can be cut either by reducing setup times or by increasing batch sizes. Similarly, production output and first-pass yields can rise, but the increases may be due to a shift in the product mix to more standard, easy-to-produce but lower-margin products.

We will illustrate how companies can create their own balanced scorecard with the experiences of one semiconductor company – let's call it Electronic Circuits Incorporated. ECI saw the scorecard as a way to clarify, simplify, and then operationalize the vision at the top of the or-

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ganization. The ECI scorecard was designed to focus the attention of its top executives on a short list of critical indicators of current and future performance.

Customer Perspective: How Do Customers See Us?

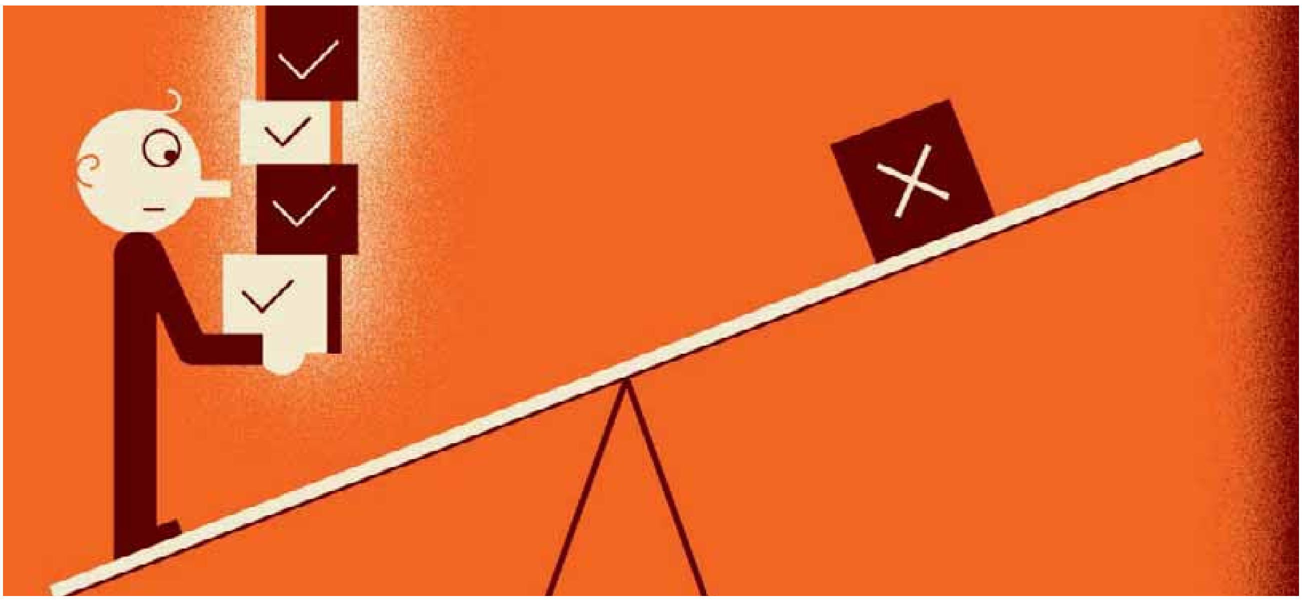
Many companies today have a corporate mission that focuses on the customer. "To be number one in delivering value to customers" is a typical mission statement. How a company is performing from its customers' perspective has become, therefore, a priority for top management. The balanced scorecard demands that managers translate their general mission statement on customer service into specific measures that reflect the factors that really matter to customers.

Customers' concerns tend to fall into four categories: time, quality, performance and service, and cost. Lead time measures the time required for the company to meet its customers' needs. For existing products, lead time can be measured from the time the company receives an order to the time it actually delivers the product or service to the customer. For new products, lead time represents the time to market, or how long it takes to bring a new product from the product definition stage to the start of shipments. Quality measures the defect level of incoming products as perceived and measured by the customer. Quality could also measure on-time delivery – the accuracy of the organization's delivery forecasts. The combination of performance and service measures how the company's products or services contribute to creating value for its customers.

To put the balanced scorecard to work, companies should articulate goals for time, quality, and performance and service and then translate these goals into specific measures. Senior managers at ECI, for example, established general goals for customer performance: Get standard products to market sooner, improve customers' time to market, become customers' supplier of choice through partnerships with them, and develop innovative products tailored to customer needs. The managers translated these general goals into four specific goals and identified an appropriate measure for each. (See the exhibit "ECI's Balanced Business Scorecard.")

To track the specific goal of providing a continuous stream of attractive solutions, ECI measured the percentage of sales from new products and the percentage of sales from proprietary products. That information was available internally, but certain other measures forced the company to get data from outside. To assess whether the company was achieving its goal of providing reliable, responsive supply, ECI turned to its customers. When it found that each customer defined "reliable, responsive supply" differently, ECI created a database of the factors as defined by each of its major customers. The shift to external measures of performance with customers led ECI to redefine "on time" so it matched customers' expectations. Some customers defined "on time" as any shipment that arrived within five days of scheduled delivery; others used a nine-day window. ECI itself had been using a seven-day window, which meant that it wasn't satisfying some of

Traditional financial performance measures worked well for the industrial era, but they are out of step with the skills and competencies companies are trying to master today.



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its customers and overachieving for others. ECI also asked its top ten customers to rank the company as a supplier overall.

Depending on customers' evaluations to define some of a company's performance measures forces that company to view its performance through customers' eyes. Some companies hire third parties to perform anonymous customer surveys, resulting in a customer-driven report card. The J.D. Power quality survey, for example, has become the standard of performance for the automobile industry, while the U.S. Department of Transportation's measurement of on-time arrivals and lost baggage provides external standards for airlines. Benchmarking procedures are yet another technique companies use to compare their performance against competitors' best practices. Many companies have introduced "best of breed" comparison programs: The company looks to one industry to find, say, the best distribution system, to another industry for the lowest cost payroll process, and then forms a composite of those best practices to set objectives for its own performance.

In addition to measures of time, quality, and performance and service, companies must remain sensitive to the cost of their products. But customers see price as only one component of the cost they incur when dealing with their suppliers. Other supplier-driven costs range from ordering, scheduling delivery, and paying for the materials; to receiving, inspecting, handling, and storing the materials; to the scrapping, reworking, and obsolescence caused by the materials; and schedule disruptions (expediting and value of lost output) from incorrect deliveries. An excellent supplier may charge a higher unit price for products than other vendors but nonetheless be a lower cost supplier because it can deliver defect-free products in exactly the right quantities at exactly the right time directly to the production process and can minimize, through electronic data interchange, the administrative hassles of ordering, invoicing, and paying for materials.

Internal Business Perspective: What Must We Excel At?

Customer-based measures are important, but they must be translated into measures of what the company must do internally to meet its customers' expectations. After all, excellent customer performance derives from processes, decisions, and actions occurring throughout an organization. Managers need to focus on those critical internal operations that enable them to satisfy customer needs. The second part of the balanced scorecard gives managers that internal perspective.

The internal measures for the balanced scorecard should stem from the business processes that have the greatest impact on customer satisfaction – factors that affect cycle time, quality, employee skills, and productivity, for example. Companies should also attempt to identify and measure their company's core competencies, the critical technologies needed to ensure continued market leadership. Companies should decide what processes and competencies they must excel at and specify measures for each.

Managers at ECI determined that submicron technology capability was critical to its market position. They also decided that they had to focus on manufacturing excellence, design productivity, and new product introduction. The company developed operational measures for each of these four internal business goals.

To achieve goals on cycle time, quality, productivity, and cost, managers must devise measures that are influenced by employees' actions. Since much of the action takes place at the department and workstation levels, managers need to decompose overall cycle time, quality, product, and cost measures to local levels. That way, the measures link top management's judgment about key internal processes and competencies to the actions taken by individuals that affect overall corporate objectives. This linkage ensures that employees at lower levels in the organization have clear targets for actions, decisions, and improvement activities that will contribute to the company's overall mission.

Information systems play an invaluable role in helping managers disaggre-

Other Measures for the Customer's Perspective

> A computer manufacturer wanted to be the competitive leader in customer satisfaction, so it measured competitive rankings. The company got the rankings through an outside organization hired to talk directly with customers. The company also wanted to do a better job of solving customers' problems by creating more partnerships with other suppliers. It measured the percentage of revenue from third-party relationships.

> The customers of a producer of very expensive medical equipment demanded high reliability. The company developed two customer-based metrics for its operations: equipment up-time percentage and mean-time response to a service call.

> A semiconductor manufacturer asked each major customer to rank the company against comparable suppliers on efforts to improve quality, delivery time, and price performance. When the chip maker discovered it ranked in the middle, managers made improvements that moved the company to the top of customers' rankings.

Other Measures for the Internal Business Perspective

> One company recognized that the success of its total quality management (TQM) program depended on all its employees internalizing and acting on the program's messages. The company performed a monthly survey of 600 randomly selected employees to determine if they were aware of TQM, had changed their behavior because of it, believed the outcome was favorable, or had become missionaries to others.

> Hewlett-Packard uses breakeven time (BET) to measure the effectiveness of its product development cycle. BET measures the time required for all the accumulated expenses in the product and process development cycle (including equipment acquisition) to be recovered by the product's contribution margin (the selling price less manufacturing, delivery, and selling expenses).

> A major office products manufacturer, wanting to respond rapidly to changes in the marketplace, set out to reduce cycle time by 50%. Lower levels of the organization aimed to radically cut the times required to process customer orders, order and receive materials from suppliers, move materials and products between plants, make and assemble products, and deliver products to customers.

As companies have applied the balanced scorecard, we have begun to recognize that the scorecard represents a fundamental change in the underlying assumptions about performance measurement.

gate the summary measures. When an unexpected signal appears on the balanced scorecard, executives can query their information system to find the source of the trouble. If the aggregate measure for on-time delivery is poor, for example, executives with a good information system can quickly look behind the aggregate measure until they can identify late deliveries, day by day, by a particular plant to an individual customer.

If the information system is unresponsive, however, it can be the Achilles' heel of performance measurement. Managers at ECI are currently limited by the absence of such an operational information system. Their greatest concern is that the scorecard information is not timely; reports are generally a week behind the company's routine management meetings, and the measures have yet to be linked to measures for managers and employees at lower levels of the organization. The company is in the process of developing a more responsive information system to eliminate this constraint.

Innovation and Learning Perspective: Can We Continue to Improve and Create Value?

The customer-based and internal business process measures on the balanced scorecard identify the parameters that the company considers most important for competitive success. But the targets for success keep changing. Intense global competition requires that companies make continual improvements to their existing products and processes and have the ability to introduce entirely new products with expanded capabilities.

A company's ability to innovate, improve, and learn ties directly to the company's value. That is, only through the ability to launch new products, create more value for customers, and improve operating efficiencies continually can a company penetrate new markets and increase revenues and margins – in short, grow and thereby increase shareholder value.

ECI's innovation measures focus on the company's ability to develop and introduce standard products rapidly, products that the company expects will form the bulk of its future sales. Its manufacturing improvement measure focuses on new products; the goal is to achieve stability in the manufacturing of new products rather than to improve manufacturing of existing products. Like many other companies, ECI uses the percentage of sales from new products as one of its innovation and improvement measures. If sales from new products are trending downward, managers can explore whether problems have arisen in new product design or new product introduction.

In addition to measures on product and process innovation, some companies overlay specific improvement goals for their existing processes. For example, Analog Devices, a Massachusetts-based manufacturer of specialized semiconductors, expects managers to improve their customer and internal business process performance continuously. The company estimates specific rates of improvement for on-time delivery, cycle time, defect rate, and yield.

Other companies, like Milliken & Company, require that managers make improvements within a specific time period. Milliken did not want its "associates" (Milliken's word for employees) to rest on their laurels after winning the Baldrige Award. Chairman and CEO Roger Milliken asked each plant to implement a "ten four" improvement program: Measures of process defects, missed deliveries, and scrap were to be reduced by a factor of ten over the next four years. These targets emphasize the role for continuous improvement in customer satisfaction and internal business processes.

Financial Perspective: How Do We Look to Shareholders?

Financial performance measures indicate whether the company's strategy, implementation, and execution are contributing to bottom-line improvement. Typical financial goals have to do with profitability, growth, and shareholder value. ECI stated its financial goals simply: to survive, to succeed, and to prosper. Survival was measured by cash flow, success by quarterly sales growth and operating income by division, and prosperity by increased market share by segment and return on equity.

But given today's business environment, should senior managers even look at the business from a financial perspective? Should they pay attention to short-term financial measures like quarterly sales and operating income? Many have criticized financial measures because of their well-documented inadequacies, their backward-looking focus, and their inability to reflect contemporary value-creating actions. Shareholder value analysis (SVA), which forecasts future cash flows and discounts them back to a rough estimate of current value, is an attempt to make financial analysis more forward-looking. But SVA still is based on cash flow rather than on the activities and processes that drive cash flow.

Some critics go much further in their indictment of financial measures. They argue that the terms of competition have changed and that traditional financial measures do not improve customer satisfaction, quality, cycle time, and employee motivation. In their view, financial performance is the result of operational actions, and financial success should be the logical consequence of doing the fundamentals well. In other words, companies should stop navigating by financial measures. By making fundamental improvements in their operations, the financial numbers will take care of themselves, the argument goes.

Assertions that financial measures are unnecessary are incorrect for at least two reasons. A well-designed financial-control system can actually enhance rather than inhibit an organization's total quality management program. (See the sidebar "How One Company Used a Daily Financial Report to Improve Quality.") More important, however, the alleged linkage between improved operating performance and financial success is actually quite tenuous and uncertain. Let us demonstrate rather than argue this point.

During the three-year period between 1987 and 1990, a NYSE electronics company made an order-of-magnitude improvement in quality an on-time delivery performance. The outgoing defect rate dropped from 500 parts per million to 50, on-time delivery improved from 70% to 96%, and yield jumped from 26% to 51%. Did these breakthrough improvements in quality, productivity, and customer service provide substantial benefits to the company? Unfortunately not. During the same three-year period, the company's financial results showed little improve-

ECI's Balanced Business Scorecard

Financial Perspective

GOALS	MEASURES
Survive	Cash flow
Succeed	Quarterly sales growth and operating income by division
Prosper	Increased market share and ROE

Customer Perspective

GOALS	MEASURES
New products	Percentage of sales from new products
	Percentage of sales from proprietary products
Responsive supply	On-time delivery (defined by customer)
Preferred suppliers	Share of key accounts' purchases
	Ranking by key accounts
Customer partnerships	Number of cooperative engineering efforts

Internal Business Perspective

GOALS	MEASURES
Technology capability	Manufacturing geometry versus competition
Manufacturing excellence	Cycle time, unit cost, yield
Design productivity	Silicon efficiency, engineering efficiency
New product introduction	Actual introduction schedule versus plan

Innovation and Learning Perspective

GOALS	MEASURES
Technology leadership	Time to develop next generation
Manufacturing learning	Process time to maturity
Product focus	Percentage of products that equal 80% of sales
Time to market	New product introduction versus competition

ment, and its stock price plummeted to one-third of its July 1987 value. The considerable improvements in manufacturing capabilities had not been translated into increased profitability. Slow releases of new products and a failure to expand marketing to new and perhaps more demanding customers prevented the company from realizing the benefits of its manufacturing achievements. The operational achievements were real, but the company had failed to capitalize on them.

The disparity between improved operational performance and disappointing financial measures creates frustration for senior executives. This frustration is often vented at nameless Wall Street analysts who allegedly cannot see past quarterly blips in financial performance to the underlying long-term values these executives sincerely believe they are creating in their organizations. But the hard truth is that if improved performance fails to be reflected in the bottom line, executives should reexamine the basic assumptions of their strategy and mission. Not all long-term strategies are profitable strategies.

Measures of customer satisfaction, internal business performance, and innovation and improvement are derived from the company's particular view of the world and its perspective on key success factors. But that view is not necessarily correct. Even an excellent set of balanced scorecard measures does not guarantee a winning strategy. The balanced scorecard can only translate a company's strategy into specific measurable objectives. A failure to convert improved operational performance, as measured in the scorecard, into improved financial performance should send executives back to their drawing boards to rethink the company's strategy or its implementation plans.

As one example, disappointing financial measures sometimes occur because companies don't follow up their operational improvements with another round of actions. Quality and cycle-time improvements can create excess capacity. Managers should be

How One Company Used a Daily Financial Report to Improve Quality

In the 1980s, a chemicals company became committed to a total quality management program and began to make extensive measurements of employee participation, statistical process control, and key quality indicators. Using computerized control and remote data entry systems, the plant monitored more than 30,000 observations of its production processes every four hours. The department managers and operating personnel who now had access to massive amounts of real-time operational data found their monthly financial reports to be irrelevant.

But one enterprising department manager saw things differently. He created a daily income statement. Each day, he estimated the value of the output from the production process using market prices and subtracted the expenses of raw materials, energy, and capital consumed in the production process. To approximate the cost of producing out-of-conformance product, he cut the revenues from off-spec output by 50% to 100%.

The daily financial report gave operators powerful feedback and motivation and guided their quality and productivity efforts. The department head understood that it is not always possible to improve quality, reduce energy consumption, and increase throughput simultaneously; trade-offs are usually necessary. He wanted the daily financial statement to guide those trade-offs. The difference between the input consumed and the output produced indicated the success or failure of the employees' efforts on the previous day. The operators were empowered to make decisions that might improve quality, increase productivity, and reduce consumption of energy and materials.

That feedback and empowerment had visible results. When, for example, a hydrogen compressor failed, a supervisor on the midnight shift sent an emergency repair crew into action. Previously, such a failure of a noncritical component would have been reported in the shift log, where the department manager arriving for work the following morning would have to discover it. The midnight shift supervisor knew the cost of losing the hydrogen gas and made the decision that the cost of expediting the repairs would be repaid several times over by the output produced by having the compressor back on line before morning.

The department proceeded to set quality and output records. Over time, the department manager became concerned that employees would lose interest in continually improving operations. He tightened the parameters for in-spec production and reset the prices to reflect a 25% premium for output containing only negligible fractions of impurities. The operators continued to improve the production process.

The success of the daily financial report hinged on the manager's ability to establish a financial penalty for what had previously been an intangible variable: the quality of output. With this innovation, it was easy to see where process improvements and capital investments could generate the highest returns.

Source: "Texas Eastman Company," Robert S. Kaplan, Harvard Business School case number 9-190-039.

prepared to either put the excess capacity to work or else get rid of it. The excess capacity must be either used by boosting revenues or eliminated by reducing expenses if operational improvements are to be brought down to the bottom line.

As companies improve their quality and response time, they eliminate the need to build, inspect, and rework out-of-conformance products or to reschedule and expedite delayed orders. Eliminating these tasks means that some of the people who perform them are no longer needed. Companies are understandably reluctant to lay off employees, especially since the employees may have been the source of the ideas that produced the higher quality and reduced cycle time. Layoffs are a poor reward for past improvement and can damage the morale of remaining workers, curtailing further improvement. But companies will not realize all the financial benefits of their improvements until their employees and facilities are working to capacity – or the companies confront the pain of downsizing to eliminate the expenses of the newly created excess capacity.

If executives fully understood the consequences of their quality and cycle-time improvement programs, they might be more aggressive about using the newly created capacity. To capitalize on this self-created new capacity, however, companies must expand sales to existing customers, market existing products to entirely new customers (who are now accessible because of the improved quality and delivery performance), and increase the flow of new products to the market. These actions can generate added revenues with only modest increases in operating expenses. If marketing and sales and R&D do not generate the increased volume, the operating improvements will stand as excess capacity, redundancy, and untapped capabilities. Periodic financial statements remind executives that improved quality, response time, productivity, or new products benefit the company only when they are translated into improved sales and market share, reduced operating expenses, or higher asset turnover.

The balanced scorecard is well suited to the kind of organization many companies are trying to become. The scorecard puts strategy and vision, not control, at the center.

Ideally, companies should specify how improvements in quality, cycle time, quoted lead times, delivery, and new product introduction will lead to higher market share, operating margins, and asset turnover or to reduced operating expenses. The challenge is to learn how to make such explicit linkage between operations and finance. Exploring the complex dynamics will probably require simulation and cost modeling.

Measures That Move Companies Forward

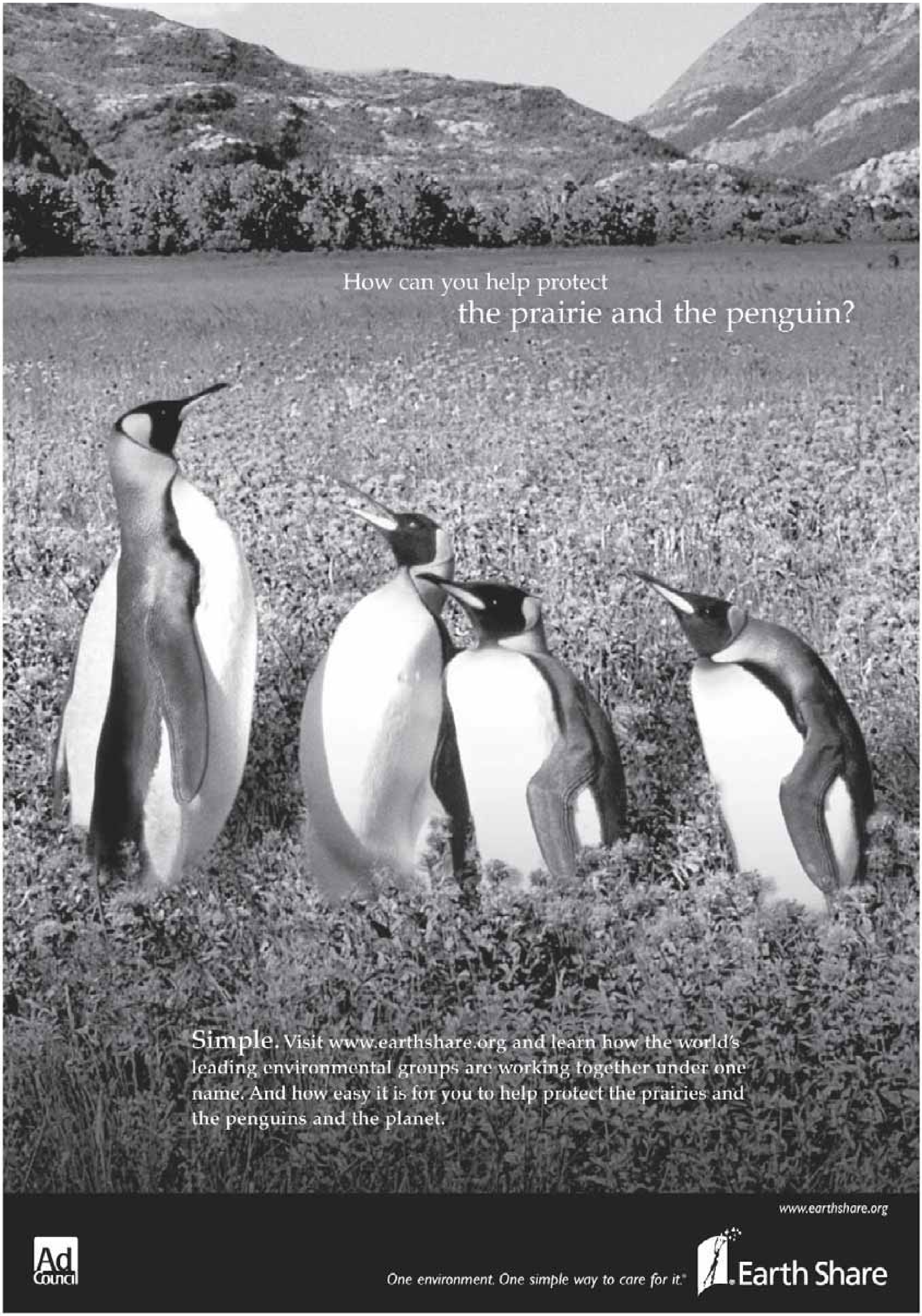
As companies have applied the balanced scorecard, we have begun to recognize that the scorecard represents a fundamental change in the underlying assumptions about performance measurement. As the controllers and finance vice presidents involved in the research project took the concept back to their organizations, the project participants found that they were not able to implement the balanced scorecard without the involvement of the senior managers who had the most complete picture of the company's vision and priorities. This was revealing, because most existing performance measurement systems have been designed and overseen by financial experts. Rarely do controllers need to have senior managers so heavily involved.

Probably because traditional measurement systems have sprung from the finance function, the systems have a control bias. That is, traditional performance measurement systems specify the particular actions they want employees to take and then measure to see whether the employees have in fact taken those actions. In that way, the systems try to control behavior. Such measurement systems fit with the engineering mentality of the industrial age.

The balanced scorecard, on the other hand, is well suited to the kind of organization many companies are trying to become. The scorecard puts strategy and vision, not control, at the center. It establishes goals but assumes that people will adopt whatever behaviors and take whatever actions are necessary to arrive at those goals. The measures are designed to pull people toward the overall vision. Senior managers may know what the end result should be, but they cannot tell employees exactly how to achieve that result, if only because the conditions in which employees operate are constantly changing.

This new approach to performance measurement is consistent with the initiatives under way in many companies: cross-functional integration, customer-supplier partnerships, global scale, continuous improvement, and team rather than individual accountability. By combining the financial, customer, internal process and innovation, and organizational learning perspectives, the balanced scorecard helps managers understand, at least implicitly, many interrelationships. This understanding can help managers transcend traditional notions about functional barriers and ultimately lead to improved decision making and problem solving. The balanced scorecard keeps companies looking – and moving – forward instead of backward.

Reprint R0507Q; HBR OnPoint 4096
To order, see page 195.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Off-Ramps and On-Ramps

Sylvia Ann Hewlett and Carolyn Buck Luce's article "Off-Ramps and On-Ramps: Keeping Talented Women on the Road to Success" (March 2005) overlooked some crucial points.

Unlike most successful men, most women don't have wives to support them. How many women have a husband prepared to iron their shirts, pick up their cleaning, manage the nanny, prepare the family dinners, and arrange social functions? The thought of trying to do all these tasks while filling a demanding corporate role can influence a woman's decision about whether to stay on the road to ever bigger promotions. I don't see much that an organization can do to alleviate this situation. The wide disparity in household responsibilities is just part of women being women and men being boys!

BIG PICTURE

Stepping off the career fast track is easy. What's hard is getting back on. Careers, companies, and economies suffer when highly skilled women cannot get back where they belong.

Off-Ramps and On-Ramps

Keeping Talented Women on the Road to Success

by Sylvia Ann Hewlett and Carolyn Buck Luce

THROUGHOUT THE PAST YEAR, a noisy debate has erupted in the media over the meaning of what Lisa Belkin of the *New York Times* has called the "opt-out revolution." Recent articles in the *Wall Street Journal*, the *New York Times*, *Time*, and *Fast Company* all point to a disturbing trend–large numbers of highly qualified women dropping out of mainstream careers. These articles also speculate on what might be behind this new brain drain. Are the complex demands of modern child rearing the nub of the problem? Or should one blame the trend on a failure of female ambition?

The facts and figures in these articles are eye-catching: a survey of the class of 1981 at Stanford University showing that 57% of women graduates leave the work force; a survey of three graduating classes at Harvard Business School demonstrating that only 38% of women graduates end up in full-time careers; and a broader-gauged study of MBAs showing that one in three white women holding an MBA is not working full-time, compared with one in 20 for men with the same degree.

The stories that enliven these articles are also powerful: Brenda Barnes, the former CEO of PepsiCo, who gave up her megawatt career to spend more time with her three children; Karen Hughes, who resigned from her enormously influential job in the Bush White House to go home to Texas to better look after a needy teenage son; and a raft of less prominent women who also said goodbye to their careers. Lisa Beattie Frelinghuysen, for example–featured in a recent *60 Minutes* segment – was building a very successful career as a lawyer. She'd been president of the law review at Stanford and went to work for a prestigious law firm. She quit after she had her first baby three years later.

MARIA RENDON

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Age is a significant factor, too. When women get older, they become less attractive to male potential employers. When a male recruiting manager must decide between a young graduate and someone who looks like his mother-in-law, there's little doubt which candidate he'll choose.

Unless this issue is seen from a woman's perspective, it won't be addressed effectively. Merely offering women reduced hours and the chance to work at home isn't enough.

Wendy Ward
Senior Business Development Manager
British Telecommunications
London

Why is it that no one ever asks the following question of women who have left the full-time corporate workforce: "At the time you decided to leave, did your spouse make more money (or at least have a higher earning potential) than you?"

My guess is that, in the vast majority of professional couples, the man is more highly compensated than the woman and that this basic economic fact plays a central role in determining who is going to stay home to take care of the baby or the sick relative. I would also posit that most women are younger than their spouses and so are not as far along their professional paths–that's another compelling economic reason why women's careers are sacrificed more often.

Until women and men are paid equally, I think we should all waste less

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time trying to figure out how to "help" women move on and off the corporate highway and spend more time selling men on the joy, wonder, and satisfying personal development that can come from raising children and doing a job well with one's own family.

All this from me, a highly educated, highly compensated woman who has been able to stay on the job because her wonderful, highly educated, highly compensated husband decided to take the off-ramp.

Anne Mathias
Senior Vice President and Director of Research
Stanford Washington Research Group
Washington, DC

Hewlett and Luce's insightful article addresses precisely the correct problem: the disparity between women's goals and companies' goals. To bridge the gap, we must first understand why it exists.

Most people believe the breach exists because corporations have adapted to men's needs. That misses the point. Men with children adapt to the corporation so that they can earn enough money to allow their offspring to have a better life than they've had. (Whether or not a man is married is an influential factor, but not determinative – the key is whether the man has an expectation of having children.) This is a powerful commitment to the family, but it's more indirect and obscure than women's. Thus, the assumption that women are more family focused is false. Each parent's contribution is just a different form of focus on the family – even a kind of nurturance.

In three years of research for my book *Why Men Earn More: The Startling Truth Behind the Pay Gap – and What Women Can Do About It,* I discovered ample evidence in support of this. For example, never-married men without children do not adapt as much to corporate needs as other men – their decisions are a lot more like women's. And never-married women without children make decisions a lot more like men. The result: The men earn less – never-married, childless men earn only 85% of their female counterparts' wages. (This figure controls for hours worked, education, and age.) To paraphrase a cliché, "It's the family, stupid!"

My research also uncovered 25 differences between men and women in terms of their responsibilities in the workplace. All 25 factors contribute to men (particularly men with children) earning more and to women, in general, leading lives that are better balanced between work and family.

There's a lot of good news in this. There are now some 80 fields in which women outearn men – female statisticians, for example, typically earn 35% more than their male counterparts – even though they spend fewer hours in the workplace and travel less for business. My research indicates that, overall, when men and women do precisely the same work, women now get paid as much, or more, than men. Yet this seems in conflict with another truth – that men still generally get paid more for the same job title. How can both be accurate?

The answer is that comparing men and women with the "same" title is comparing apples and oranges. Consider physicians, for example. Male doctors earn more than female doctors, but the man is more likely to be a surgeon, to have greater seniority, to be in private practice, and to work hours that are longer and less predictable. (When I taught at the school of medicine at the University of California in San Diego, my female students expressed a preference for medical fields with shorter, more predictable, and more flexible hours, even in their first year.)

In the corporate world, women who become executives are 15 times more likely than men to do so prior to the age of 40. Female executives, therefore, tend to have fewer years of experience. Male executives are more likely to work for larger firms, with more personnel and revenues, and to be responsible for bottom-line sales or marketing and finances. They are less likely than their female counterparts to work in the lower-paying departments of human resources or public relations. In the 1980s, studies that controlled for fewer than half of the 25 variables demonstrated that men and women received precisely the same level of compensation. If those studies were to be updated now, controlling for all 25 variables, we would probably discover that women earn more than men for the same work.

There is evidence that men and women in developed countries are no longer as far apart as they used to be in the ways they adapt to family needs. New national polls show that men in their twenties prefer to give up pay for family time. Many of the best and brightest of both sexes want more balanced lives. So we are entering a new era in which corporations will have to create more flexible situations to attract the top talent. And people who want a family life will have to accept less pay and refrain from claiming discrimination. Neither men nor women – nor even corporations, for that matter – should have to choose all or nothing.

Warren Farrell
Author
Carlsbad, California

Hewlett and Luce respond: At the heart of our article is the recommendation that corporations seeking to fully utilize female talent develop policies that support women's nonlinear careers, thereby creating an alternative to the male competitive model.

Such "pathways to power" would be enormously liberating to men as well as women. As Warren Farrell correctly notes, male career choices in the contemporary workplace are fiercely constrained by the pressure to earn – particularly with regard to the financial commitments of raising children. However, if employers were to improve the quality and quantity of on-ramps – thereby removing the risks and penalties attached to nonlinear careers – many more fathers would be able to share the burdens and rewards of child rearing. In the focus group research that accompanied our recent survey, we found that one-third of husbands were troubled by their wives' decisions to take off-ramps because they were left with 100% of the family load.

The letters to the editor point to the unequal nature of the domestic burden. In a survey we conducted at the Center for Work-Life Policy in 2002, we examined the domestic division of labor and discovered a "tilt" factor: Thirty-year-old professional men performed significantly more household chores than did 40-year-olds. This fact is directly linked to relative earning power. By age 40, many wives have experienced an off-ramp and taken a financial hit, and the widening earnings disparity between husbands and wives shifts the domestic division of labor in the wrong direction. Thus, if we want to do something about the unequal burden, we need to create new options on the work front as well as new collaborations on the home front.

Wendy Ward is right on the money when she emphasizes the way in which ageism exacerbates sexism. Indeed, we find this issue so compelling that we are designing a research project to explore how to help women ages 45 to 65 make the most of the "prime" of their lives.

The Beauty of an Open Calendar

I must say, I was more than a bit taken aback by James Goodnight's comments regarding what he considers to be unnecessary meetings ("The Beauty of an Open Calendar," Forethought, April 2005). As vice president of product development for a software development company, I am constantly fighting the "not another meeting!" attitude. In my experience, as painful as some consider these meetings to be, they are essential.

When my company stopped holding weekly project meetings in an attempt to manage by walking around – what Goodnight describes as "popping into one another's offices" – the result was chaos. My highly task-oriented and self-motivated team leaders focused on their workloads and lost sight of the big picture and the project's direction. Tunnel vision ensued and work took off on tangents as people focused on their specific problems, failing to properly consider overall project requirements and deadlines. Most important, dependencies started to fall apart. The resource teams stopped feeding each other as they focused more and more on their own needs and moved further and further away from the big picture.

It seems to me that the issue isn't weekly meetings but attitudes – what Goodnight describes as a desire to "cover yourself." If a key manager spends time worrying what others think about his position in the company, then there is a deeper problem that centers on the organization's culture and the degree of honest one-on-one communication that is encouraged.

I have a group of self-motivated leaders whose enthusiasm I actually must work to contain. I *know* they are engaged, in the loop, important, and that they care. And they know the same of me because they see it every time I haul them into a meeting. The regularly scheduled meeting isn't about filling calendars; it's about fulfilling expectations and providing clear direction. In my experience, people will complain about most anything, even things that are good for them–like regularly scheduled team meetings.

John W. Jarrett
Vice President, Product Development
Visual Purple
Avila Beach, California

No More Metaphors

I enjoyed reading Leigh Buchanan's article "No More Metaphors" (Forethought, March 2005). I do not believe that the field of business management is conceptually infertile, only that it is lacking in coolness. The goal is to squeeze money out of every seam and, in some cases, make it magically appear out of nowhere (and disappear again into executive pockets) – not something that necessarily captures the imagination. Hence the use of metaphors to compare it to something that does. So, we are like the adventurous explorers who wander into the frozen wastelands and the perky fishmongers who toss fish to entertain yogurt-eating yuppies. A cross that needs to be borne by those who practice and mostly enjoy this profession.

Amit A. Tamhane
Wichita, Kansas

While Leigh Buchanan may have metaphor fatigue when it comes to books on management, it is very difficult to sell books, or anything else in our information-saturated society, without metaphors.

Figurative language is a key tool of impact and persuasion; the best business communicators use it all the time. Think Steve Jobs, Jack Welch, Meg Whitman. At a critical moment in the lead-up to its IPO, Google used figurative language to great effect when it announced, to Wall Street's chagrin, that it would not report short-term earnings: "A management team distracted by a series of short-term targets is as pointless as a dieter stepping on a scale every half hour." Indeed, one reason President Bush is having trouble selling his Social Security program is that he has not come up with a descriptive metaphor that grabs the imagination of United States citizens the way "axis of evil" did.

Selling anything today–ideas, services, products, or books–without metaphors is like driving a Ferrari without gas: You won't get very far.

Anne Miller
Author
New York

Class–or Mass?

The case study "Class–or Mass?" by Idalene F. Kesner and Rockney Walters (April 2005) provides an excellent example of the perils of steering a company toward a scale-economy culture.

Neptune Gourmet Seafood, the upmarket company that is the subject of the fictional case, created false efficiencies when it harvested more seafood than its customers wanted. The core problem is simply overproduction, which led to excess inventory. Neptune is using its new technology to push supply, when the objective of the lean enterprise is to enable demand to pull product to market.

Neptune is at a critical juncture. Its premium market position is extremely valuable but very fragile. If the company discounts excess inventory, its upscale product becomes just another commodity. If Neptune creates a midmarket brand, it will dilute the firm's brand equity, and competitors that are focused on that market will ultimately hand the company its head. Capturing mass-market share would require a strategy for selling through big-box retailers – all masters at creating competitive tension and driving aggregate prices down. Neptune should avoid this channel at all costs; many companies in the Wal-Mart and Sam's Club trap regret having chased that volume.

Alternatively, Neptune should harvest to demand. Casting the net fewer times will get the boat in port sooner, which will decrease the cycle time, which will reduce lead time, which will shrink inventory. Shorter lead time will also result in fresher seafood with a longer shelf life. Neptune should focus on growing the market for upscale seafood, fine-tuning its packaging and promotions, and jealously protecting its brand equity. Companies should bleed down excess inventories by curtailing production temporarily–never by discounting or dumping.

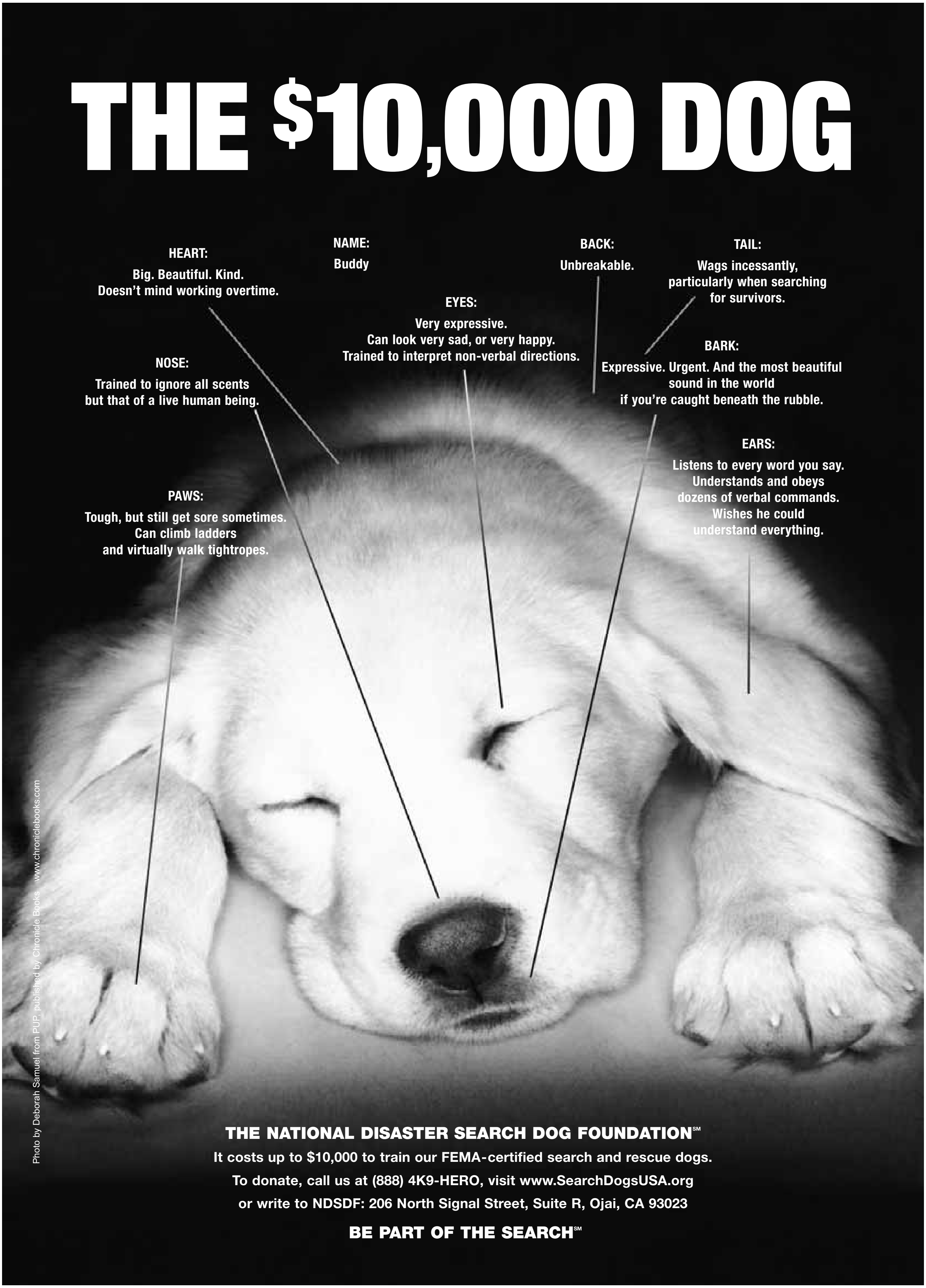
Finally, Neptune should support its trade association and help to discourage overproduction by its members. The association's objectives are to prevent market prices from sliding and to uphold the highest standards for quality, both of which are in Neptune's best interests.

Ken Rohleder
President
Rohleder Group
Louisville, Kentucky

Sorting Data to Suit Yourself

It seems ironic that David Weinberger considers hierarchical tree structures unsuitable for organizing digital information ("Sorting Data to Suit Yourself," Forethought, March 2005). Hypertext, invented by Theodore Nelson in the 1960s and implemented on the Web via the hypertext transfer protocol (the "http" of Internet addresses), was originally meant to free us from the tyranny of hierarchical organization and encourage people to link documents together in multifarious ways. It was only in 1993, when business gained access to the Internet, that tree-structured data organization started to become the norm on the Web. (Indeed, Nelson repudiates what his brainchild has become, saying that "the Web isn't hypertext, it's decorated directories!") Will business now bring Internet structure full circle to its academic roots?

Geoffrey Sampson
Professor, Department of Informatics
University of Sussex
Brighton, England


THE $10,000 DOG
HEART:
Big. Beautiful. Kind.
Doesn't mind working overtime.
NAME:
Buddy
BACK:
Unbreakable.
TAIL:
Wags incessantly,
particularly when searching
for survivors.
EYES:
Very expressive.
Can look very sad, or very happy.
Trained to interpret non-verbal directions.
NOSE:
Trained to ignore all scents
but that of a live human being.
BARK:
Expressive. Urgent. And the most beautiful
sound in the world
if you're caught beneath the rubble.
EARS:
Listens to every word you say.
Understands and obeys
dozens of verbal commands.
Wishes he could
understand everything.
PAWS:
Tough, but still get sore sometimes.
Can climb ladders
and virtually walk tightropes.
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HBR CASE STUDY

Feed R&D – or Farm It Out?

Nitin Nohria

From a converted muffler-repair shop, Ray Kelner launched RLK Media in 1985, selling its radical audio speakers to affluent connoisseurs for $20,000 a pop. By the 1990s, RLK had grown into a billion-dollar business through its single-minded focus on pricey, highly branded, handcrafted consumer electronics.

But things are no longer going so well, and chairman Keith Harrington lays it all at the feet of CEO Lars Inman. "Your margins have evaporated," he barks. "You're missing your numbers. The problem is not that you guys aren't working – the whole damn place is like a bunch of college kids pulling all-nighters. The problem is, people aren't buying the old product – no matter how good it is – and you don't have anything new."

But RLK might just have something new. Ray and his team have done it again – their astonishing iVid headset prototype is light-years ahead of the competition. All Ray needs is another 18 months (or so) and $6 million to hire ten elite software developers, and he could put RLK back on the map.

Lars considers hedging his bets by outsourcing software development to Inova Laboratories, an impressively tight-run contract company in Gurgaon, India, that promises to move RLK from prototype to volume manufacturing in 12 months – at a fifth the cost. But Ray is adamant. His group is just too tightly knit. "Outsource this, and you can kiss the iVid goodbye," he insists.

Should Lars outsource R&D nevertheless?

Commenting on this fictional case study are Larry Huston, vice president for innovation and knowledge at Procter & Gamble; former Xerox chief scientist John Seely Brown and consultant John Hagel III; Claremont Graduate University professor Jean Lipman-Blumen; and Azim Premji, chairman of IT services company Wipro, based in Bangalore, India.

Reprint R0507A

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HBR AT LARGE

Toward a Theory of High Performance

Julia Kirby

What does it mean to be a high-performance company? The process of measuring relative performance across industries and eras, declaring top performers, and finding the common drivers of their success is such a difficult one that it might seem a fool's errand to attempt. In fact, no one did for the first thousand or so years of business history. The question didn't even occur to many scholars until Tom Peters and Bob Waterman released *In Search of Excellence* in 1982. Twenty-three years later, we've witnessed several more attempts – and, just maybe, we're getting closer to answers.

In this reported piece, HBR senior editor Julia Kirby explores why it's so difficult to study high performance and how various research efforts – including those from John Kotter and Jim Heskett; Jim Collins and Jerry Porras; Bill Joyce, Nitin Nohria, and Bruce Roberson; and several others outlined in a summary chart – have attacked the problem.

The challenge starts with deciding which companies to study closely. Are the stars the ones with the highest market caps, the ones with the greatest sales growth, or simply the ones that remain standing at the end of the game? (And when's the end of the game?) Each major study differs in how it defines success, which companies it therefore declares to be worthy of emulation, and the patterns of activity and attitude it finds in common among them. Yet, Kirby concludes, as each study's method incrementally solves problems others have faced, we are progressing toward a consensus theory of high performance.

Reprint R0507B

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PERSPECTIVES

When Failure Isn't an Option

Michael R. Hillmann, Philippe Dongier, Robert P. Murgallis, Mary Khosh, Elizabeth K. Allen, and Ray Evernham

Some teams, by the very nature of their work, must consistently perform at the highest levels. How do you – as a team leader, a supervisor, a trainer, or an outside coach – ensure that this happens?

To answer this question, *Harvard Business Review* asked six people who work with high-performance teams to comment on developing and managing these teams. The result is a collection of commentaries from Michael Hillmann, deputy chief of the Los Angeles Police Department and commander of its Special Operations Bureau, which includes the SWAT team; Philippe Dongier, who headed up a joint United Nations/World Bank/Asian Development Bank reconstruction team in Afghanistan after the fall of the Taliban; the National Fire Academy's Robert Murgallis, who trains firefighting teams; Mary Khosh, former career coach for players with the Cleveland Browns; Elizabeth Allen, a planner of society weddings, charity galas, and corporate events; and Ray Evernham, who, as a stock-car-racing crew chief, helped driver Jeff Gordon win three NASCAR championships.

The types of teams represented in these commentaries are very different. Some are ad hoc, formed for a specific task, while others are ongoing, typically improving their performance with each task they undertake. For all of them, the stakes are high.

Despite their differences, some similarities emerge in the ways they achieve top performance. For example, selection of team members is crucial – as is a willingness to get rid of members who don't consistently deliver. A leader who supports and builds confidence in members is also key, and high-performance teams without such a leader will often informally create one. Finally, the stress that defines the work of these teams helps generate peak short-term performance – and poses the constant risk of members burning out.

Reprint R0507C

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Designing High-Performance Jobs

Robert Simons

Tales of great strategies derailed by poor execution are all too common. That's because some organizations are designed to fail.

For a company to achieve its potential, each employee's supply of organizational resources should equal the demand, and the same balance must apply to every business unit and to the company as a whole. To carry out his or her job, each employee has to know the answers to four basic questions: What resources do I control to accomplish my tasks? What measures will be used to evaluate my performance? Who do I need to interact with and influence to achieve my goals? And how much support can I expect when I reach out to others for help?

The questions correspond to what the author calls the four basic *spans* of a job – control, accountability, influence, and support. Each span can be adjusted so that it is narrow or wide or somewhere in between. If you get the settings right, you can design a job in which a talented individual can successfully execute on your company's strategy. If you get the settings wrong, it will be difficult for an employee to be effective.

The first step is to set the span of control to reflect the resources allocated to each position and unit that plays an important role in delivering customer value. This setting, like the others, is determined by how the business creates value for customers and differentiates its products and services. Next, you can dial in different levels of entrepreneurial behavior and creative tension by widening or narrowing spans of accountability and influence. Finally, you must adjust the span of support to ensure that the job or unit will get the informal help it needs.

Reprint R0507D; HBR OnPoint 1517

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Turning Great Strategy into Great Performance

Michael C. Mankins and Richard Steele

Despite the enormous time and energy that goes into strategy development, many companies have little to show for their efforts. Indeed, research by the consultancy Marakon Associates suggests that companies on average deliver only 63% of the financial performance their strategies promise.

In this article, Michael Mankins and Richard Steele of Marakon present the findings of this research. They draw on their experience with high-performing companies like Barclays, Cisco, Dow Chemical, 3M, and Roche to establish some basic rules for setting and delivering strategy:

Keep it simple, make it concrete. Avoid long, drawn-out descriptions of lofty goals and instead stick to clear language describing what your company will and won't do.

Debate assumptions, not forecasts. Create cross-functional teams drawn from strategy, marketing, and finance to ensure the assumptions underlying your long-term plans reflect both the real economics of your company's markets and its actual performance relative to competitors.

Use a rigorous analytic framework. Ensure that the dialogue between the corporate center and the business units about market trends and assumptions is conducted within a rigorous framework, such as that of "profit pools."

Discuss resource deployments early. Create more realistic forecasts and more executable plans by discussing up front the level and timing of critical deployments.

Clearly identify priorities. Prioritize tactics so that employees have a clear sense of where to direct their efforts.

Continuously monitor performance. Track resource deployment and results against plan, using continuous feedback to reset assumptions and reallocate resources.

Reward and develop execution capabilities. Motivate and develop staff.

Following these rules strictly can help narrow the strategy-to-performance gap.

Reprint R0507E; HBR OnPoint 1509; OnPoint collection "Great Strategy *and* Great Results" 1495

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Moments of Greatness: Entering the Fundamental State of Leadership

Robert E. Quinn

When we do our best work as leaders, we don't imitate others. Rather, we draw on our own values and capabilities. We enter what author Robert Quinn calls the *fundamental state of leadership.* This is a frame of mind we tend to adopt when facing a significant challenge: a promotion opportunity, the risk of professional failure, a serious illness, a divorce, the death of a loved one, or any other major life jolt. Crisis calls, and we rise to the occasion.

But we don't need to spend time in the dark night of the soul to reach this fundamental state. We can make the shift at any time by asking ourselves – and honestly answering – four transformative questions:

Am I results centered? (Am I willing to leave my comfort zone to make things happen?)

Am I internally directed? (Am I behaving according to my values rather than bending to social or political pressures?)

Am I other focused? (Am I putting the collective good above my own needs?)

Am I externally open? (Am I receptive to outside stimuli that may signal the need for change?)

When we can answer these questions in the affirmative, we're prepared to lead in the truest sense.

Of course, we can't sustain the fundamental state of leadership indefinitely. Fatigue and external resistance pull us out of it. But each time we reach it, we then return to our everyday selves a bit more capable, and we usually boost the performance of the people around us. Over time, we create a high-performance culture – and that *can* be sustained.

Reprint R0507F; HBR OnPoint 1460; OnPoint collection "What Great Leaders Do" 1479

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Learning in the Thick of It

Marilyn Darling, Charles Parry, and Joseph Moore

The U.S. Army's Opposing Force (OPFOR) is a 2,500-member brigade whose job is to help prepare soldiers for combat. Created to be the meanest, toughest foe that soldiers will ever face, OPFOR engages units-in-training in a variety of mock campaigns under a wide range of conditions. Every month, a fresh brigade of more than 4,000 soldiers takes on this standing enemy.

OPFOR, which is stationed in the California desert, always has the home-court advantage. But the force being trained – called BLUFOR – is numerically and technologically superior. It possesses more resources and better, more available data. It is made up of experienced soldiers. And it knows just what to expect, because OPFOR shares its methods from previous campaigns with BLUFOR's commanders. In short, each BLUFOR brigade is given practically every edge. Yet OPFOR almost always wins.

Underlying OPFOR's consistent success is the way it uses the after-action review (AAR), a method for extracting lessons from one event or project and applying them to others. AAR meetings became a popular business tool after Shell Oil began experimenting with them in 1998. Most corporate AARs, however, are faint echoes of the rigorous reviews performed by OPFOR. Companies tend to treat the process as a pro-forma wrap-up, drawing lessons from an action but rarely learning them. OPFOR's AARs, by contrast, generate raw material that is fed back into the execution cycle. And while OPFOR's reviews extract numerous lessons, the brigade does not consider a lesson to be learned until it is successfully applied and validated.

It might not make sense for companies to adopt OPFOR's AAR processes in their entirety, but four fundamentals are mandatory: Lessons must benefit the team that extracts them. The AAR process must start at the beginning of the activity. Lessons must link explicitly to future actions. And leaders must hold everyone, especially themselves, accountable for learning.

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Collaboration Rules

Philip Evans and Bob Wolf

Corporate leaders seeking to boost growth, learning, and innovation may find the answer in a surprising place: the Linux open-source software community. Linux is developed by an essentially volunteer, self-organizing community of thousands of programmers. Most leaders would sell their grandmothers for workforces that collaborate as efficiently, frictionlessly, and creatively as the self-styled Linux hackers.

But Linux is software, and software is hardly a model for mainstream business. The authors have, nonetheless, found surprising parallels between the anarchistic, caffeinated, hirsute world of Linux hackers and the disciplined, tea-sipping, clean-cut world of Toyota engineering.

Specifically, Toyota and Linux operate by rules that blend the self-organizing advantages of markets with the low transaction costs of hierarchies. In place of markets' cash and contracts and hierarchies' authority are rules about how individuals and groups work together (with rigorous discipline); how they communicate (widely and with granularity); and how leaders guide them toward a common goal (through example).

Those rules, augmented by simple communication technologies and a lack of legal barriers to sharing information, create rich common knowledge, the ability to organize teams modularly, extraordinary motivation, and high levels of trust, which radically lowers transaction costs. Low transaction costs, in turn, make it profitable for organizations to perform more and smaller transactions – and so increase the pace and flexibility typical of high-performance organizations.

Once the system achieves critical mass, it feeds on itself. The larger the system, the more broadly shared the knowledge, language, and work style. The greater individuals' reputational capital, the louder the applause and the stronger the motivation. The success of Linux is evidence of the power of that virtuous circle. Toyota's success is evidence that it is also powerful in conventional companies.

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Manage Your Human Sigma

John H. Fleming, Curt Coffman, and James K. Harter

If sales and service organizations are to improve, they must learn to measure and manage the quality of the employee-customer encounter. Quality improvement methodologies such as Six Sigma are extremely useful in manufacturing contexts, but they're less useful when it comes to human interactions. To address this problem, the authors have developed a quality improvement approach they refer to as Human Sigma. It weaves together a consistent method for assessing the employee-customer encounter and a disciplined process for managing and improving it.

There are several core principles for measuring and managing the employee-customer encounter: It's important not to think like an economist or an engineer when assessing interactions because emotions inform both sides' judgments and behavior. The employee-customer encounter must be measured and managed locally, because there are enormous variations in quality at the work-group and individual levels. And to improve the quality of the employee-customer interaction, organizations must conduct both short-term, transactional interventions and long-term, transformational ones.

Employee engagement and customer engagement are intimately connected – and, taken together, they have an outsized effect on financial performance. They therefore need to be managed holistically. That is, the responsibility for measuring and monitoring the health of employee-customer relationships must reside within a single organizational structure, with an executive champion who has the authority to initiate and manage change. Nevertheless, the local manager remains the single most important factor in local group performance. A local manager whose work group shows suboptimal performance should be encouraged to conduct interventions, such as targeted training, performance reviews, action learning, and individual coaching.

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Virtuoso Teams

Bill Fischer and Andy Boynton

Managing a traditional team seems pretty straightforward: Gather up whoever's available, give them time and space to do their jobs, and make sure they all play nicely together. But these teams produce results that are often as unremarkable as the teams themselves. When big change and high performance are required, a virtuoso team is far more likely to deliver outstanding and innovative results.

Virtuoso teams are fundamentally different from the garden-variety work groups that most organizations form to pursue more modest goals. They comprise the top experts in their particular fields, are specially convened for ambitious projects, work with frenetic rhythm, and emanate a discernible energy. Not surprisingly, however, the superstars who make up these teams are renowned for being elitist, temperamental, egocentric, and difficult to work with. As a result, many managers fear that if they force such people to interact on a high-stakes project, the group just might implode.

In this article, Bill Fischer and Andy Boynton put the inner workings of highly successful virtuoso teams on full display through three examples: the creative group behind *West Side Story,* the team of writers for Sid Caesar's 1950s-era television hit *Your Show of Shows,* and the high-powered technologists who averted an investor-relations crisis for Norsk Hydro, the Norwegian energy giant. Each of these teams accomplished enormous goals and changed their businesses, their customers, even their industries. And they did so by breaking all the conventional rules of collaboration – from the way they recruited the best members to the way they enforced their unusual processes, and from the high expectations they held to the exceptional results they produced.

Reprint R0507K

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Managing for Creativity

Richard Florida and Jim Goodnight

A company's most important asset isn't raw materials, transportation systems, or political influence. It's *creative capital* – simply put, an arsenal of creative thinkers whose ideas can be turned into valuable products and services. Creative employees pioneer new technologies, birth new industries, and power economic growth. If you want your company to succeed, these are the people you entrust it to.

But how do you accommodate the complex and chaotic nature of the creative process while increasing efficiency, improving quality, and raising productivity? Most businesses haven't figured this out. A notable exception is SAS Institute, the world's largest privately held software company.

SAS makes *Fortune*'s 100 Best Companies to Work For list every year. The company has enjoyed low employee turnover, high customer satisfaction, and 28 straight years of revenue growth. What's the secret to all this success? The authors, an academic and a CEO, approach this question differently, but they've come to the same conclusion: SAS has learned how to harness the creative energies of *all* its stakeholders, including its customers, software developers, managers, and support staff. Its framework for managing creativity rests on three guiding principles. First, help employees do their best work by keeping them intellectually engaged and by removing distractions. Second, make managers responsible for sparking creativity and eliminate arbitrary distinctions between "suits" and "creatives." And third, engage customers as creative partners so you can deliver superior products. Underlying all three principles is a mandate to foster interaction – not just to collect individuals' ideas. By nurturing relationships among developers, salespeople, and customers, SAS is investing in its future creative capital.

Within a management framework like SAS's, creativity and productivity flourish, flexibility and profitability go hand in hand, and work/life balance and hard work aren't mutually exclusive.

Reprint R0507L

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Level 5 Leadership: The Triumph of Humility and Fierce Resolve

Jim Collins

Boards of directors typically believe that transforming a company from good to great requires an extreme personality, an egocentric chief to lead the corporate charge. Think "Chainsaw" Al Dunlap or Lee Iacocca.

But that's not the case, says author and leadership expert Jim Collins. The essential ingredient for taking a company to greatness is having a "Level 5" leader, an executive in whom extreme personal humility blends paradoxically with intense professional will.

In this 2001 article, Collins paints a compelling and counterintuitive portrait of the skills and personality traits necessary for effective leadership. He identifies the characteristics common to Level 5 leaders: humility, will, ferocious resolve, and the tendency to give credit to others while assigning blame to themselves. Collins fleshes out his Level 5 theory by telling colorful tales about 11 such leaders from recent business history. He contrasts the turnaround successes of outwardly humble, even shy, executives like Gillette's Colman M. Mockler and Kimberly-Clark's Darwin E. Smith with those of larger-than-life business leaders like Dunlap and Iacocca, who courted personal celebrity.

Some leaders have the Level 5 seed within; some don't. But Collins suggests using the findings from his research to strive for Level 5 – for instance, by getting the right people on board and creating a culture of discipline. "Our own lives and all that we touch will be the better for making the effort," he concludes.

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Strategic Intent

Gary Hamel and C.K. Prahalad

In the early 1970s, when Canon took its first halting steps in reprographics, the idea of a fledgling Japanese company challenging Xerox seemed impossible. Fifteen years later, it matched the U.S. giant in global unit market share. The basis for Canon's success? A different approach to strategy, one that emphasized an organization's resourcefulness above the resources it controlled.

In this McKinsey Award–winning article, first published in 1989, Gary Hamel and C.K. Prahalad explain that Western companies have wasted too much time and energy replicating the cost and quality advantages their global competitors already experience. Familiar concepts like strategic fit and competitive advantage can foster a static approach to competition, while familiar techniques like portfolio planning and competitor analysis lead to strategies that rivals can easily decode. The sum total is a pathology of surrender that leads many managers to abandon businesses instead of building them.

Canon and other world-class competitors have taken a different approach to strategy: one of strategic intent. They begin with a goal that exceeds the company's present grasp and existing resources: "Beat Xerox"; "encircle Caterpillar." Then they rally the organization to close the gap by setting challenges that focus employees' efforts in the near to medium term: "Build a personal copier to sell for $1,000"; "cut product development time by 75%." Year after year, they emphasize competitive innovation – building a portfolio of competitive advantages; searching markets for "loose bricks" that rivals have left underdefended; changing the terms of competitive engagement to avoid playing by the leader's rules. The result is a global leadership position and an approach to competition that has reduced larger, stronger Western rivals to playing an endless game of catch-up.

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The Discipline of Teams

Jon R. Katzenbach and Douglas K. Smith

Groups don't become teams just because that is what someone calls them. Nor do teamwork values alone ensure team performance. So what is a team? How can managers know when the team option makes sense, and what can they do to ensure team success? In this groundbreaking 1993 article, authors Jon Katzenbach and Douglas Smith answer these questions and outline the discipline that defines a real team.

The essence of a team is shared commitment. Without it, groups perform as individuals; with it, they become a powerful unit of collective performance. The best teams invest a tremendous amount of time shaping a purpose that they can own. They also translate their purpose into specific performance goals. And members of successful teams pitch in and become accountable with and to their teammates.

The fundamental distinction between teams and other forms of working groups turns on performance. A working group relies on the individual contributions of its members for collective performance. But a team strives for something greater than its members could achieve individually: An effective team is always worth more than the sum of its parts.

The authors identify three kinds of teams: those that recommend things – task forces or project groups; those that make or do things – manufacturing, operations, or marketing groups; and those that run things – groups that oversee some significant functional activity. For managers, the key is knowing where in the organization these teams should be encouraged. Managers who can foster team development in the right place at the right time prime their organizations for top performance.

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The Balanced Scorecard: Measures That Drive Performance

Robert S. Kaplan and David P. Norton

Executives know that a company's measurement systems strongly affect employee behaviors. But the traditional financial performance measures that worked for the industrial era are out of sync with the skills organizations are trying to master. Frustrated by these inadequacies, some managers have abandoned financial measures like return on equity and earnings per share. "Make operational improvements, and the numbers will follow," the argument goes. But managers want a balanced presentation of measures that will allow them to view the company from several perspectives at once.

In this classic article from 1992, authors Robert Kaplan and David Norton propose an innovative solution. During a yearlong research project with 12 companies at the leading edge of performance management, the authors developed a "balanced scorecard," a new performance measurement system that gives top managers a fast but comprehensive view of their business. The balanced scorecard includes financial measures that tell the results of actions already taken. And it complements those financial measures with three sets of operational measures related to customer satisfaction, internal processes, and the organization's ability to learn and improve – the activities that drive future financial performance.

The balanced scorecard helps managers look at their businesses from four essential perspectives and answer some important questions. First, How do customers see us? Second, What must we excel at? Third, Can we continue to improve and create value? And fourth, How do we appear to shareholders? By looking at all of these parameters, managers can determine whether improvements in one area have come at the expense of another. Armed with that knowledge, the authors say, executives can glean a complete picture of where the company stands – and where it's headed.

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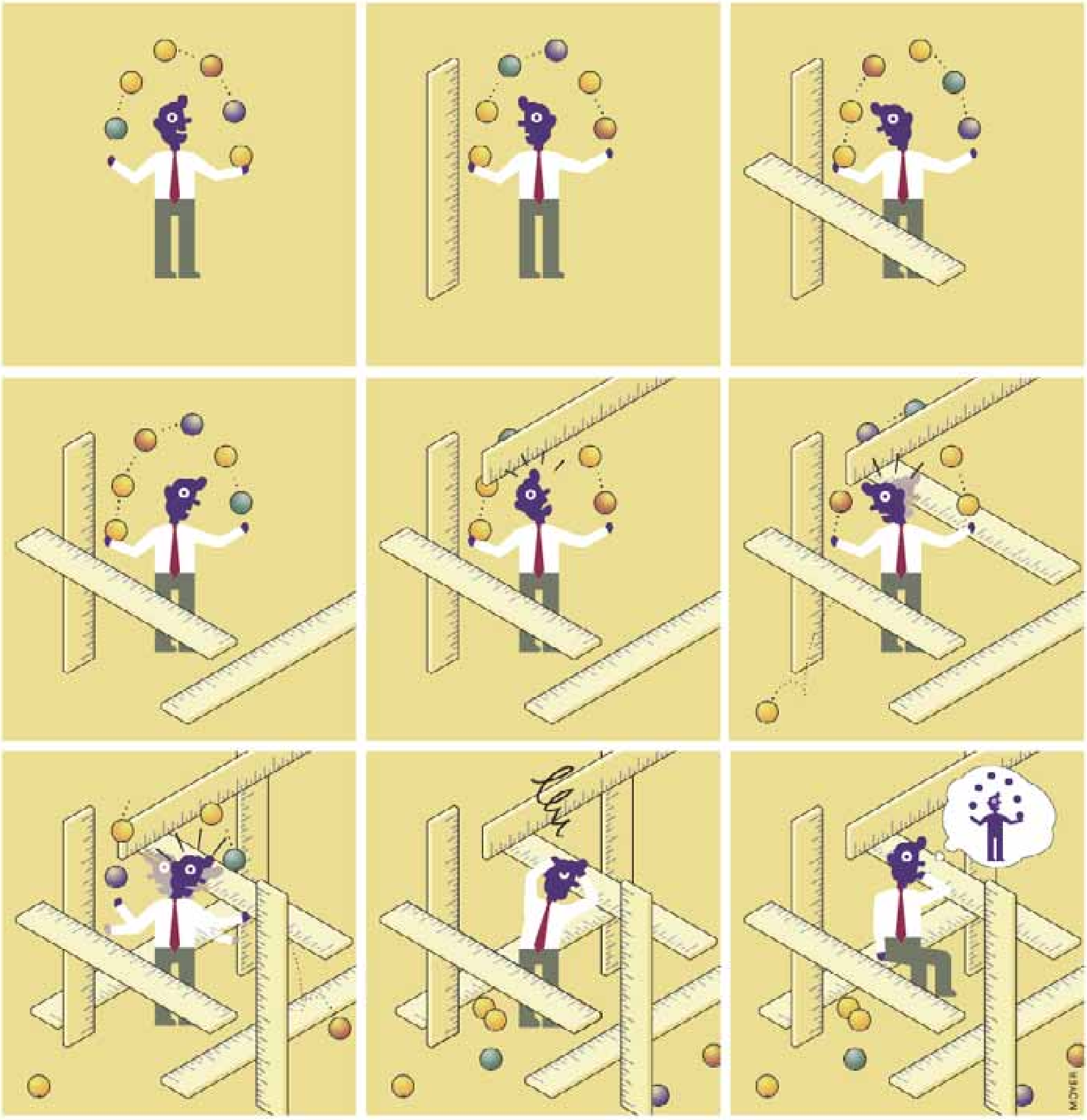
by Don Moyer



Counter Proposal

Performance is largely a numbers game. High-performing companies need to know "how much" so they can improve profits, "how fast" so they can work more productively, and "how satisfied" so they can spread even greater delight. Metrics help such companies execute, with the precision and quantifiable results that execution implies.

Numbers don't lie, but they can distract. Businesses often "include far too many measures and never identify the critical few," warn Balanced Scorecard creators Robert Kaplan and David Norton in *The Strategy-Focused Organization.* Those who excel at tracking hay may forget to look for needles, which makes it tough to set priorities.

The maxim "Know thyself" is sound advice for man and management. High performers constantly refresh their self-knowledge by observing both their inner stats and the outside world, where rapid change can render once key metrics meaningless. They also ask questions that numbers cannot answer. "How much?" and "How fast?" are important, but so are "Why?" and "What else?"

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