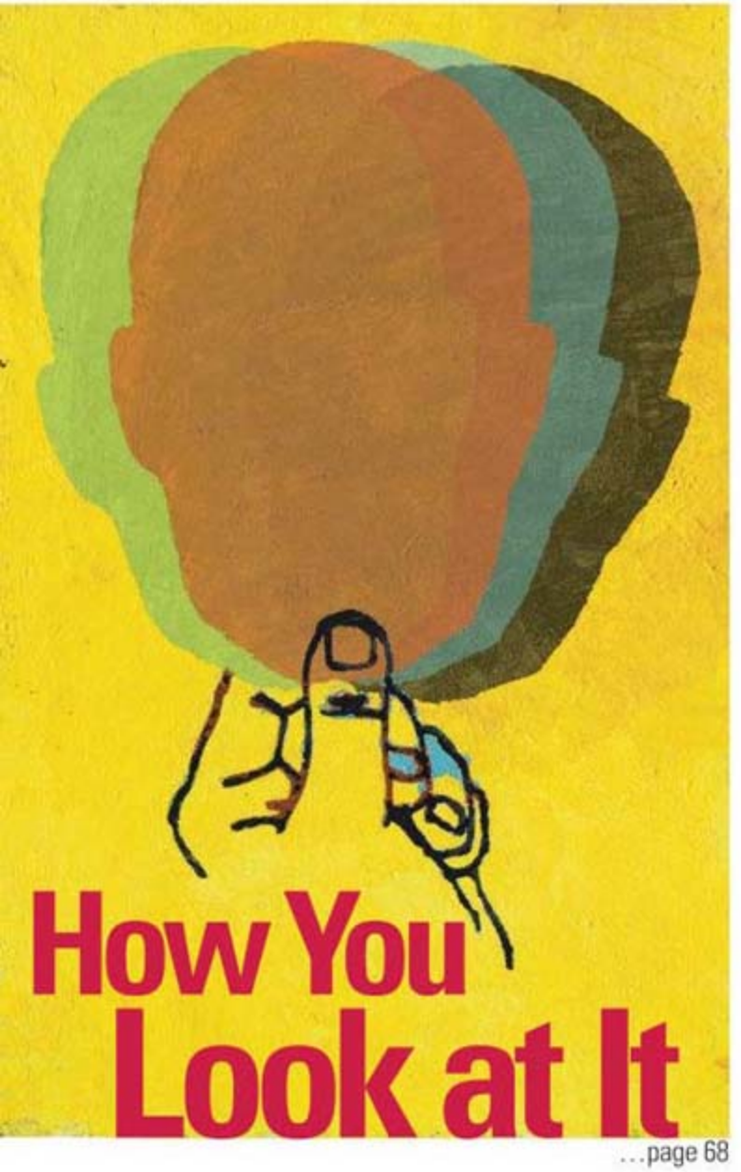
HEALTHY...page 53 WEALTHY...page 78 AND WISE...page 100

Harvard Business Review

www.hbr.org November 2007



...page 68

68 A Leader's Framework for Decision Making
David J. Snowden and Mary E. Boone

78 If Private Equity Sized Up Your Business
Robert C. Pozen

90 Solve the Succession Crisis by Growing Inside-Outside Leaders
Joseph L. Bower

100 Eight Ways to Build Collaborative Teams
Lynda Gratton and Tamara J. Erickson

110 Mapping Your Competitive Position
Richard A. D'Aveni

24 FORETHOUGHT

39 HBR CASE STUDY
Mad About Plaid
Julia Kirby

53 MANAGING YOURSELF
Cognitive Fitness
Roderick Gilkey and Clint Kilts

122 BEST PRACTICE
Simple Rules for Making Alliances Work
Jonathan Hughes and Jeff Weiss

133 TOOL KIT
Are Your Engineers Talking to One Another When They Should?
Manuel E. Sosa, Steven D. Eppinger, and Craig M. Rowles

149 EXECUTIVE SUMMARIES

156 PANEL DISCUSSION

All your nerve endings have been patiently waiting.

The new BMW 6 Series. Nothing awakens the senses quite like 360 horses pressing you against the back of your seat. So we fill the senses with pleasure. By tuning the pitch of the engine to harmonize with the sounds of the wind and road. By perfecting the feel of the steering wheel, the look of the Head-Up Display, even the aroma of the supple leather.

©2007 BMW of North America, LLC. The BMW name, model names and logo are registered trademarks.

We're an independent car company. There's no one to stop us from tweaking and obsessing, from making sure the 6 Series is far more than an elegant sports coupe. The result is a car so pleasing, it's a pity we only have five senses. The 6 Series.

BMW 2008
The new 6 Series

bmwusa.com
1-800-334-4BMW

The Ultimate Driving Machine®

Putting Accenture's research to work.

© 2007 Accenture. All rights reserved.

KeySpan

High-performance transformation, delivered.

In response to the demands of deregulation, KeySpan partnered with Accenture in a complete restructuring of the utility's operations. With a new integrated business model, new technologies, a focus on a high-performance culture, and standardized processes, KeySpan has substantially improved revenues, successfully created a platform for growth, and achieved the operational excellence of a high-performance business.

Staples

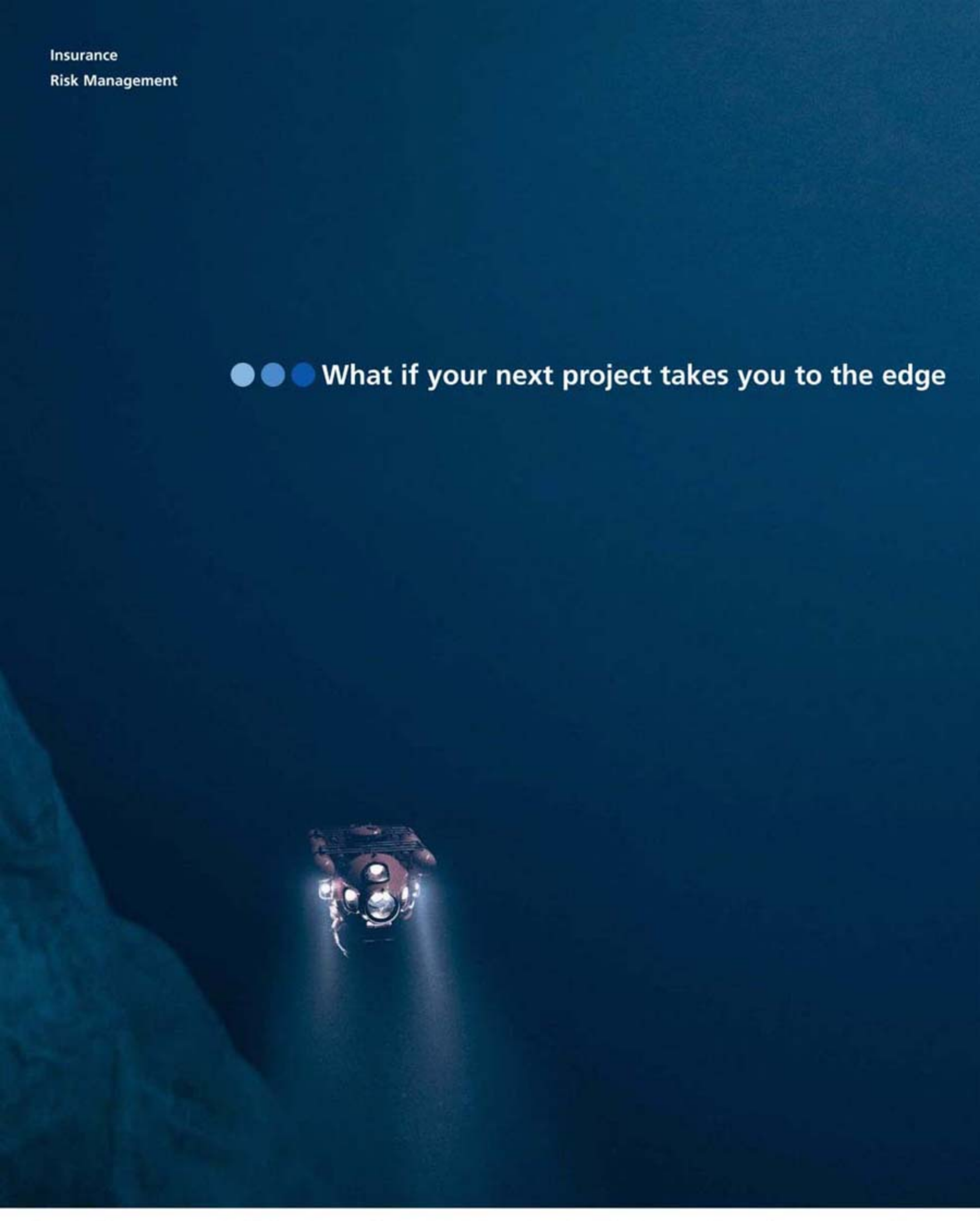
High-performance supply chain management, delivered.

To further widen its competitive lead, Staples turned to Accenture for a state-of-the-art supply chain. By focusing process improvements to enable more synchronized marketing, Accenture helped this high-performance retailer cut inventories by 15% – freeing up more than $200 million in working capital and contributing to over $100 million in incremental sales.

interpretation
60%
information
40%
We know what it takes to be a Tiger.
According to our landmark research on leaders in 35 industries, high performers consistently excel at translating information into business value, particularly through the strategic use of IT. For an in-depth look at our study of and experience with high performers, visit accenture.com/research
• Consulting • Technology • Outsourcing
accenture
High performance. Delivered.

Insurance
Risk Management

What if your next project takes you to the edge



In the United States, coverages are underwritten by member companies of Zurich in North America, including Zurich American Insurance Company. Certain coverages not available in
Risk engineering services are provided by Zurich Services Corporation.

of your comfort zone?

We're right there with you.

In an interdependent, constantly changing world where risks can bubble up anywhere, we know that our global customers need insurance professionals that can see the world as a whole. That's why we offer Relationship Leaders who serve as a single point of entry to our unified, global operation, coordinating consistent risk analysis, underwriting and claims services. This approach makes the job of managing risks on one, or even seven continents, smoother for our customers.

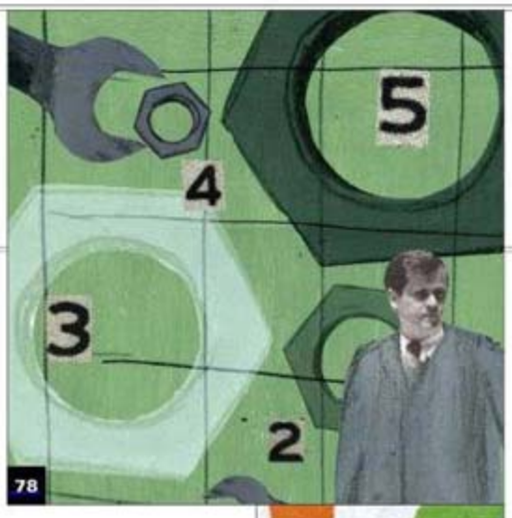
www.zurichna.com/corporatebusiness

Because change happenz℠

ZURICH®

all states. Some coverages may be written on a non-admitted basis through surplus lines brokers.

HBR NOVEMBER 2007



Features

68 **A Leader's Framework for Decision Making**
David J. Snowden and Mary E. Boone
Leadership approaches that work well in one set of circumstances can fall far short in others. With the proper decision-making framework, you can sort issues into their appropriate contexts and tailor your management style to fit each one.

78 **If Private Equity Sized Up Your Business**
Robert C. Pozen
How can your company capture the kind of value increase for its shareholders that a private equity firm would seek? Try making the same types of changes.

90 **Solve the Succession Crisis by Growing Inside-Outside Leaders**
Joseph L. Bower
There's no better way to reverse the long-term destruction of shareholder value than for companies to commit to growing internal CEO candidates who can lead through good times and bad. Simple? No. The right thing to do? Absolutely.

100 **Eight Ways to Build Collaborative Teams**
Lynda Gratton and Tamara J. Erickson
Businesses need large, diverse teams to pull off major initiatives – yet those groups' size and complexity make it hard to get anything done. These practices will help firms ensure strong, effective collaboration, even when teams span the globe.

110 **Mapping Your Competitive Position**
Richard A. D'Aveni
A price-benefit positioning map can quickly show how your product or brand stacks up against your competitors' – not as you hope it does, but as your customers actually see it.

continued on page 8

Cover Art: Gianpaolo Pagni

You haven't skipped a software upgrade in a decade. When was the last time you upgraded your career-ware?

New York's Columbia Business School offers 16 Executive Education programs to help you succeed in a rapidly changing world, including:

THE COLUMBIA SENIOR EXECUTIVE PROGRAM, APR. 27-MAY 23 or OCT. 19-NOV.14, 2008: Our premier 4-week program for senior executives, focused on providing the tools, insights, and skills to maximize your potential.

EXECUTIVE DEVELOPMENT PROGRAM: TRANSITION TO GENERAL MANAGEMENT, APR. 27-MAY 9 or OCT. 26-NOV.7, 2008: For upper-level specialists seeking to develop the skills needed as a cross-functional general manager.

COLUMBIA ESSENTIALS OF MANAGEMENT, APR. 6-18, 2008: For high-potential managers who seek to further their leadership development and enhance their business acumen.

Go to UPGRADEYOURCAREERWARE.COM or call 212.854.3395.

Columbia Business School
EXECUTIVE EDUCATION

HBR NOVEMBER 2007

Departments

15 COMPANY INDEX

16 FROM THE EDITOR
What Kind of Decision Is It?
To the man with a hammer, everything looks like a nail. But smart leaders choose their tools according to the decisions they face.

24 FORETHOUGHT
Beware the miracle problem solver in the workplace...The right way to launch a two-sided platform...Pivotal advice on the way to success...Electronic invoice and payment systems can cut accounts payable overhead in half...A simple tool for visualizing strategy...How to capitalize on customers' returns...The British Library: no longer a "shush" kind of place...Nine practices for preventing retail loss.

39 HBR CASE STUDY
Mad About Plaid
Julia Kirby
Castlebridge & Company, the maker of an iconic British product, is poised to shift the last of its manufacturing operations outside the UK. Is it jeopardizing the "Britishness" of its brand? Commentators on this fictional case study include Niall Ferguson, Dana Thomas, Dov Seidman, and Gill Corkindale.

53 MANAGING YOURSELF
Cognitive Fitness
Roderick Gilkey and Clint Kilts
To be as sharp at 60 as you were at 25, you'll need to do some mental push-ups. Here's how you can strengthen your brain's neural networks and cognitive abilities.

98 STRATEGIC HUMOR

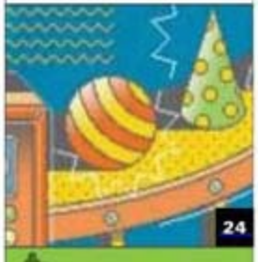
122 BEST PRACTICE
Simple Rules for Making Alliances Work
Jonathan Hughes and Jeff Weiss
At least 60% of all corporate alliances fail. If you don't want yours to join the scrap heap, consider adopting these five principles.

133 TOOL KIT
Are Your Engineers Talking to One Another When They Should?
Manuel E. Sosa, Steven D. Eppinger, and Craig M. Rowles
Avoiding expensive mistakes in the design of complex, highly engineered products boils down to making sure the right product-component teams communicate. A new application of an old project management tool can help managers see where such communication should be taking place – but isn't.

145 LETTERS TO THE EDITOR

149 EXECUTIVE SUMMARIES

156 PANEL DISCUSSION
What Evidence?
Don Moyer
Some of the techniques people use to make themselves happy can be patently bad for business – making overly optimistic forecasts, for example, or ignoring potential pitfalls. Combating these tendencies isn't easy, but we can start by seeking evidence that contradicts our assumptions.



INTRODUCING

SINGAPORE AIRLINES SUITES

A CLASS BEYOND FIRST

The Singapore Airlines Suites, exclusively available onboard the A380, provide a privileged few with their very own haven of tranquility. In your own personal cabin, luxuriate in the largest ever seat, and for the very first time, experience the pleasure of sleeping on a standalone bed, not one converted from a seat. With only 12 extraordinary private cabins, and the inflight service even other airlines talk about, the Singapore Airlines Suites is truly in a class beyond first – a class that is yours alone. Visit singaporeair.com for more information.

SINGAPORE AIRLINES

A great way to fly

HBR.org NOVEMBER 2007

This month at hbr.org

> Mad About Plaid

Has an iconic British retailer put its brand at risk by shifting all its production offshore? Give us your opinion at plaid.case.hbr.org, where you can also listen to this fictional case study and watch an interview with the author, HBR senior editor Julia Kirby.

> Test Your Corner-Office Readiness

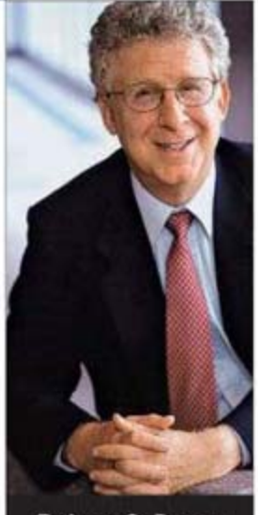
How well are you positioning yourself for the top spot? Find out by using our interactive online tool "So You Want to Be the CEO?" at ceo.tools.hbr.org.

> If Private Equity Sized Up Your Business

What lessons can private equity firms teach your company? Watch an interview with author Robert C. Pozen at multimedia.hbr.org.

> Editors' Preview Podcast

HBR editors share their thoughts on articles in this issue. To listen, go to our audio page at hbr.org.



Robert C. Pozen

ALWAYS AT HBR.ORG

SUBSCRIBER ACCESS
If you are a subscriber, you have 12 months' worth of digital back issues at your disposal. Click on any article with a ⛉ next to it, and you will be prompted to enter your subscriber ID information.

PREMIUM SUBSCRIPTION
A premium subscription to *Harvard Business Review* gives readers access to a searchable archive of more than 2,700 articles. To sign up, click on "Subscribe Today" in the upper-right corner of the home page.

HBR IN OTHER LANGUAGES
Visit "HBR in Other Languages" on the home page for information about the 11 licensed translated editions of *Harvard Business Review*.

HBR ANSWERS
The editors of HBR have posted questions that managers ask about their biggest challenges, along with select articles that address each one. Readers can suggest questions or topics by clicking on "E-mail Us" on the HBR Answers page at hbr.org.

MORE THAN 250 YEARS OF UNINTERRUPTED HISTORY...

1825. When the world's first railway line was inaugurated in England, Vacheron Constantin was 70 years old.

RETROGRADE DATE AND DAY
PATRIMONY CONTEMPORAINE

∅ 42.5 mm pink gold case. Caliber 2460. Poinçon de Genève. Self-winding mechanical movement. Day and date retrograde indicators. Anti-reflective sapphire crystal. Silver opaline dial. Pink gold hour markers. Water-resistant to 30 meters (~100 feet).

86020/000R-9239

GENEVE

...DEDICATED TO PERFECTION

VACHERON CONSTANTIN

Manufacture Horlogère. Genève, depuis 1755.

For information call 877-862-7555 - www.vacheron-constantin.com

Creating the Next Generation Workforce

by Karen A. Edelman

The next-generation workforce—the global talent pool emerging now through 2025—will be a lot different from the current one. In their 2006 book, *Workforce Crisis: How to Beat the Coming Shortage of Skills and Talent* (HBS Press), authors Ken Dychtwald, Tamara Erickson, and Robert Morison predicted that companies in industrialized markets will face an enormous labor shortage.

With that in mind, how can companies best position themselves to achieve future market leadership? In a word, innovation. But talent is critical, too. Today's market leaders understand that to maintain their edge, they need to excel both the talent management and innovation fronts—and are building strategies to enable them to accomplish both goals simultaneously.

Eye on Education: Intel's Approach

One global leader that is carefully aligning these two goals is Intel®. Intel is connecting its talent management strategy with its broader innovation platform through the company's global education outreach program. Realizing that education is the springboard to innovation, Intel has embarked on a vast initiative to build the next-generation workforce by advancing technology education. This sustained commitment has an unambiguous goal: to prepare all students, anywhere, with the skills they will need to thrive in the knowledge economy.

Over the last decade, Intel has invested more than $1 billion in its education programs worldwide. Through ongoing public-private partnerships in more than 50 countries, Intel helps improve education by offering technology tools and training and advancing math, science, and engineering education and research. Intel is improving primary education through three vast global programs: 1) The Intel® Teach Program, where teachers are trained to effectively integrate technology into their classrooms for increased student learning; 2) The Intel® Computer Clubhouse Network and the Intel® Learn program, which provides underserved children with an after-school program to learn cutting-edge technology; and 3) The Intel International Science and Engineering Fair, which helps children learn and get excited about career paths involving science.

Partnerships in Higher Education

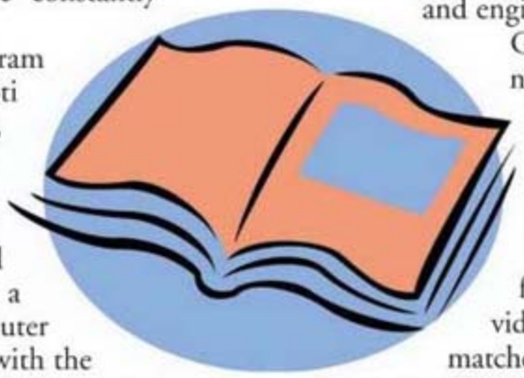
Throughout the world, Intel is also partnering with colleges and universities in myriad ways. The Intel® Higher Education Program brings cutting-edge technology expertise to universities through research grants, technology entrepreneurship forums, and mentoring by Intel technologists. Intel collaborates with more than 150 universities in 34 countries to better prepare students for the demands of today's rapidly changing global economy. Programs are tailored to the particular needs and cultures of the communities they serve.

Among its various initiatives, Intel is now expanding multi-core curricula throughout the world. Intel profes-

COPYRIGHT © 2007 HARVARD BUSINESS SCHOOL PUBLISHING CORPORATION

sionals and university professors have added coursework emphasizing concepts that are key to mastering next-generation, multi-core computer architectures.

In India, the program is vast and ambitious. Beginning in 2006 with four schools, this year, the program includes 137 universities. By 2008, Intel will have partnered with 240 Indian technology institutes to develop an extensive multi-core processing curriculum, providing state-of-the-art multi-core tools, training and expertise to the faculty. Once armed with the knowledge and technology, these professors are able to teach these constantly updated skills to the students.



Participating in the Intel program simply made sense, explains Kamakoti Veezhinathan, associate professor, computer science, IIT Madras. "The kids may not see a single-core system when they graduate. So the knowledge of multi-core and related issues is extremely important." As a result of this training, Indian computer science students will soon graduate with the ability to write or modify applications for the new hardware architecture. These skills will not only help young graduates land better jobs and do well in those jobs, they will also enable them to participate in cutting-edge research and perhaps—as one industry expert puts it—help develop the next "killer app."

In the United States, Intel has worked extensively with Georgia Institute of Technology in Atlanta, one of the preeminent technological universities in the United States. "The College of Computing at Georgia Tech has benefited from a strong relationship with Intel in many ways over the years," says Richard A. DeMillo, dean of the College of Computing at Georgia Tech. With its many activities, including providing fellowships for graduate students, undergraduate research opportunities and mentoring programs, "Each of these strategic initiatives sets the example for recruiting and retaining top-quality students, specifically underrepresented talent, in computing and other technology fields," DeMillo says. Among its most recent activities at Georgia Tech, Intel is now focusing on educating future software developers in multi-core computer architectures, such as parallelism, concurrency and asynchrony.

These partnerships with academia promote the exchange of ideas; sharing of industry research and knowledge; and an opportunity for academia to gain industry experience. They help ensure that graduating students are prepared with the skills they will need to ably compete in the real world.

From Fellow to Employee

Another key way in which Intel is leading the way in higher education is through its various fellowship programs. Intel Foundation's PhD Fellowship Program, for example, is a hands-on, highly selective two-year program for 30 of the best and brightest future technologists and engineers in the United States each year.

Gautam Kumar is a prime example. A native of Bangalore, Kumar came to the United States to complete his studies in 2001. Three years later, at Purdue University, Kumar was awarded the Intel Foundation PhD Fellowship Program. In addition to funding his final two years of education and providing him with a laptop, the program matched Kumar with a mentor within Intel.

"They try to match you with someone who has common ground—in my case, a chemical engineer," he explains. Kumar communicated with his mentor once or twice a month, updating him on his progress at school and learning about what was happening inside the company. This, he explained, was key to his growing desire to eventually work for Intel upon graduation.

Kumar was hired this past April. He is grateful for both the fellowship and the way it was designed. "For me, the most important thing was it gave me an opportunity to get an insider's view of what Intel was like before I actually joined the company—the work atmosphere, what is expected of you as an engineer," Kumar says. "And, of course, I liked it, so I joined."

Intel's education program is admirable for both its pragmatism and reach; it helps foster innovation and improve business and society in very tangible ways. By adopting a hands-on approach to improving education, Intel devotes significant time, talent, and resources to help build the future workforce from the ground up. This demonstrates to the next generation that Intel is a leading-edge company that values people. At the same time, Intel is creating opportunities where there were fewer, offering students the critical knowledge they will need to thrive in the global arena.

Learn more about how universities are using cutting-edge technology to prepare the next-generation global workforce: www.intel.com/educate

For more information about how corporate social responsibility can be a source of innovation and competitive advantage, download this HBR article:
http://harvardbusinessonline.hbsp.harvard.edu/flatmm/files/strategy_and_society.pdf

Intel, Intel Teach Program, Intel Higher Ed program, and the Intel logo are trademarks of Intel Corporation in the U.S. and other countries.

THE POWER OF EDUCATION.

TECHNOLOGY IS BUILT ON MATH, SCIENCE, AND ENGINEERING.

Not to mention bright, young minds. Intel provides teachers worldwide with programs and resources for aspiring innovators. Learn more at **intel.com/educate**

OPPORTUNITY STARTS WITH INTEL INSIDE.

©2007 Intel Corporation. All rights reserved. Intel and the Intel logo are trademarks of Intel Corporation in the United States and other countries.

Organizations in this issue are indexed to the first page of each article in which they are mentioned. Subsidiaries are listed under their own names.

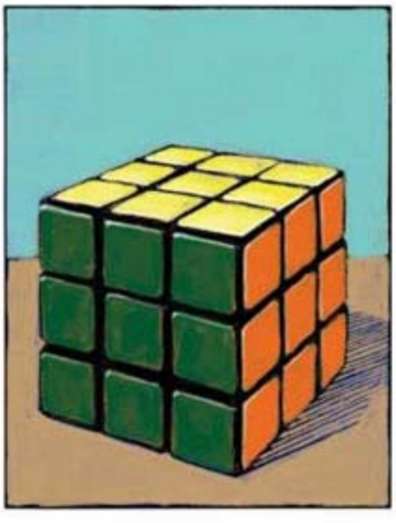
3M 68
ABN Amro 100
Airbus 133
Amazon 24
American Express 24
Apple 53, 110
BBC 100
Best Buy 24
Bethlehem Steel 78
Big Dog Motorcycles 110
Blackstone Group 78
Blue Cross and Blue Shield of Florida 122
BMW 110
BP 100
Bridgestone Firestone 133
Bristol-Myers Squibb 78
British Library 24
Charles Schwab 24
Consumers Union 110
CVS Caremark 24
Duracell 78
eBay 68
Edmunds 110
Elevation Partners 78
Estée Lauder 24
Ford 133
Freescale Semiconductor 78
Gap 24
General Electric 90
General Nutrition Centers 78
Google 24, 53
Harley-Davidson 110
Health Management Associates 78
Hewlett-Packard 122
Hitachi Data Systems 53
Honda 110
IBM 39, 78, 90
ITT 53
J.D. Power and Associates 110
JPMorgan Chase 24
Kawasaki Motors 110
Kennametal 24
KKR 78
Lehman Brothers 100
LG Electronics 110
Limited Brands 24
LTV 78
Marriott 100
Memorial Sloan-Kettering Cancer Center 24
Microsoft 122
Millennium Pharmaceuticals 122
Morgan Stanley Capital Partners 78
Motorola 110
NASA 53
Nokia 100
Palm 78
Pfizer 78
Phillips-Van Heusen 78
Plexus Institute 68
Polaris Industries 110
Pratt & Whitney 133
PricewaterhouseCoopers 100
Procter & Gamble 24, 90
Reuters 100
Royal Bank of Scotland 100
Samsung Electronics 110
Sanofi-Aventis 122
Schering-Plough 78, 122
Sony Ericsson 110
Standard Chartered Bank 100
Starwood Hotels & Resorts 110
Stephens 24
Suzuki 110
Target 24
Tire Rack 110
TripAdvisor 110
U.S. Defense Advanced Research Projects Agency 68
U.S. Environmental Protection Agency 110
U.S. National Highway Traffic Safety Administration 110
Viking Range 24
Xerox 53
Yamaha Motor 110
YouTube 68
Zeneca Ag Products 24

Mike Lynch

AUTHOR AFFILIATIONS

Advanced Institute of Management 100
Bain 24
Boone Associates 68
British Library 24
BSG Alliance's Concours Institute 100
Cognitive Edge 68
Dartmouth College's Tuck School of Business 110
Emegear 133
Emory University School of Medicine 53
Emory University's Goizueta Business School 53
Financial Times 39
Georgia Tech's College of Management 24
Harvard Business School 24, 39, 90
Harvard University 39
Insead 133
London Business School 100
LRN 39
MFS Investment Management 78
MIT's Sloane School of Management 133
Newsweek 39
Pratt & Whitney 133
Procter & Gamble 24
University of Leicester 24
University of Notre Dame's Mendoza College of Business 24
Vantage Partners 122
Viking Range 24

What Kind of Decision Is It?



LEADERS DO many things: They inspire and motivate; they set strategy; they wield power; they align people; they set an example; they represent an organization to outsiders. More than anything else, however, leaders help the people around them make sense of the world in which they find themselves. Inspiring, strategizing, and acting all depend on sense-making. The world is flat: What does that mean for us? Our two biggest rivals have merged: How does that affect us? Our stock has been falling or stagnant or rising: Why? How should we interpret that?

Leaders' sense-making role is often underplayed. Popular descriptions of leaders naturally emphasize what's heroic and dynamic – the leader as action figure, free if you order a Happy Meal. Naively or willingly (for leaders are no less vain than anyone else, and perhaps more vain), leaders conspire to create this supersize-me image of themselves. But sense-making is fundamental. A leader has to define "So what?" before people can decide "Now what?" When leaders help people come to a shared understanding of the world, all their other jobs get easier.

David Snowden and Mary Boone's article, "A Leader's Framework for Decision Making," puts sense-making front and center, where it should be. I first met Dave when he and Larry Prusak were running IBM's Institute for Knowledge Management. Much of Dave's work there and subsequently has been about developing techniques to interpret fuzzy environments for businesses and for some interesting nonbusiness organizations, like intelligence services, that seek meaning in confusing storms of information. Mary Boone specializes in helping groups communicate more intelligently and effectively; she has often worked in large-group settings where imperfect information and conflicting agendas get in the way of shared understanding.

What they have learned, and what this article shows, is that often people respond to issues almost reflexively, like the proverbial man with a hammer to whom everything looks like a nail. Smart leaders choose their tools according to their sense of the kind of decision they face. Simple situations are best met with simple tools, like rules: "Don't stick your finger into an electrical outlet," for instance. Other situations – for example, complicated problems with many different parts that nevertheless have a right answer – call for the services of an expert: If your wiring is bad, better call an electrician rather than try to fix it yourself. Still other cases are so chaotic, so senseless, that a leader should simply step in and do something, like a teacher wading in to stop a school yard squabble.

The situations leaders encounter most fall into none of these classes but rather into a fourth: circumstances that are complex, where the truth is not immediately evident even to an expert but emerges over time, where cause-and-effect relationships are not well established, where positive results come from offering incentives rather than issuing commands, and where, consequently, the tools of influence and decision making are subtle and ill-defined. Most leaders are told that it is important to be (or appear to be) decisive. Fair enough – but how is one to reconcile the imperative of decisiveness with the reality of ambiguity? There's a growing body of academic research about decision making under uncertainty. (If you Google the term, you will get – or I did – 284,000 hits.) Not much of this research has worked its way into practical frameworks for managers. To me, one of the great values of "A Leader's Framework for Decision Making" is that it lives up to its title. In so doing, it connects sense-making to action in ways that are both wise and practical.

Thomas A. Stewart

Robert Meganck

Overdue and over budget, over and over again?

Execution is often the missing link between project aspirations and reality.

That's why projects take too long and cost too much. That's why we created the first **Execution Management** system.

Using our system, the US Air Force Warner Robins Air Logistics Center is finishing C-5 aircraft maintenance 33% faster, saving 2.37 billion dollars in the replacement value of aircraft.*

For this achievement, together we won the 2006 Franz Edelman award, the super bowl of operations research.

If projects are vital to your business, call us at 1-408-271-1711 to schedule an introductory call with our experts. It could be a very profitable telephone call for your organization.

** Source: Air Force Materiel Command press release, 5/6/2006*

Realization The Pioneer in Execution Management Systems™

We serve clients in a wide range of industries, around the world.
For testimonials and case studies, please visit www.realization.com.

For this achievement, together we won the 2006 Franz Edelman award, the super bowl of operations research.

Is that your biggest competitor listening intently in the front row?

ARESTY INSTITUTE OF EXECUTIVE EDUCATION | We're all business.®

Introducing the Wharton Learning Continuum. From the pre-program coursework to the post-program follow-up, it's your biggest competitive advantage. For more insight, download our FREE article series "Wharton on Career Management" at executiveeducation.wharton.upenn.edu. For more information, e-mail execed@wharton.upenn.edu. Call **800.255.3932** (U.S. or Canada) or **+1.215.898.1776** (worldwide), and reference *HBR*.

CREATING VALUE THOUGH FINANCIAL MANAGEMENT
> *February 4–8, 2008* *July 21–25, 2008*

EXECUTIVE DEVELOPMENT PROGRAM
> *February 10–22, 2008* *May 4–16, 2008*

FINANCE AND ACCOUNTING FOR THE NON-FINANCIAL MANAGER
> *February 25–29, 2008* *May 12–16, 2008*

STRATEGIC PERSUASION WORKSHOP: THE ART AND SCIENCE OF SELLING IDEAS
> *March 10–13, 2008* *June 23–26, 2008*

Harvard Business Review

EDITOR AND MANAGING DIRECTOR
Thomas A. Stewart

DEPUTY EDITOR AND ASSISTANT MANAGING DIRECTOR
Karen Dillon

EDITORIAL DIRECTOR
Sarah Cliffe

ART DIRECTOR
Karen Player

SENIOR EDITORS
David Champion *(Paris)*
Diane Coutu
Bronwyn Fryer
Paul Hemp
Julia Kirby
Lew McCreary
Gardiner Morse
M. Ellen Peebles
Steven Prokesch
Anand P. Raman

ASSOCIATE EDITORS
Roberta A. Fusaro
Andrew O'Connell

CONSULTING EDITOR
Bernard Avishai

MANUSCRIPT EDITORS
Christina Bortz
Lisa Burrell
Steven DeMaio
Susan Donovan
Andrea Ovans
Martha Lee Spaulding

BUSINESS DEVELOPMENT EDITOR
John T. Landry

EDITORIAL RESEARCH MANAGER
Kassandra Duane

EDITORIAL COORDINATOR
Rasika Welankiwar

STAFF ASSISTANT
Christine C. Jack

SENIOR PRODUCTION MANAGER
Dana Lissy

EDITORIAL PRODUCTION MANAGER
Christine Wilder

SENIOR ASSOCIATE ART DIRECTOR
Chandra Tallman

SENIOR DESIGNER
Jill Manca

DESIGNER
Lindsay A. Sweeney

EDITORIAL PRODUCTION COORDINATORS
Josette Akresh-Gonzales
Tisha Clifford

COMMUNICATIONS DIRECTOR
Cathy Olofson

COMMUNICATIONS ASSOCIATE
Siobhan C. Ford

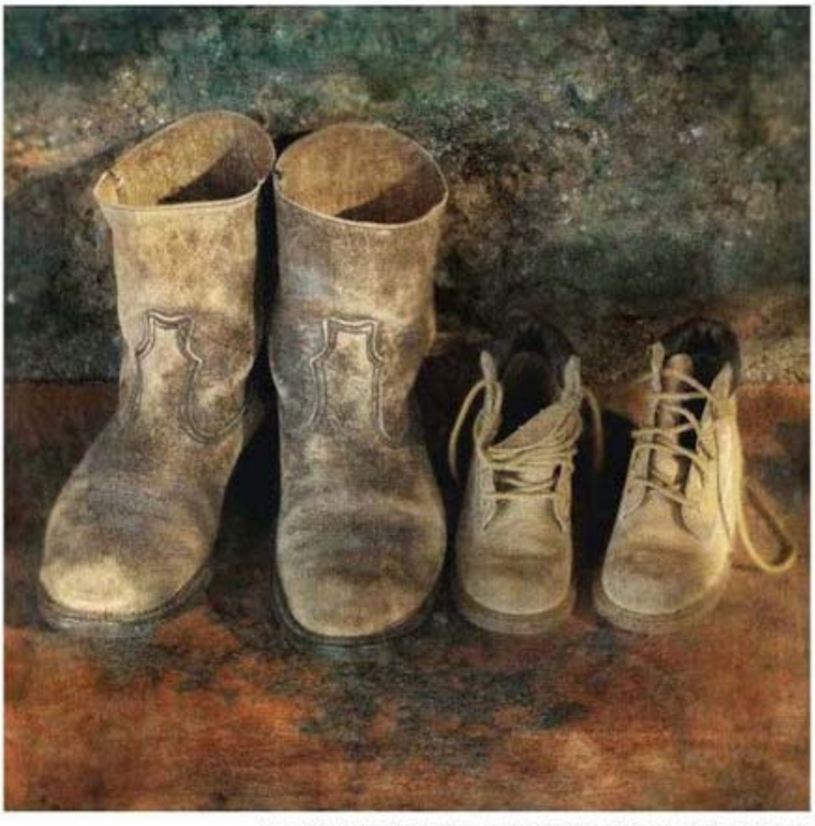
CONTRIBUTING STAFF
Lilith Z.C. Fondulas
Amy L. Halliday
Annie Noonan
Eileen Roche
Kristin Murphy Romano
Debbie White

A NOTE TO READERS
The views expressed in articles are the authors' and not necessarily those of *Harvard Business Review*, Harvard Business School, or Harvard University. Authors may have consulting or other business relationships with the companies they discuss.

SUBMISSIONS
We encourage prospective authors to follow HBR's "Guidelines for Authors" before submitting manuscripts. To obtain a copy, please go to our website at www.hbr.org; write to The Editor, *Harvard Business Review*, 60 Harvard Way, Boston, MA 02163; or send e-mail to hbr_editorial@hbsp.harvard.edu. Unsolicited manuscripts will be returned only if accompanied by a self-addressed stamped envelope.

EDITORIAL OFFICES
60 Harvard Way, Boston, MA 02163
617-783-7410; fax: 617-783-7493
www.hbr.org

Volume 85, Number 11
November 2007
Printed in the U.S.A.



Jess' and Christopher's Boots, Alexander Mountain Estate, Alexander Valley

KENDALL-JACKSON

The soil is a living thing. And must be treated as such. It is a fundamental commitment to the land and to future generations of Jackson family farmers. We call it sustainable farming.

Based on concepts of simple gardening, sustainable farming employs a variety of techniques, including planting our vines up and down the hillside, rather than across, to reduce erosion. We also use naturally filling reservoirs to recycle ground water and fish-friendly farming to control water runoff into our lakes and streams.

Having a family-run winery affords us the luxury of taking the long-term view. We believe it is critical to allow the earth the time to nurture itself. As a result, only half of the property we own is devoted to vines. Because it is not only our responsibility, it is our duty to ensure the soil remains healthy. It matters for the long-term quality of our wines and the future success of our children. I have been told that many of you enjoy our wines but you aren't sure why. My goal is to help with **A Taste of the Truth.**

Jess S Jackson

kj.com/truth

©2006 Kendall-Jackson Wine Estates

Faculty Spotlight: STEVEN EPPINGER
Executive Education Programs:
Managing Complex Product Development Projects
Product Design, Development, and Management

Professor Steven Eppinger is recognized as one of the world's foremost experts on engineered product development. His leading textbook, *Product Design and Development*, is used at hundreds of universities around the world.

MIT SLOAN EXECUTIVE EDUCATION.

Because A Person Is Known By The Company They Keep.

MIT has spawned one of the hottest climates for management innovation in the world, and its faculty includes some of today's great visionary leaders. Executive education programs at MIT Sloan are taught by full-time MIT faculty—leading management experts sought after by organizations around the world—in an environment designed to foster extensive interaction. Participants are exposed to the best of today's thought leadership and take away the tools and frameworks they'll need to drive innovation and growth in their own organizations.

Managing Complex Product Development Projects
2008 Dates: March 19–20 • July 30–31 • December 10–11

This program presents the revolutionary Design Structure Matrix (DSM) that MIT researchers use to solve problems facing managers of large-scale product development projects. Participants in this program learn how to use DSM and other cutting-edge project management methods.

Product Design, Development, and Management
May 4–9, 2008

This program exposes participants to the best available methods in product development and enables them to build and manage a faster and smarter product design capability.

MITSloan MANAGEMENT
innovation@work™

http://mitsloan.mit.edu/hbrpd

Phone: +1 617.253.7166
Email: sloanexeced@mit.edu

Harvard Business Review

PUBLISHER
Henry J. Boye

CONSUMER MARKETING DIRECTOR
John Titus

CIRCULATION DIRECTOR
Bruce W. Rhodes

BUSINESS MANAGER
Adrienne M. Spelker

RETENTION MARKETING MANAGER
Christine Chapman

CIRCULATION FULFILLMENT MANAGER
Greg Daly

MARKETING MANAGER
Nicole Costa

BUSINESS ANALYST
Greg St. Pierre

ASSOCIATE PUBLISHER
Alex Clemente

WORLDWIDE ADVERTISING SALES MARKETING DIRECTOR
Marisa Maurer

SENIOR MARKETING AND RESEARCH MANAGER
Michelle Lin

ADVERTISING PRODUCTION MANAGER
Catharine-Mary Donovan

MARKETING AND PROMOTIONS COORDINATOR
Alex Pavia

ASSISTANT FULFILLMENT MANAGER
Danielle Weber

WORLDWIDE ADVERTISING OFFICES

New York 75 Rockefeller Plaza, 15th Floor, New York, NY 10019, fax: 212-956-0933
Maria A. Beacom
Lisa Carr
Craig Catalano 212-872-9280
(Online Sales Director)
Denise Clouse
Daniel Cohen
Rachel Cosper
James H. Patten
(Integrated Sales Director)

Atlanta 404-256-0664
Boston 978-287-5400
Chicago 312-575-1100
Dallas 214-521-6116
Detroit 248-524-9000
Los Angeles 323-467-5906
San Francisco 415-986-7762

Australia 612-9252-3476
France 33-01-4643-0066
Hong Kong 852-237-52311
India 91-11-4353-0811
Japan 81-03-3541-4166
UAE 971-4-228-7708
United Kingdom 44-20-7833-3733

For all other inquiries, please call 212-872-9280.

For advertising contact information, please visit our Web site at www.hbradsales.com.

SUBSCRIPTION SERVICE INFORMATION

U.S. AND CANADA
800-274-3214; fax: 813-354-3467
Rates per year: U.S., $119; Canada, U.S.$139

INTERNATIONAL
31-20-4874465; fax: 31-20-4874412
Rates per year: U.S.$165; Mexico, U.S.$139

SUBSCRIBE ONLINE
www.hbr.org

REPRODUCTION
Copyright © 2007 Harvard Business School Publishing Corporation. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without written permission.

Malaysia Year End Sale Carnival
1 Dec 2007–1 Jan 2008, throughout Malaysia
Irresistible offers and jaw-dropping promotions beckon as malls and local bazaars outdo each other in offering the best bargains during this annual shopping extravaganza.

Negotiations and business deals may well spill over outside the convention hall.

Kuala Lumpur Convention Centre, Kuala Lumpur

The Kuala Lumpur Convention Centre sits on a 40-hectare site, the KL City Centre – a "city within a city" – which includes the Petronas Twin Towers, Suria KLCC world-class mall and KLCC Park.

Visit Malaysia

Celebrating 50 Years of Nationhood

Out in bustling night bazaars, flea markets with one-of-a-kind treasures, chic-concept stores and designer boutiques in street-long malls. That's where the best bargains are found. In Malaysia, your delegates can literally shop till they drop. At the Year End Sale carnival, prices will be dropping to a record low as vendors compete to offer the best deals especially in commemoration of our 50 years of nationhood. The diversity of our peoples, cultures, food and festivals are all captured in One Golden Celebration throughout the entire year. So come and join us in our celebrations. The time is now, the place is Malaysia.

Visit Malaysia Year 2007 mega events include:

Eye On Malaysia
thrilling ride
Throughout the year

Malaysia International Gourmet Festival
2–29 Nov 2007, throughout Malaysia

Malaysia-International Fashion Week
15–18 Nov 2007, Kuala Lumpur

Terengganu Monsoon Cup 2007
28 Nov–2 Dec 2007,
Pulau Duyong, Terengganu

Langkawi International Maritime and Aerospace Exhibition (LIMA)
4–8 Dec 2007, Langkawi, Kedah

For more events, please log on to
www.tourismmalaysia.gov.my

Meet & Experience Malaysia
Truly Asia

TOURISM MALAYSIA

Tourism Malaysia, Ministry of Tourism, Malaysia
25th Floor, Convention Division, Menara Dato' Onn, Putra World Trade Centre,
45, Jalan Tun Ismail, 50480 Kuala Lumpur.
Tel: 603 2615 8188 Fax: 603 4042 5135
E-mail: eng-convention@tourism.gov.my Website: www.tourismmalaysia.gov.my

HOME TO

firefly malaysia AIRLINES AirAsia

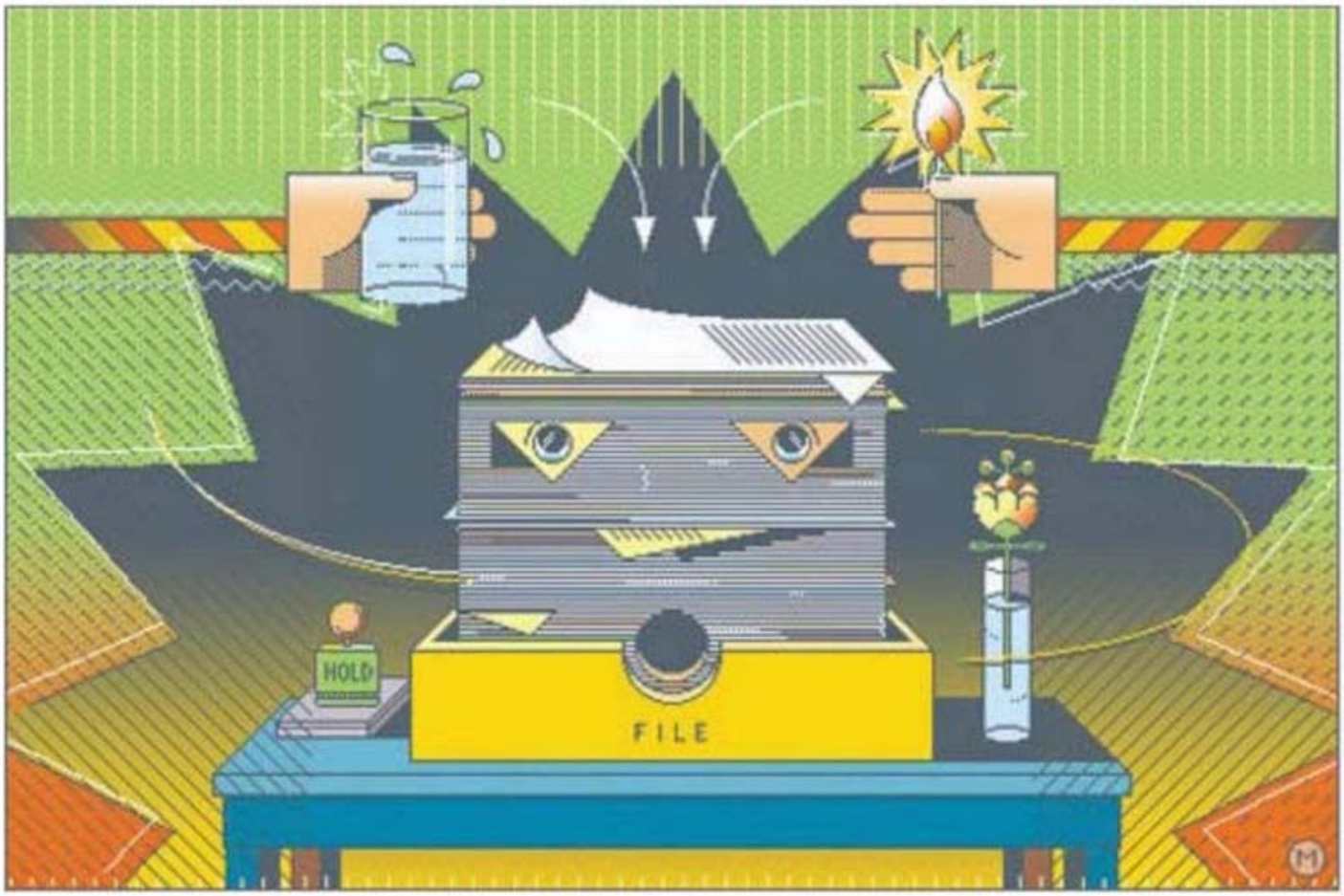
©2007 Land Rover North America, Inc. landroverusa.com

RANGE ROVER DESIGNED FOR THE EXTRAORDINARY

HAVE YOU EVER?
It has protected a pope. Transported heads of state, lords and a queen. Here, at Blenheim Palace, it is the estate vehicle of the 11th Duke of Marlborough himself. At what many consider Britain's greatest palace, the world's most capable luxury vehicle is always right at home.
LAND ROVER

forethought

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



Mark Von Ulrich

GRIST

Munchausen at Work

by Nathan Bennett

One particularly disturbing psychological disorder is Munchausen by proxy, in which a caregiver exaggerates, fabricates, or induces illness in another person in order to get praise for then helping the victim. A similar pathology occurs in workplaces when employees create fictitious organizational problems, only to solve them. This behavior, which I call Munchausen at work (MAW), wastes managerial time and resources and can threaten morale and productivity. I set about defining its characteristics after being struck by accounts of MAW behavior among team members in the course of three years studying factors affecting team performance in more than 30 companies across industries. Although MAW is infrequent, most experienced managers have encountered it, and they acknowledge that it can be highly disruptive.

Consider this case from a *Fortune* 100 professional services firm that I studied. "Philip" had a reputation for his ability to get people to work together. He would proudly share tales of how, under his guidance, people in vigorous conflict had rebuilt productive working relationships. Upper management often praised him for this ability, and he was one of the first people put on any key client's team. But over time it emerged that the conflicts Philip so adeptly defused were of his own creation.

From bits of information gathered from many teams, management discovered

that in the early stages of a project, before the team had had a chance to establish healthy relationships, Philip would target individuals in whom to plant the seeds of conflict. In one case he worked subtly to convince "Mary" that "Tom" did not want to work with her, and shortly thereafter convinced Tom that Mary was reluctant to be his teammate. In no time a dysfunctional relationship between the two became obvious to all. Philip then expertly resolved the conflict, using his insider knowledge of its causes. Management's suspicions about Philip's behavior were confirmed when early team dynamics improved after Philip had been removed from team roles.

Munchausen at work runs the spectrum from highly destructive tactics like Philip's to nuisance behaviors that quietly corrode organizational effectiveness. It may involve simply embellishing a real problem or making it appear that one looms on the horizon. Just as solving a problem of one's own creation can generate rewards, so can bringing an inflated or predicted "crisis" to the attention of others.

Some MAW perpetrators – I call this type the "reluctant hero" – withhold valued but discretionary contributions at work in order to generate problems that will lead others to implore them to return to duty. For example, an employee may create some dependency within the organization by volunteering to mentor new hires and then threaten to give up the role, citing competing obligations. The perpetrator doesn't necessarily want to withdraw but does want to win attention for remaining. Of course employees often have legitimate reasons for shedding discretionary duties. But MAW perpetrators engage in a regular, destabilizing pattern of commitment and withdrawal.

Another type, the "do-looper" (named after computer routines that run repeatedly if conditions are right), constantly lights small fires and then puts them out. Most do-looping involves first creating and then remedying shortages of supplies, information, or other resources. One do-looper I encountered was brilliant at fixing travel-agency mistakes for his boss, and was often praised for his efforts. It was eventually discovered that the mistakes he "fixed" had never actually occurred.

Many managers I've spoken with nod knowingly when I describe MAW. However, diagnosis is difficult. A manager who suspects an employee of Munchausen at work should ask these questions:

- Is the employee disproportionately involved in identifying and fighting fires?
- Is the employee unusually resistant to offers of help in addressing problems he or she has identified?
- Does the employee deflect management's efforts to understand a problem's underlying cause?
- Are the facts and coworkers' accounts at odds with the employee's claims about a problem's existence or severity?
- Are problems with a project, a customer, or a process, or between colleagues, frequently resolved in the employee's absence?

"Yes" answers to these questions don't conclusively confirm MAW, of course. But they signal that managers may want to be on the alert for repeated episodes and to validate their suspicions with multiple observers. If Munchausen at work seems likely, the best remedies are to reduce the attention and other rewards that are tied to solutions and, more broadly, to limit perpetrators' opportunities for creating specific problems.

Nathan Bennett (nate@gatech.edu) is the Catherine W. and Edwin A. Wahlen Professor of Management at Georgia Tech's College of Management in Atlanta.

Reprint F0711A

TWO-SIDED MARKETS

A Staged Solution to the Catch-22

by Andrei Hagiu and Thomas Eisenmann

Companies launching two-sided platforms – businesses that connect two groups of users, as credit card companies do – have often subsidized one group to get it to use the platform. This is a risky approach, because it requires a big up-front investment. A staged approach is safer: It establishes the platform in two distinct steps. Some of the Internet's biggest success stories have been launched this way, including Google and Amazon.

The staged approach addresses a catch-22 faced by any company hoping to capitalize on a two-sided platform: Prospective users on each side will avoid the platform until they are confident that the other side will have enough users to make it worth their while. Who's going to sign up for a new type of credit card if no merchants accept it? And what merchant will accept the card if no customers carry it? (For more detail see "Strategies for Two-Sided Markets," by Thomas Eisenmann, Geoffrey Parker, and Marshall W. Van Alstyne, HBR October 2006.)

A company using a staged strategy begins by selling products or services to customers on just one side of a potential two-sided platform – products or services whose value to that side does not depend on the existence of the other. Once the company has built a big base of customers on the first side, it can target the second side for development.

Google used this strategy: It originally launched as a vendor of web search services, operating Google.com and licensing its search engine to Yahoo and other portals. Initially Google.com carried no advertising; its sole (and modest) source of revenue was licensing fees. But after amassing end users, Google added advertisements and became extraordinarily profitable by serving searchers on one side and advertisers on the other. It brought new functionality to existing services as a means of transitioning to a two-sided platform.

An alternative approach is to provide more of the same – to broaden a firm's existing product line by hosting third parties that market similar goods and services, as Amazon did. Charles Schwab deftly managed such a transition years ago by adding third-party mutual funds and independent financial advisers to its in-house offerings.

Staged strategies reduce investment risk but can be tricky to implement. Companies must earn the trust of new platform users. Third-party suppliers, for example, may worry about ceding control of their customer relationships to platform providers, who can favor their own products. Likewise, close communication is essential to maintaining the confidence of existing customers, suppliers, employees, and investors, who may be confused or alienated when a firm fundamentally changes its value proposition. Although Google successfully transitioned into a platform through improvisation rather than a careful plan, the road is littered with the casualties of poorly executed platform strategies. Think of eight-track cassettes, RCA's VideoDisk, and IBM's OS/2. By studying platform strategies that have worked, companies can hedge their bets.

Andrei Hagiu (ahagiu@hbs.edu) and **Thomas Eisenmann** (teisenmann@hbs.edu) are professors at Harvard Business School in Boston. The research reported here is described in detail in "Staging Two-Sided Platforms" (HBS teaching note #808004), available at www.harvardbusinessonline.org.

Reprint F0711B

The Best Advice I Ever Got

by Fred Carl, Jr.
Founder and CEO, Viking Range

In 1986 I was working full-time in the construction business and renting an unfinished one-room office in an old cotton exchange building in downtown Greenwood, Mississippi, trying to start a company in my spare time. I had dozens of detailed sketches for what would be the first Viking range, and little else.

My wife has a cousin named Michael Zito who back then was the managing partner of the Touche Ross office down in Jackson. Every time he came to town, he would stop by and see how things were going with my little start-up company. During one of those conversations he gave me the single best piece of advice I ever got – advice that laid the groundwork for Viking's success.

"Freddie," he said, "you should run this from day one like it's a public company. Treat it like it's going to be big. Hire a top-notch accounting firm and get audited every year. Work with the best law firms you can – ones that do securities work. Invest for the future, don't ever settle for second best, and start this thing off *right*."

I could have busted out laughing, because I was doing good to make payroll, let alone hire a top accounting firm and lawyers, but I realized Mike was right. By nature I hate cutting corners, and yet I wasn't approaching the business itself with the same standards as the product I had in mind. To create the company I wanted to, I had to look into the future and pretend I was already there. I had to stop treating the infrastructure of the company like some necessary evil, invest in it more than I thought possible, and trust the investment would work.

Right away I asked Mike to take me on as a client, and after some cajoling he agreed. (For years we were that office's smallest account.) Then I hired one of the sharpest law firms in the state – after a deep breath, because they're not cheap. It wasn't too long before the advice paid off: In 1992 we were able to take on a major financial partner, Stephens, Inc., because we had great advisers, clean financials, and no question marks next to our name – none of that receipts-in-a-shoebox stuff that can kill entrepreneurial deals.

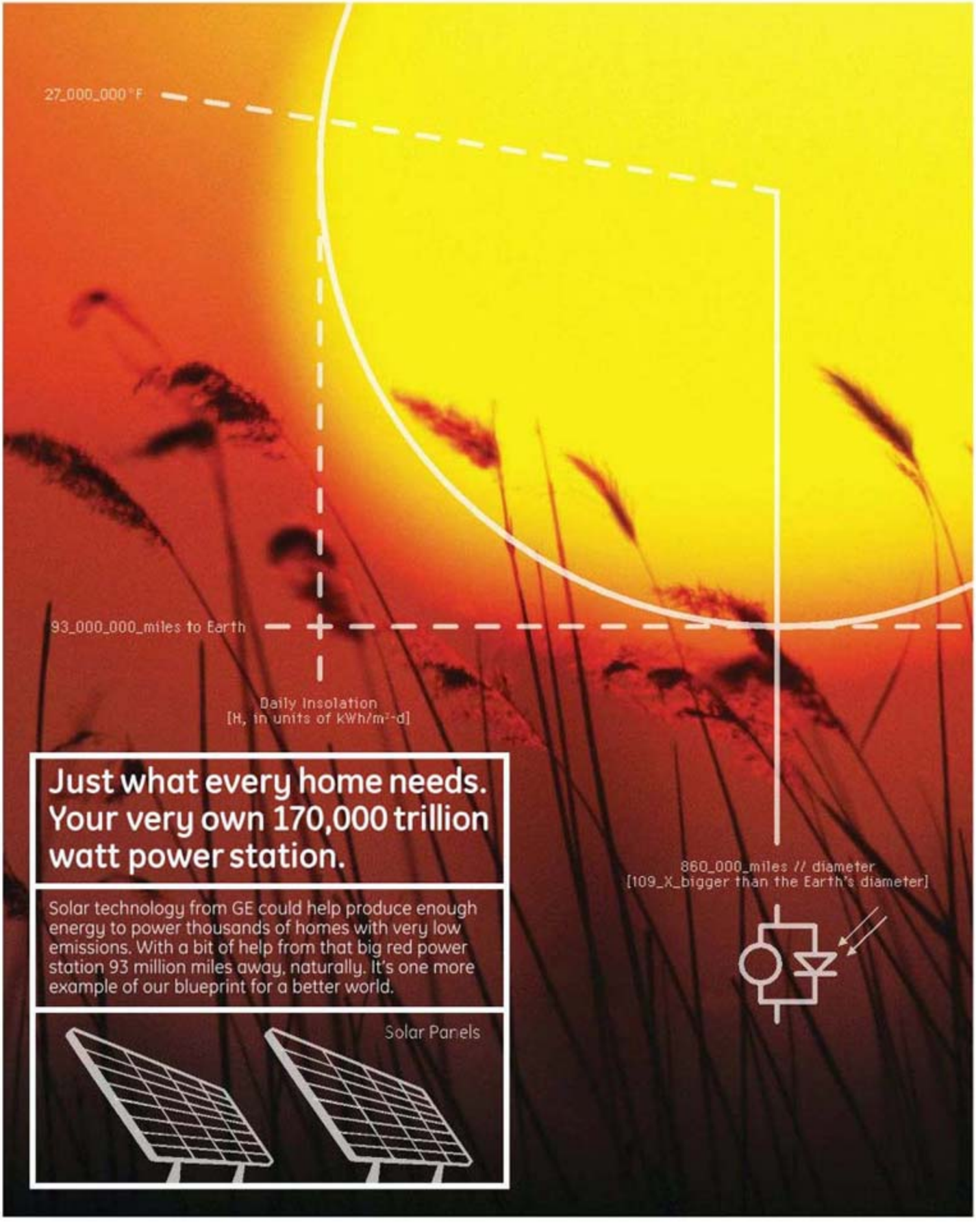
Mike's advice continues to guide me in a broader way. When someone uses our product, works in our plant, or comes to the Delta and visits Greenwood, I never want us or our town to be perceived as anything less than the absolute best – game faces on all the time. We could make our ranges in Podunk plants, but instead we use the Toyota Production System. We built our company hotel as if *Architectural Record* would come and critique. We offer top-of-the-line employee benefits: Anybody working here can get their high school, college, or graduate degree, and we'll pay their full tuition.

Now, don't get me wrong: Shooting for the top isn't always easy. It can be difficult and risky to do by yourself, and harder still to get others throughout your company and community to commit to your vision of what's ahead. Walking through our downtown 15 years ago, I knew not everyone saw the possibility. But we built the hotel, and a gourmet restaurant and cooking school, and that got some new merchants to open stores. Step by step as the community redevelops, more people share that vision of what Greenwood and the Delta can be – and they're aiming high, too.

Viking now sells in 82 countries, and we have 99% retention and attendance rates for our employees, who refer to the Viking "family" – a word I'd never used. Following Mike's advice wasn't cheap, but we got our money back and then some.

– Interviewed by Daisy Wademan

Reprint F0711C



Just what every home needs. Your very own 170,000 trillion watt power station.

Solar technology from GE could help produce enough energy to power thousands of homes with very low emissions. With a bit of help from that big red power station 93 million miles away, naturally. It's one more example of our blueprint for a better world.

imagination at work

ecomagination.com

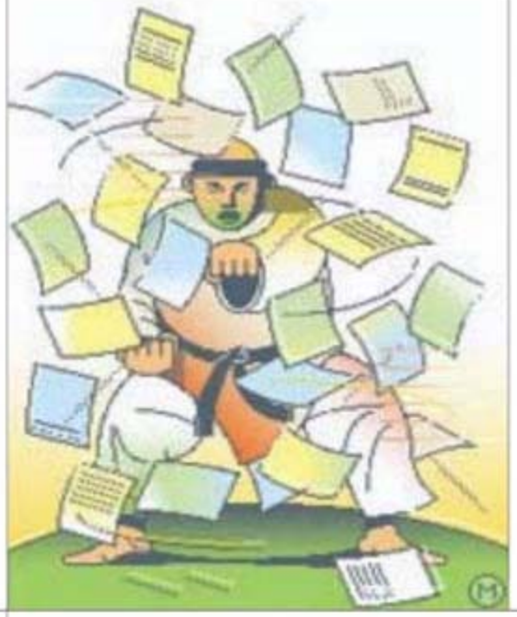
BACK END

Break the Paper Jam in B2B Payments

by Steve Berez and Arpan Sheth

Electronic invoice and payment systems have been slow to catch on, even though they offer enormous promise for cost savings, speed, and transparency in business-to-business transactions. The technology has a lot going for it: It's getting more robust all the time, and big financial services firms, including American Express and JPMorgan Chase, are partnering with payment software developers to host the systems. But paper still rules. Some 70% of U.S. business-to-business transactions involve paper invoices and checks. The annual cost of managing that exchange comes to some $116 billion, according to a Bain & Company estimate.

What will it take to break the paper jam? First, companies need to fully understand the benefits of EIPP (electronic invoice presentment and payment), which allows vendors to send electronic bills to buyers and lets buyers reconcile invoices with purchase orders and authorize payment through a financial services provider's online platform. EIPP can help cut accounts payable overhead by more than 50%, according to our analysis. In addition, invoices can be handled more quickly, and faster processing enables purchasers to negotiate discounts for prompt payment.



Second, purchasing companies need to be smart about getting vendors to sign on. Our research shows that the full benefits of EIPP generally don't materialize until more than half of a purchaser's invoices are being processed online, so it's important to convert suppliers quickly. For some companies that means all in one stroke; for others it means a rapid phased conversion.

Kennametal, a Pennsylvania-based global provider of engineered components and advanced tooling and materials, is for most of its 18,000 suppliers one of the biggest accounts. Because of that clout, it was able to convert them all at once. The team that managed the conversion showed the suppliers, with support from the company's EIPP provider, how to minimize disruption. Once the system was working, Kennametal's payment overhead fell by two-thirds, and processing costs plunged by 90%, to just nine cents per invoice.

Memorial Sloan-Kettering Cancer Center, in New York, buys from big vendors of medical supplies for which there are no ready substitutes and from a wide variety of other providers of highly specialized services. Winning over its vendors required a deft touch and the coordination of a military campaign.

Sloan-Kettering split the conversion into three phases, beginning in 2003. Looking for a fast initial success, it conducted a 90-day blitz to convert 50 vendors that provide mission-critical materials and supplies. In phase two it tackled vendors whose high-volume, paper-intensive transactions would translate into the biggest savings. In the final phase the conversion team focused on vendors whose technical medical services are often tailored to specific patient circumstances. Sloan-Kettering shortened the payment cycle for all its vendors but also stipulated that conversion to EIPP would be a requirement for contract renewal. Today it processes 877,000 payments a year – nearly twice as many as before EIPP was adopted – with no added staff.

As more companies begin using EIPP, the supplier-purchaser interdependence that has slowed adoption of the technology may provide its greatest boost, fulfilling at last the Internet's promise of frictionless commerce.

Steve Berez (steve.berez@bain.com) is a Bain & Company partner based in Boston. **Arpan Sheth** (arpan.sheth@bain.com), also a Bain partner, is based in New York. Both are members of the firm's Financial Services and Information Technology Practices.

Reprint F0711D

STRATEGY

Strategic Insight in Three Circles

by Joel E. Urbany and James H. Davis

Although most executives can recite the truism that a company must build a distinct competitive advantage in order to grow and be profitable over the long term, many have only the fuzziest idea what that really means. They're confused by the esoteric language of strategy or they've gotten bogged down in the technical details of analytical tools.

We often encounter these executives in our consulting work and in our classrooms. We tell them to draw three circles. Those circles, placed in the proper relationship to one another, provide a good visual representation of what strategy – both internal and external – means. Hundreds of leaders and future leaders have quickly absorbed strategy concepts by using this simple tool and have taken it back to their organizations, where it often becomes part of the decision-making process.

Let's assume that this exercise is being conducted by an executive team. The team should first think deeply about what customers value and why. For example, they might value speedy service because they want control of their own time or they have other business or family obligations. (Exploring deeper values can open managerial eyes and reveal new opportunities for value creation.) The first circle thus represents the team's consensus view of everything the most important customers or customer segments want or need. (Other segments can be analyzed later.)

continued on page 30

The world is growing by more than 70 million people a year.

So is that a problem, or a solution?

With our planet's population continuing to increase, and the quality of life for millions in the developing world improving daily, our demand for energy is also growing. And to meet everyone's needs 25 years from now may take 50% more energy than we use today.

Finding and developing all the fuel and power we need for our homes, businesses and vehicles, while protecting the environment, could be one of the greatest challenges our generation will face.

The key to ensuring success is found in the same place that created this need: humanity itself. When the unique spirit we all possess is allowed to flourish, mankind has proven its ability to take on, and overcome, any issue. It's a spirit of hard work, ingenuity, drive, courage and no small measure of commitment. To success, to each other, to the planet.

The problem...becomes the solution.

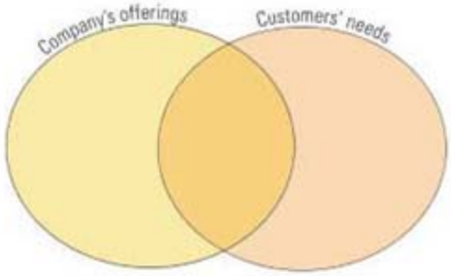
This human energy that drives us to succeed has been there every day since the beginning. And it will be with us to shape many tomorrows to come.

So join us in tapping the most powerful source of energy in the world. Ourselves.

And watch what the human race can do.

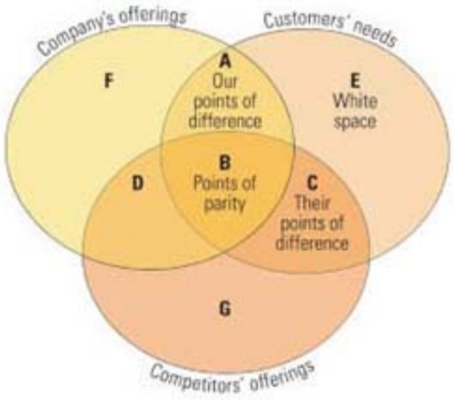
Chevron

Human Energy™



The second circle represents the team's view of how customers perceive the company's offerings. The extent to which the two circles overlap indicates how well the company's offerings are fulfilling customers' needs. Even in very mature industries customers don't articulate all their wants or problems in conversations with companies. They weren't banging on Procter & Gamble's door demanding invention of the Swiffer, whose category now contributes significantly to the company's double-digit sales growth in home care products. Rather, the Swiffer emerged from P&G's careful observation of the challenges of household cleaning. Customers' unexpressed problems can often become a source of relationship building and growth opportunity.

The third circle represents the team's view of how customers perceive the offerings of the company's competitors.



Each area within the circles is strategically important, but A, B, and C are critical to building competitive advantage. The team should ask questions about each. For A: How big and sustainable are our advantages? Are they based on distinctive capabilities? For B: Are we delivering effectively in the area of parity? For C: How can we counter our competitors' advantages?

The team should form hypotheses about the company's competitive advantages and test them by asking customers. The process can yield surprising insights, such as how much opportunity for growth exists in the white space (E). Another insight might be what value the company or its competitors create that customers don't need (D, F, or G). Zeneca Ag Products discovered that one of its most important distributors would be willing to do more business with the firm only if Zeneca eliminated the time-consuming promotional programs that its managers thought were an essential part of their value proposition.

But the biggest surprise is often that area A, envisioned as huge by the company, turns out to be minuscule in the eyes of the customer.

Joel E. Urbany (urbany@nd.edu) and **James H. Davis** (davis.31@nd.edu) are professors at the University of Notre Dame's Mendoza College of Business in Indiana. For the full three-circle analysis, e-mail Joel Urbany. Reprint F0711E

UNWANTED MERCHANDISE

Improve Your Return on Returns

Competitive pressures have forced many retailers and manufacturers to liberalize their returns policies in recent years and gladly accept for a refund just about anything customers regret having bought.

Well, maybe not gladly. Most companies continue to view returns as a costly nuisance, and few have formal strategies for dealing with products that customers don't want. But figuring out how to efficiently reuse returned items can increase profitability by reducing materials requirements: Every component reinserted in the forward supply chain is one unit fewer that must be procured or manufactured. And by reusing rather than disposing of units, a firm may be able to increase loyalty and attract new customers as it boosts its environmental image.

Managing the flow of finished products back into the company can be an important profit driver, write Vaidyanathan Jayaraman and Yadong Luo, of the University of Miami School of Business Administration, in a recent issue of the *Academy of Management Perspectives*. Jayaraman and Luo say the evidence shows that a "reverse logistics" value chain strategy can strengthen a company's competitiveness.

The authors cite Estée Lauder's strategic management of its returned goods flow. In the first year after investing $1.3 million to build a system of scanners and other technologies, the company was able to sharply reduce the percentage of such goods that it dumped into landfills and also to save half a million dollars in labor costs. It has built a $250 million product line from returned cosmetics, selling them to seconds stores or to retailers in developing countries.

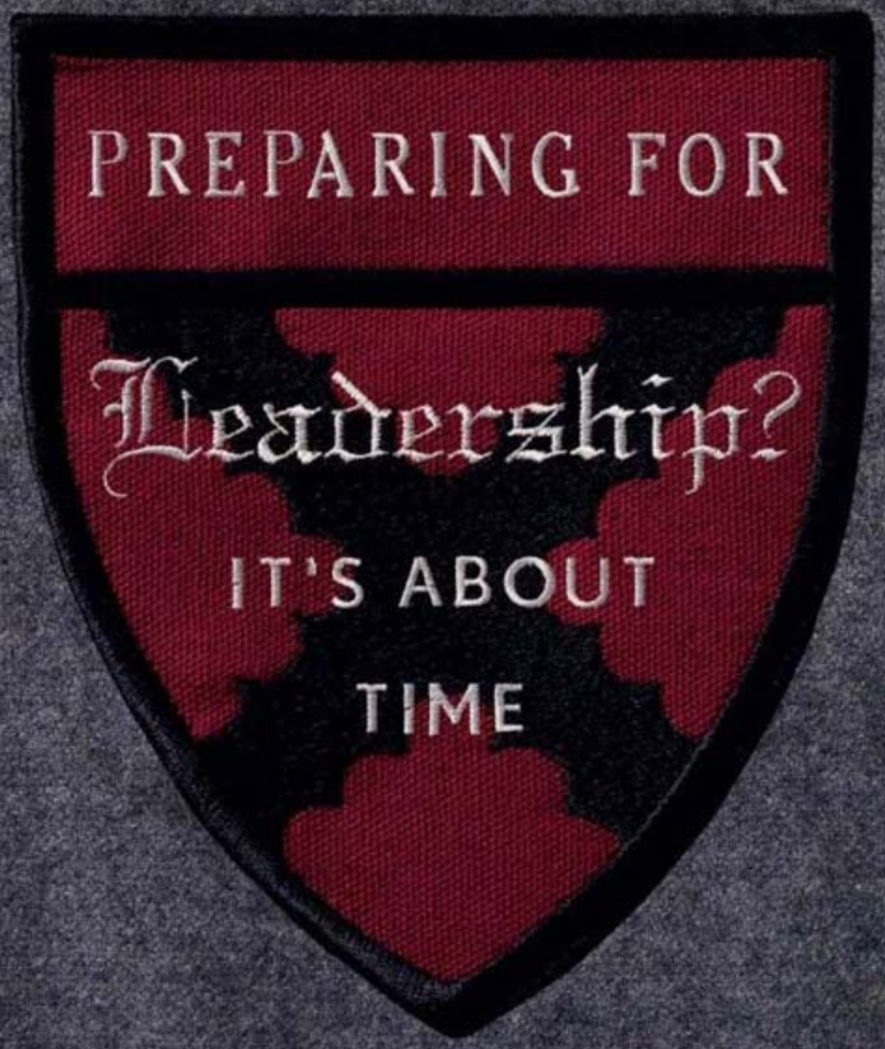
Among the insights Jayaraman and Luo offer executives: First, in many industries, such as computers and

continued on page 34

ADVANCED MANAGEMENT PROGRAM	MARCH AND SEPTEMBER 2008
GENERAL MANAGEMENT PROGRAM	JANUARY AND AUGUST 2008
PROGRAM FOR LEADERSHIP DEVELOPMENT	DECEMBER 2007 AND JULY 2008

HARVARD BUSINESS SCHOOL
EXECUTIVE EDUCATION

100 YEARS 1908-2008



Are you ready to take the next step forward? Then it may be time to experience Harvard Business School Executive Education. We offer a variety of comprehensive leadership programs tailored to the key transitional points in every leader's career.

Make an investment in time that returns value for a lifetime. Take a moment to review your options at www.exed.hbs.edu/pgm/clphbr/.

Conversation

British Library CEO **Lynne Brindley** on helping to spur business innovation

Business innovation in the United Kingdom has a powerful ally these days: the British Library, the country's biggest repository for rare books, manuscripts, and scientific papers. In the past seven years its chief executive, Lynne Brindley, has overseen a major shift in its mission and culture. The library has become more forward-looking and customer focused and much less exclusive. These changes have occasionally engendered controversy. A *Guardian* columnist sniffed, "The studied calm of the reading room has given way to a hum of mobile phone ringtones." But one has only to visit the library's public spaces, where scores of entrepreneurs, researchers, and students take advantage of the collection and the free wireless network, to see a reflection of the UK's vital business culture.

How did you get interested in serving the business community?

When I took on the leadership of the library, we did market research to understand why people used us and what some of the barriers were. In the case of the business community, researchers from large companies used us, but the small and medium-size businesses less so. Meanwhile, the government, which provides most of our funding, was encouraging entrepreneurship and innovation as key to the country's future economic success. The creative industries were growing faster than traditional industries. So it made sense, strategically, to serve those communities and to change the perception of the library from quite a formidable institution to a place that said, "Come in – we have real value for you."

How did the library make that happen?

Our style and approach is "learn by doing." We've focused a lot on networking. As you would expect, the majority of the library's reading rooms are completely silent. However, when we designed the Business & IP Centre, we provided space, before you go into the reading room, for brown-bag lunches, networking events, seminars, and free access to databases. It's made the Business Centre much less of a "shush" kind of place. And we've had very high-profile events where, say, Anita Roddick from The Body Shop spoke to a group of entrepreneurs. I love to watch all the cards being exchanged after a talk like that.

We've also partnered with some unexpected groups – like the TV shows where entrepreneurs pitch ideas to venture capitalists. On one of those shows contestants have to prove they've done research at the BL.

You've overseen a major strategic and cultural change at the BL. What have you learned?

I brought in a more corporate-style senior team, which included a senior marketing function for the first time. But of course one can't simply decree a major change. The British Library is a knowledge institution. I learned the importance of fitting communications to what the organization wants and needs – otherwise you don't get the buy-in. People wanted to learn about the changes from the horse's mouth. At any given time we have people on the staff who are deeply happy, driving forward, and we have a few people who just want things to stay as they are. That's another thing I've learned about change initiatives: The whole organization is never in the same place at the same time.

Yet another lesson is the importance of protecting your own physical health. You must learn what drains you and plan accordingly. I realized I need my own private network and my own mentors, and sometimes an executive coach. I've encouraged my colleagues to find networks and mentors, too.

You're the first IT professional – and the first professional librarian – to head the BL. How has that affected the way you do your job?

In this phase of change, the institution needed technical expertise as well as general management skills; I needed to be able to ask informed questions. Running a major library is a bit like running a university: Your personal credibility as an expert needs to be strong.

Do you have a favorite piece from the collection?

I never answer that question. I want people to understand that we're not a museum. We have a responsibility to our heritage, but our mission is to foster innovation and build future knowledge on top of past knowledge.

– Sarah Cliffe

Reprint F0711G

SAVING LIVES | SAVING HOMES | SAVING CATS IN TREES

So who's watching out for him?

You do what you do well, and Allianz will take care of all the rest. We offer quality investment strategies around the world that help you reach your goals. Reliable insurance products to protect your property. And dependable retirement plans to help you look forward to anything but worry. As a leading Fortune Global 500® company, Allianz gives you the confidence you need, whatever your moment. www.allianz.com/confident

Allianz. Financial solutions from A–Z

INSURANCE | ASSET MANAGEMENT | BANKING

Allianz

Contact us or your financial advisor for our Insurance and Asset Management solutions:
Allianz Global Investors — Fireman's Fund — Allianz Life

Allianz is a registered trademark of Allianz SE, Germany. Allianz SE is the parent company of entities around the world such as AGF, Allianz Global Investors and Dresdner Bank. The range of services in different markets may vary. ©2007 Allianz SE

peripherals, short product life cycles mean that returned items must be treated as perishable. Every delay in transporting, sorting, grading, and repackaging returned printers, for example, reduces the value remaining in the product. Second, value chain partnerships are crucial. Specialized third-party providers can often handle tasks such as credit issuance and transportation more efficiently than the manufacturer can.

Third, a well-managed reverse logistics system allows the company to retain contact with customers and derive valuable feedback from them. That information can be used to improve the company's product mix and, if products are returned because of defects, correct any failings in the operational infrastructure.

– **Andrew O'Connell** Reprint F0711F

OPERATIONS

Lessons from the Leaders of Retail Loss Prevention

by Adrian Beck and Colin Peacock

Preventing theft, damage, and errors such as food spoilage has long been an unyielding and poorly understood problem for retailers. But a few companies stand out in their ability to limit losses, and if every retailer were as successful as they are, the sector could save billions of dollars annually – as much as $27 billion in the United States alone.

Despite growing investment in electronic article surveillance and other loss-prevention approaches, inventory loss in the United States has remained stubbornly high over the past 15 years, fluctuating between 1.54% and 1.95% of sales, according to the University of Florida's annual National Retail Security Survey, with the average rate in 2006 being 1.59%. Longer supply chains, growing product assortments, and labor cuts have contributed to making loss prevention ever more challenging.

The lesson of five companies we studied – Target, Limited Brands, Best Buy, Gap, and CVS – isn't that security people should arrest more thieves or spend more on technology, the approaches that have dominated retail loss prevention. While catching criminals may appeal to the former police officers who are so often hired to deal with this problem, success requires a companywide strategy focused on operational excellence. These companies have shown that demonstrating strong leadership, embedding effective procedures, and ensuring compliance can drastically limit situations where shrinkage can occur.

The companies in our study were recommended by a panel of specialists on the basis of their innovative approaches and their success in keeping shrinkage low. The average shrinkage rate of the five was 44% below the U.S. mean, and one company's rate was 70% below. We determined that these companies tend to rely on nine practices in developing an effective approach to loss prevention.

Three *strategic* practices must first be in place:

Establish senior management commitment to making shrinkage a priority, overseeing an action plan, allocating resources, and monitoring results. (Figures on inventory loss are a closely guarded secret at most companies, but one of the five in our study gives shrinkage data to outside financial analysts so that they can better assess the company's performance.)

Ensure organizational commitment from managers throughout the company; otherwise, any attempted solution will be short-lived. The loss prevention department's role is primarily to lead a cross-functional effort to manage the problem continuously.

Embed loss prevention at all levels. Employees throughout the company must take responsibility for reducing shrinkage. The company should see loss prevention as equal to sales in importance.

Next the company must focus on five *cultural* practices:

Provide strong leadership and develop a team. Heads of loss prevention must command authority and be passionate and energetic, and they must create and lead multifunctional loss prevention teams.

Use evidence-based management. Decisions must derive from detailed and timely data, not intuition. (Most of the five companies' store managers received item-level shrinkage data every week.)

Innovate and experiment. Team members must listen and have open minds so that they can stay ahead of such new challenges as self-checkout scanning equipment.

Talk shrinkage. Companies can help keep shrinkage on the agenda by, for example, providing regular shrinkage scorecards.

Prioritize procedural control. All parts of the company must see the link between shrinkage and poor adherence to process. Checking the accuracy of stock deliveries should be viewed as on a par with catching thieves.

Traditionally, a store's operational staff has been the starting point for controlling shrinkage, but for these retailers it was the final piece of the puzzle. Thus the ninth, *operational excellence* practice:

Empower store workers and hold them accountable. Store managers and frontline workers should be asked for their views as the shrinkage-prevention plan is being developed and then given the necessary tools, training, and data to implement the plan. (One of the companies we studied goes a step further, giving store associates a share of any savings in shrinkage beyond the store's agreed-upon target.)

Inventory loss has always been regarded as an unavoidable consequence of doing business, but these five companies have shown that by adopting a proactive and integrative approach, a firm can successfully reduce shrinkage's drain on profitability, thereby increasing shopper and shareholder value.

Adrian Beck (bna@le.ac.uk) is a reader in criminology at the University of Leicester in England. (Contact him for a free copy of the full report from this research.) **Colin Peacock** (peacock.c@pg.com) is the director of shrink and store operations improvement at Procter & Gamble and is based in London. Reprint F0711H

A STAR ALLIANCE MEMBER

Deeper relaxation makes you always feel on top.

Enjoy legendary service on Royal Silk Class from New York or Los Angeles to Bangkok.

ROYAL SILK

Nothing puts you on top of your travel experience like complete relaxation and great service. The new shell seating* on Royal Silk Class lets you lie flat comfortably, and is elevated by our unique hospitality on every flight. On business or holiday to over 70 cities in 5 continents, the feeling on THAI is always smooth as silk.

*New Royal Silk Class seats available on all A340, B777-200, and selected B747-400 aircraft on selected routes.

THAI
Smooth as silk

www.thaiairways.com

Reviews

The Three Signs of a Miserable Job

Patrick Lencioni
(Jossey-Bass, 2007)

Master strategist. Savvy deal maker. Business-model transformer. Shareholder-value creator extraordinaire. Managers are expected to be all these things and much more. As the list of requirements grows and grows, it's easy to forget that managers, regardless of their level, can't succeed at anything on their own. Their success depends on their skill at getting the most out of the people in their organizations. In this pleasant novel, Patrick Lencioni, the president of a consulting firm specializing in executive team development, reminds us of that fundamental truth. He appends a handful of simple but powerful insights into how to make all kinds of jobs fulfilling – which, he contends, is the key to motivating people in organizations large and small.

The main character in Lencioni's latest "fable for managers" is Brian Bailey, the chief executive of JMJ Fitness Machines, a California manufacturer of exercise equipment. During Bailey's 17 years at the helm, JMJ has catapulted from minor player to one of the top three in its industry. Although a strategic repositioning and the creation of innovative products clearly played a role, Bailey fully understands that JMJ's happy employees made it all happen – and he takes a lot of pride in the numerous "great place to work" awards that JMJ receives. Still, when asked for the secret to creating a highly satisfied workforce, the best he can come up with is the golden rule: He just treats people the way he would like to be treated. He cannot articulate precise principles or methodologies that other managers could adopt. That is, until he finds himself out of a job at age 53, when JMJ is acquired.

After the deal is consummated, Bailey reluctantly succumbs to his wife's pressure to retire, and they move to the Lake Tahoe area. When a skiing accident sidelines him, he takes on a project: turning around Gene and Joe's, a tired Italian restaurant whose indifferent employees cannot even get orders right. In this humble laboratory he comes to understand the causes of and cure for miserable job disease, an epidemic to which no position or profession is immune.

As the title suggests, Lencioni identifies three root causes: "immeasurement" (you can't know if you're doing a good job or gauge your progress or level of contribution), irrelevance (you feel that your job has no positive impact on others' lives), and anonymity (neither your boss nor your fellow workers really know who you are or care about you). It's the manager's responsibility, Lencioni declares, to give employees a tangible means for assessing their success or failure, to help them see how their work makes a difference to others, and to take an interest in them. He urges managers to "view their work as a ministry" and adds: "By helping people find fulfillment in their work, and helping them succeed in whatever they're doing, a manager can have a profound impact on the emotional, financial, physical, and spiritual health of workers and their families." These are words that everyone who is or aspires to be a manager should take to heart.

– Steven Prokesch

Influencer: The Power to Change Anything

Kerry Patterson et al.
(McGraw Hill, 2007)

You don't have to be a manager to realize that no one likes being told what to do. Yet lectures are still the main way we try to get people to change their behavior. Fortunately, social learning academics have been studying alternatives for decades. Patterson and his fellow consultants have now collected their findings in this engaging, example-rich book. The key message is hardly new, but it has gotten more sophisticated: Managers need to get out of the way and facilitate, not manage, the process of change for employees. They can do this by offering vicarious experiences, restructured environments, peer pressure, and frequent tests – all geared so that people embrace the change as authentic to them, not imposed by an outsider. Missing are only success stories of organizations that persuaded managers to drop their controlling habits and choose to be mere facilitators.

Innovation Nation: How America Is Losing Its Innovation Edge, Why It Matters, and How We Can Get It Back

John Kao
(Free Press, 2007)

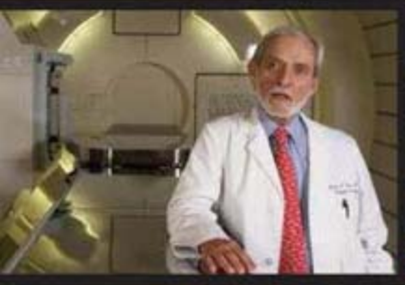
The United States faces serious competition in hosting major research and development centers. Scientists and companies have choices, from Denmark to Singapore, about where to put their time and money. Is this a sign of healthy global convergence on the high American standard, or is the U.S. infrastructure for innovation declining? Kao, a longtime professor and consultant on creativity, believes the answer is both. He bemoans America's dwindling investment in R&D and science education. Antiterrorist restrictions on foreigners, along with barriers to stem-cell and related experiments, have also hurt. But sprinkled throughout this rambling work is specific advice on fostering innovation, most of which comes from U.S. examples.

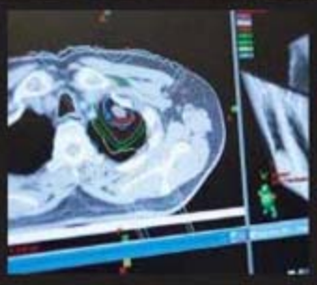
– John T. Landry

Hitachi | true stories

HOPE IN HOUSTON

hitachi.com/truestories





"We have patients who get treated in the morning and play golf in the afternoon."

Dr. James D. Cox
M.D. Anderson Cancer Center

Imagine a radiation treatment so precise that it devastates tumors, but leaves healthy tissue unharmed. It's called proton beam therapy, and it's one of the many technologies developed by Hitachi. Watch how the doctors at Houston's renowned M.D. Anderson Cancer Center are using proton beam therapy to help keep a Baton Rouge pilot in the cockpit, and his cancer on the ground.

Watch the documentary film series at **hitachi.com/truestories**

HITACHI
Inspire the Next

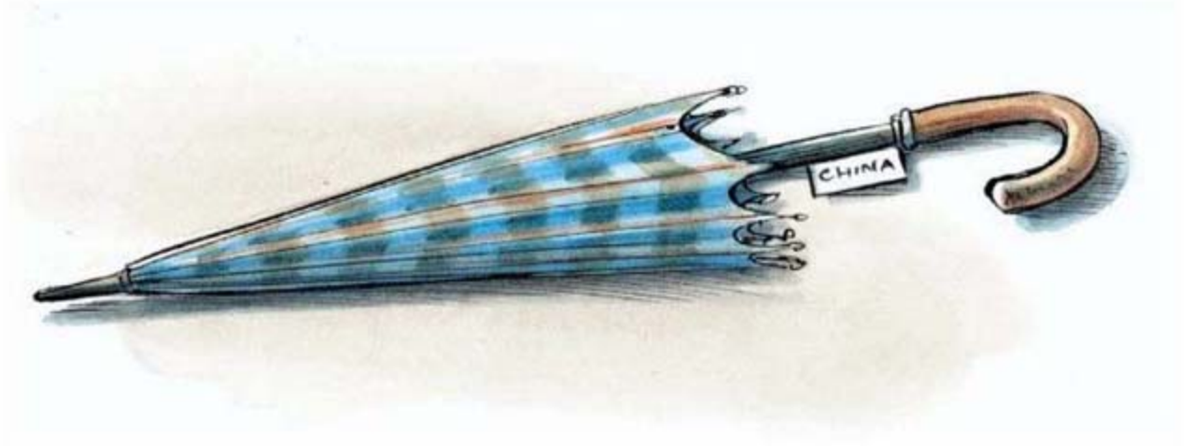
Morgan Stanley
WORLD WISE

Investments and services are offered through Morgan Stanley & Co. Incorporated, member SIPC. ©2007 Morgan Stanley.

The windfall. What do you do when wealth suddenly comes your way? Last year Morgan Stanley completed more than $720 billion of global Mergers and Acquisitions transactions. And, in the process, helped owners and leaders of businesses both large and small deal with the consequences of a sudden increase in personal wealth. Whether you benefit from a merger or the sale of a business, no one is better suited to help you think through your opportunities than a Morgan Stanley Financial Advisor.

Ask a Financial Advisor today.

Visit morganstanley.com/WORLDWISE
or call 866.479.1836



Mad About Plaid

When an iconic British fashion house shutters its last domestic factory, the knit hits the fan.

by Julia Kirby

THE CABBIE CALLED OUT, "'Ere now, madam! You wouldn't want to give Piccadilly Circus a miss, would you? That's Eros, the god of love, up there takin' aim at us."

Hiroko Miyamoto looked up from the stack of papers she was sorting into her briefcase and met the driver's cheerful eyes in the rearview mirror. She laughed and played along, pretending to shield herself from the famous statue's arrow. Hiroko's mood was light. Meetings she'd expected to take all day had wrapped up early, giving her time to return to the hotel and even fit in some shopping before launching back into business over dinner. She settled into the ample seat of the taxi and soaked up the scene. Japanese electronics firms still dominated the garish signage on the Circus – a dubious honor for her countrymen. And the traffic was, if anything, even more impassable than she remembered from her last trip. But it was enchanting to be in London again.

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

Daniel Vasconcellos

After turning into Regent Street, the cab progressed more quickly toward the hotel. Yet, Hiroko managed to spy the white marble storefront of Castlebridge & Company. She leaned forward. "Driver, I've changed my mind. Could you let me out here?" The shop was the ideal place to pick up the gifts she wanted. Castlebridge – so well made and so very, very British – was one brand that no one in Japan seemed to get enough of. Whether it would be less expensive to shop at Castlebridge in its home country she didn't know, but that hardly mattered. It would mean a great deal to people that she bought their gifts right at the source.

Minutes later, a solicitous assistant was at Hiroko's side offering to relieve her of the armload of scarves and gloves she had already accumulated – all in the brand's signature brown, blue, and coral plaid. He whisked them off to the sales counter. Hiroko was studying a navy version of Castlebridge's signature raincoat, a possible souvenir for herself, when the phone in her suit pocket hummed. She checked the display to determine what language to use in greeting. It was Fergus Harold, her business school classmate and, as chance would have it, now her counterpart in a joint deal by their respective banks. "Hello, old chap. Hungry already?"

"Just checking that you're clear on where the restaurant is," said Fergus. "And, mind you, they're calling for rather wet weather this evening."

Hiroko glanced toward the front of the shop, which was still bathed in seemingly untroubled afternoon light. But of course this was London, whose weather could always surprise. She shrugged and headed toward a display of umbrellas. "Oh, don't worry about me. I'm at Castlebridge's now, buying everything in sight. If there's one thing I should be equipped for, it's rain."

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

Made in *Where?*

As Fergus approached the restaurant, a woman crossed the street ahead of him, protected by an ample plaid umbrella but obviously taking care, in her stylish heels, to skirt the puddles. Squinting against the steady downpour, he recognized Hiroko and hurried to open the door for her. He was eager to share the one fact about his career he hadn't yet mentioned in their rekindled acquaintance: For the past year, he'd been on the board of directors of Castlebridge, the very company she'd been doing trade with that afternoon.

"Beautiful umbrella!" Fergus smiled brightly. "Have you owned it long?"

Hiroko laughed. "Oh, this old thing?" She pulled a mock grimace. "Actually, I'm afraid I might not own it much longer if my husband catches sight of *this*." She pointed to a small tag of cloth sewn into a seam on the umbrella's underside. "The last time I brought home something labeled 'Made in Malaysia' I got quite a lecture. His grandfather suffered terribly there during the Pacific War, and Minoru was sure it would upset his mother to see the tag."

"I'm so sorry to hear about that," Fergus said. He ushered Hiroko toward the coat check.

"Yes," she sighed. "It *is* too bad. I had heard that the London store was on the site of the original Castlebridge workshop. I'd hoped the umbrella would have been made right there."

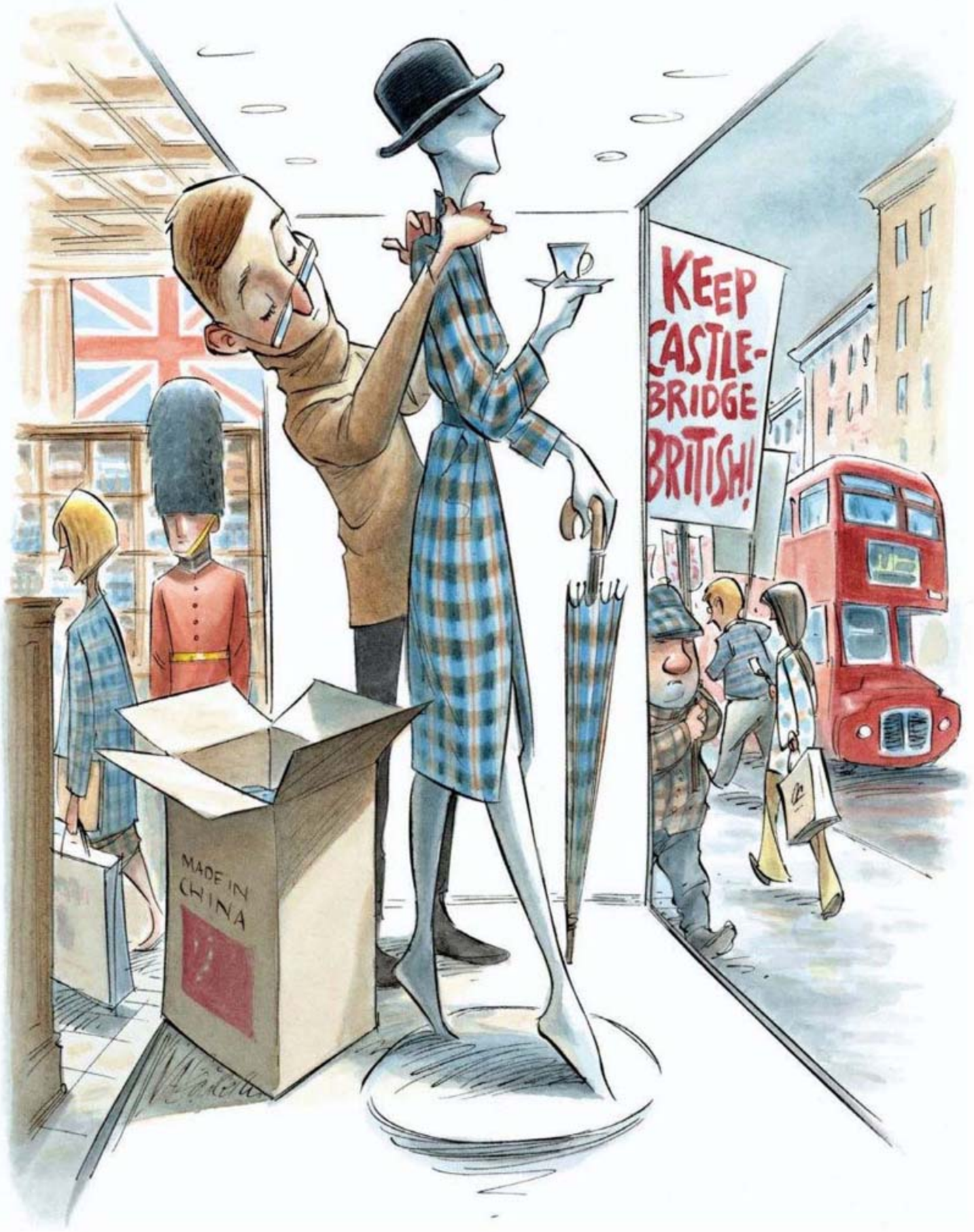
"I had heard that the London store was on the site of the original Castlebridge workshop. I'd hoped the umbrella would have been made right there."

Flies in the Ointment

Fergus had enjoyed a relaxing evening with Hiroko. His dinner conversation with her had touched on many topics – and she had in fact been delighted to hear of his Castlebridge connection – but it was those few words in the rain that came back to him weeks later. He was attending the quarterly meeting of Castlebridge's board of directors, and the first presentation was an update on the company's operations restructuring. CFO Doris Milne assured the directors that Project Fulcrum had moved decisively into its implementation phase after a year of analysis and planning.

"This is a chart with which you are all familiar." Doris was wrapping up with a review of the revenue growth over the past four years. It was heady stuff, as PowerPoint slides go. The investments and energy applied to revamping the company's brand and to building new markets globally – all initiated by CEO Mary Crane – had paid off in huge sales increases. Doris tapped her keyboard, and a second line appeared on the chart. "This, however, has been the fly in the ointment. Our costs rose dramatically as well, yielding margins that have failed to impress." Another click and both lines shot to the right, projecting a future in which they would diverge to good effect. Revenues continued north, while expenses headed south. "The steps we are taking to rationalize the supply chain and shift more manufacturing to lower-cost regions, particularly China, will support margins in this range."

After some discussion and debate about how those numbers would translate to the bottom line and ultimately affect shareholder value, Mary rose to thank her CFO. "We of course understand," she said, "that the changes Doris has outlined will have consequences for workers and communities, and not all of them will be welcomed. The board should note, in particular, that the announcement of the Yorkshire


KEEP
CASTLE-
BRIDGE
BRITISH!
MADE IN
CHINA

plant's closure has prompted a hue and cry from the trade unionists, and they have launched some publicity efforts against us."

"Those are the Keep Castlebridge British people, are they?" one of the directors asked. "Just last evening someone mentioned them to me." Fergus's ears pricked up.

"Yes," said the CEO dryly. "We are talking with them about their concerns. But as Doris indicated, the move to shut down Yorkshire is a relatively small step in what has been a long-term trend toward offshore production – even of the very jumpers being made there."

Jumpers. It was the first time Fergus had heard the American CEO use the term – in fact, she'd once told him she'd never be able to call them anything but sweaters. He wished he could kid her about it now.

"No one expects the unionists to be pleased," she continued, "but I should think this campaign of theirs will blow over rather soon."

Fergus spoke up. "I'm not as certain as you, Mary, that Keep Castlebridge British won't gain some traction. It's damned clever of them, isn't it, elevating it to that level. This could turn out to be a real thorn in our side."

Mary allowed that it was clever. "But I think there's a limit to how much can be made of it. There are still a thousand of us here in London, and we're adding headquarters jobs constantly. At the end of the day, what this amounts to are only 270 workers."

An Identity Crisis

The weeks that followed proved Fergus right, but he took little pleasure in that fact. Instead of petering out, the Keep Castlebridge British campaign steadily picked up steam. Celebrities with only the most tenuous connections to Yorkshire added their voices to the chorus, urging Castlebridge to reverse its decision. In what was otherwise a slow period for news, reporters descended on the factory town. Images of crestfallen garment workers were spliced between stentorian denouncements by politicians courting votes. Inevitably, the workers with the longest tenures – and whitest hair – were dragged by the media into the spotlight, to emphasize by contrast their employer's lack of loyalty.

Fergus wasn't surprised when he picked up a phone message from Mary Crane. He had joined the board of directors around the same time Mary arrived, and that produced a sort of kinship between them. "I received a letter today from Glynn Jones regarding the Yorkshire closure," she said when Fergus called back that evening. Jones was the striking young actor, of rising popularity, now appearing in ads as the face of Castlebridge. "He hasn't chosen to bite the hand that feeds him publicly yet, but he's on file."

"We're a company, after all, that has always traded on its quintessentially British image."

Fergus hated to detect that hint of bitterness in Mary's voice. He hastened to make sympathetic noises and begged to be of service in whatever way she would find helpful.

"You can help me think this through again," she sighed. "I thought I had good instincts when it came to PR crises, but I'm realizing we might be in a situation that has to be approached differently here in Britain. There's a lot of posturing going on, obviously, but how much does this really matter to the public?"

"That's a very good question," Fergus said. "And I would simply urge you to think about it broadly. 'The public' means one thing when it refers generally to consumers of news, and something else entirely when it refers specifically to shoppers at Castlebridge." There was also the question of what the public was reacting to. Was it the plight of the Yorkshire workers specifically, or a more diffuse sense of unease about the loss of manufacturing capabilities throughout Britain? "It's possible we are victims of timing – having closed a plant, however small, just as people had stomached all they could of plant closures. Someone, I suppose, has to be the one to place that last straw on the camel's back."

Mary went silent for a moment – a sudden retreat from conversation that was one of the CEO's signature quirks (and one that Fergus had learned not to tread on). "In that case," she said finally, "we might want to make a really outsize gesture to counterbalance the effect. It could be an opportunity for us. I've been wondering if we shouldn't be much more visible in our commitment to social responsibility. Here's a splashy compromise we could offer: Just give the factory to the workers, free and clear, to make productive use of as they choose. Simply donate it to the townspeople."

Fergus raised his eyebrows. The factory needed some modernizing, perhaps, but it certainly wasn't worthless. He wondered how his fellow directors might react to the proposal. The real point, however, was not that Mary's idea was too grand but that it seemed somehow off the mark. He tried to explain. "Charity is important, it's true. We must do right by the workers. But we need to think, too, about this other group of people – "

"You mean the shareholders," Mary interjected.

"No – although they're crucial as well, of course. No, I mean the customers." He thought of Hiroko, Anglophile that she was, of her affection for the brand and her disappointment at seeing that "Made in Malaysia" label. Japan was Castlebridge's largest market these days, yet Fergus hadn't heard any discussion in board meetings of how its shoppers might react to goods made in China. "We're a company, after all, that has always traded on its quintessentially British image. And somehow, that has always seemed authentic. Even after all the wool started coming from Brazil, and the cotton from America, and the buttons from France. Even when

the production moved to eastern Europe. Even when our design group embraced diversity and brought influences in from every corner of the globe."

Mary laughed and added to the litany. "And even when the board brought in a New Yorker as CEO, who hired an Italian to make the ads, and a Swede to design the flagship store. But darn it, we're still British!"

"What happens to our customer appeal if our brand promise begins to ring hollow?"

"Is it possible we have reached a tipping point?" Fergus wondered, back on a serious note. "This business of keeping Castlebridge British might be resonating because our Britishness has finally become too diluted. That is my concern. What happens to our customer appeal," he continued, "if our brand promise begins to ring hollow?"

Finally Fergus felt he had his arms around the real issue, and he was eager to pursue it. He could sense, however, that his CEO was trying to wind down the conversation. The idea of the factory donation had captured her imagination, and she was eager to make the calls necessary to get that ball rolling. She thanked him for his insight and generosity of spirit, and promised to cycle back to him soon.

Defining "Britishness"

Elizabeth Harold was happy to go along on an errand to Savile Row after lunching with her husband in the City. Fergus's new overcoat had been ready for a week now, and he was eager to start enjoying it. As they walked in the crisp fall air, he returned to the subject that was preoccupying him. By now, Elizabeth was thoroughly versed in the matter, approaching boredom, and inclined to be irreverent.

"I don't see the problem," she said. "What could be more British than pressing foreign workers into subjugation in the interest of British commerce? Why not change the company slogan to The Sun Never Sets on Castlebridge and make a virtue of it?"

Fergus favored her with an ironic laugh, and they entered the shop. A studious-looking man stepped away from his task of displaying neckties and welcomed them. Elizabeth drifted toward a showcase of cuff links while the man phoned back to the fitting room. Soon Fergus saw Thomas, his favorite of all the cutters he'd met, step through the doorway at the back of the showroom.

"Good day, Mr. Harold," Thomas called out. "What a beautiful coat I have for you. I'd be grateful if you'd be so kind as to try it on once more."

Following Thomas past stacks of pattern cuttings, Fergus nodded to a tall man, rather portly, who appeared to be undergoing a second fitting for a suit. Two tailors busied themselves with measuring and chalking the grey pinstripe, making the occasional artisan's remark through the pins held between their lips.

Few things, Fergus reflected, were as steeped in British tradition as the bespoke woolen suit. How much did the merchants of Savile Row think that their craftsmanship was a matter of location? No doubt each tailor benefited from proximity to other masters of the trade – but the truth was that most kinds of manufacturing were becoming lost arts in the British Isles. Today, the most skilled garment workers in China had more in common with the earliest employees of Castlebridge than did any current workforce that could be mustered in Britain. For Castlebridge to claim to be quintessentially British, perhaps it really was enough to be managed out of a London headquarters. What, after all, defined Britishness? And what defined the brand?

What does Castlebridge risk by shifting the rest of its production offshore? Four commentators offer expert advice.

"If you don't get the magazine from the Rotman School of Management, aptly called *Rotman*, you're making a mistake."

Bruce Nussbaum
Assistant Managing Editor, *BusinessWeek*
(online blog, September 27, 2006)

Subscribe to *Rotman Magazine* today:
www.rotman.utoronto.ca/subscribe
One Year (3 issues): $95.00
Two Years (6 issues): $135.00

Rotman
a new way to think

If Castlebridge has a brand problem, it's not about national identity; it's about class, which still matters a good deal more in Britain than nationality does.

WHAT CASTLEBRIDGE risks by shifting production offshore is nothing. What CEO Mary Crane risks by *not* doing so is a slide in the company's share price and an untimely exit from her job. Increasing sales volumes are no good if costs rise in lockstep and margins "fail to impress." The solution is indeed to rationalize the supply chain and shift more manufacturing to lower-cost regions. The only mystery is why it's taken Castlebridge so long.

What's the downside? The principal threat is supposedly to Castlebridge's reputation as a quintessentially British brand. This threat takes two forms, domestic and foreign. Domestically, the media have jumped on the unionists' bandwagon and are stirring things up. The CEO is so unnerved she contemplates handing the factory over to the workers (an unusual nod in the direction of anarcho-syndicalism). Meanwhile, director Fergus Harold predicts that the strategy of outsourcing production could backfire abroad, triggering a negative reaction to a "Made in Malaysia" label among elderly Japanese consumers.

Mary and Fergus need to take a couple of chill pills each. First, no economy in the developed world is more accustomed to the loss of factory jobs than Britain's. Twenty-five years ago, 31% of male and 18% of female workers were in manufacturing. Last year the figures were, respectively, 17% and 6%. It was painful at the time, but Margaret Thatcher successfully persuaded the British public that the country's comparative advantage no longer lay in industry but in financial services. She also broke the overmighty British trade unions. At the zenith of union militancy in the 1970s and 1980s, the British economy was losing as many as 30 million working days annually to labor disputes. The number in 2005 was just 157,400.

Castlebridge's closure of its Yorkshire factory isn't a last straw but a logical final step. This is not France, where nationalist sentiment still undercuts economic rationality. Nor is there reason to worry about the press – British newspapers spearheaded the fight against trade union power in the Thatcher years, and most of their proprietors would run a mile rather than return to the bad old days. As for the threat by the "face of Castlebridge" to take his protest public, there's no shortage of models in London. Give Kate Moss's agent a call.

What about the foreign fallout? As Fergus's wife says, "What could be more British than pressing foreign workers into subjugation?" British firms have been manufacturing overseas for a very long time, as any historian of imperialism knows. That's why it's not plausible that a Japanese consumer would seriously object to a British-branded product labeled "Made in Malaysia." If Hiroko's husband's grandfather had a rough time in World War II, at least some of the roughness was probably due to British servicemen. And, after all, Malaya was part of the British Empire until 1957.

There's a simpler solution to this problem than Mary and Fergus seem to realize, and the label is indeed the key. Merely take a leaf from the Apple playbook and stitch these words into the collars of new Castlebridge raincoats: "Designed in England, Made in Malaysia."

Frankly, if Castlebridge has a brand problem, it's not about national identity; it's about class, which still matters a good deal more in Britain than nationality does. At one time, the company's coats were considered to be as posh as Savile Row suits. The real risk of mass-producing the brand's signature plaid is precisely that it loses that cachet. The term *chav* (defined by the *Oxford English Dictionary* as a person "characterized by brash and loutish behavior and the wearing of designer-style clothes") probably hasn't reached Japan yet. But it will.

Wendy Wray

Niall Ferguson (nferguson@hbs.edu) is the William Ziegler Professor of Business Administration at Harvard Business School and the Laurence A. Tisch Professor of History at Harvard University. His most recent book is *The War of the World: Twentieth Century Conflict and the Descent of the West* (Penguin Press, 2006).

>

Behind the cute characters and slogans, cereal companies are serious about putting healthier products on the table. One national brand turned to Cargill to help convert their entire line of products to whole grain, requiring that the change not affect flavor or texture. Cargill developed a process for putting whole grain corn into their cereal while maintaining shelf life and taste appeal. We accomplished it all within the company's challenging time frame. The successful conversion means that Americans will eat an additional 1.5 billion whole grain servings each year. This is how Cargill works with customers.

collaborate > create > succeed™

The quest for healthier cereal never ends.

www.cargillcreates.com

©2007 Cargill, Incorporated

Cargill™

Nourishing Ideas. Nourishing People.™

Dana Thomas (dana.thomas@newsweek.com) is the European arts and entertainment correspondent for *Newsweek* in Paris and the author of *Deluxe: How Luxury Lost Its Luster* (Penguin Press, 2007).

THE PROBLEM with luxury fashion today is that business executives and bankers who know nothing about it or its merchandising often own, run, or sit on the boards of luxury brand companies. The difference between Castlebridge's two new kids on the block, CEO Mary Crane and director Fergus Harold, is that Fergus has both a conscience and an appreciation of Castlebridge's halcyon history. But he has joined the game way too late to change the rules.

Twenty-five years ago, luxury brands were small companies run by the founders or the founders' heirs. Niche businesses for a niche clientele, they did 20, 30, maybe 50 million dollars a year in sales, mainly to the rich. But in the mid-1980s, business tycoons who had no previous connections to luxury or fashion started buying – or taking over in hostile bids – these staid old firms, and in less than a decade transformed them into global conglomerates that did billions of dollars a year in sales. The plan was simple: Target the middle market – a new, broad socioeconomic demographic that included everyone from teachers and sales executives to high-tech entrepreneurs, McMansion suburbanites, and the "ghetto fabulous."

To execute the plan, the tycoons took several steps. They replaced the fashion houses' longtime couturiers with bad boy ready-to-wear designers who made blatantly sexier clothes. They ramped up the design and production of accessories, which were easy-entrance products with which to hook customers. They rolled out hundreds of stores around the world in middle-market tourist destinations such as Las Vegas and Waikiki. Last but not least, they marketed their companies' heritage – the history of European craftsmanship – to create the impression that these global public corporations were still small, European artisanal operations. Sales went up and up.

But it's impossible to sustain growth quarter after quarter for years on end. Back in the old days, when luxury brands served only the superwealthy, these businesses were virtually immune to economic fluctuations. By targeting the middle market, luxury brands have made themselves vulnerable. Economic downturns, wars, natural disasters, and health epidemics like SARS all affect the middle-market customer: She stops shopping. So brands are forced to look for other ways to make profits, and the most logical means toward that end is to cut production costs. As Mary – with her New York fashion industry background – now demonstrates, the easiest and most sensible way to reduce those costs is to shift operations offshore.

Castlebridge lost its "Britishness" when it decided to go global and hired a savvy American CEO to make it happen. Today, Castlebridge's owners are from everywhere, and Britishness isn't their priority; profits are. While the workers' protests have shone a spotlight on the problem of moving production offshore, that comes too late in the game as well. Mary is right: If the company wants to continue to market its Britishness – and that's all it amounts to, marketing – it should emphasize that the company headquarters and design studio remain in London. But Fergus's wife Elizabeth also makes a good point when she quips that the sun never sets on Castlebridge. If the firm plays up its British roots yet acknowledges its international production sourcing, it could win a reputation as a truly modern, global brand. In the end, Britishness is simply a euphemism for integrity and honesty. To be truly British, Castlebridge should come clean about its strategy and objectives.

If the firm plays up its British roots yet acknowledges its international production sourcing, it could win a reputation as a truly modern, global brand.

If the firm plays up its British roots yet acknowledges its international production sourcing, it could win a reputation as a truly modern, global brand.

AIR FRANCE
making the sky the best place on earth

14,700 daily flights

744 destinations

The world's largest network at your service.*

Seat
8B

AIR FRANCE KLM
*With our SkyTeam partners

www.airfrance.com/us

Dov Seidman (dseidman@lrn.com) is the chairman and CEO of LRN, a company headquartered in Los Angeles that helps businesses create ethical corporate cultures. He is the author of *HOW: Why How We Do Anything Means Everything...in Business (and in Life)*, published by John Wiley & Sons (2007).

CASTLEBRIDGE'S DECISION to close its Yorkshire factory is clearly a defensible move. Let's focus instead on *how* the fictional company does what it does – its habits of business leadership and management.

That Castlebridge's management is blindsided by the public outcry reveals a mind-set dating from before the world became hyperconnected and hypertransparent. Then, businesses did whatever it took to achieve the highest profits and shareholder return. Today, leadership is about understanding how to be faithful and responsive to a more complex set of stakeholder concerns.

In the earlier, nontransparent world, a company could determine unilaterally – through marketing and advertising, and the kinds of products it made – what the world thought about it. It could tell its own story, define its own success. Now, outsiders empowered by ubiquitous communications technology can easily probe a company's inner workings and broadcast what they discover. With others writing your story every day, reputation no longer carries your byline.

CEO Mary Crane has to understand that Castlebridge cannot simply "manage" its reputation anymore; it must now *earn* it – one communication, one interaction, one keeping of a brand promise at a time. Management should ask itself: How do we collaborate, and how do we treat people? How do we inspire trust and loyalty among our customers, suppliers, partners, investors, and employees? How do we uphold the promise of the brand, and how do we apologize when we fall short?

Castlebridge cannot simply "manage" its reputation anymore; it must now *earn* it — one communication, one interaction, one keeping of a brand promise at a time.

Outperforming competitors is no longer enough – you have to *outbehave* them. To the extent that Castlebridge has established high-quality relationships for doing business in an aboveboard way, that constitutes an advantage worth safeguarding. This has nothing to do with PR spin or managing through a short-term crisis. Mary can donate the factory to the displaced workers, but unless she also has an authentic commitment to their well-being, the gesture will ring hollow as a PR ploy.

Castlebridge is at a crossroads. In a global marketplace, the company must figure out what it means to be British. Maybe, as Fergus Harold observes, it's not solely a matter of geography, but also of high quality, finish, and a certain kind of design. Maybe it's about values and ideals that transcend nationality. But being global doesn't mean shedding your heritage, and being British doesn't mean you can't have a New York–born CEO.

The opportunity here for Castlebridge comes down to manifesting a set of values that operate as guiding principles (even when they are inconveniently unprofitable) and that allow it to do what's right for the business – but in a way that expresses those values through behavior. Going forward, how will the firm treat the people left behind and those in places where it forms new manufacturing relationships? How will it share its goals and values with stakeholders?

There are times when a company's identity is challenged and it has to rediscover and reassert its values. You don't want that process carried out from on high, with the results handed down on stone tablets. You have to truly engage all of the company in identifying – and then recommitting to – the principles that have brought it this far. Some years ago IBM did this in a companywide online event it called a "values jam." Mary Crane could initiate a comparable effort.

As Mary and the board have starkly learned, considerations of how you do what you do are no longer unimportant to success. Clearly, something powerful has brought Castlebridge to where it is today. The company now must rediscover, and redefine for the present, exactly what that is. More important, it must connect its values with the behavior required to live them out. In so doing, an organization proves that it can have both principles and profits.

The directors need to consider whether a fiscal strategy is enough to take Castlebridge successfully into the future – or whether they also need a people strategy.

MARY CRANE has an excellent strategic plan: The company will be headquartered in London, production based in low-cost regions of China and eastern Europe, and goods sold through a network of retail outlets around the world. A revamped brand, plus higher margins and a global reach, should ensure that Castlebridge remains competitive in the cutthroat luxury goods market.

Mary is smart, forward-thinking, and entirely focused on the bottom line. She does not flinch at the need to restructure the company, even though 270 workers will lose their jobs. Her vision and direction are strong and clear, and her managers appear reluctant to challenge or question her. Her only concern is how shareholders, the public, and the media are taking the news of the factory closure. Board member Fergus Harold reminds her to consider Castlebridge's customers, but no one mentions those other important stakeholders: the staff.

The directors need to consider whether a fiscal strategy is enough to take Castlebridge successfully into the future – or whether they also need a people strategy. Mary and her colleagues must act quickly to ensure that they don't alienate their staff and derail the restructuring plan. I propose the following four steps.

First, move to allay fears and rumors about further job losses by communicating management's intentions clearly and forthrightly to the staff, preferably face-to-face. Although managers often believe that survivors of downsizing are grateful to have kept their jobs, in fact they are often left with as many negative emotions as if they, too, had been laid off. Castlebridge's London employees will feel confused, anxious, stressed, victimized, apathetic, distrustful, hostile, and even guilty for having been spared. They will believe their jobs are no longer secure, that the company has lost its direction and vision, and that management cares not a whit about them. Managers should be alert for absenteeism, low morale, loss of pride in the company, and even low-level acts of sabotage.

Second, ensure that Mary, as CEO, becomes a major factor in reshaping Castlebridge's culture and organizational climate. If she focuses only on the bottom line, she will disaffect employees who are motivated by other things – pride in the company, a sense of belonging, the enjoyment of challenging projects. Staff will scrutinize managers' every word and gesture for clues about their character, values, and intentions for the firm. They will watch for signs of cynical exploitation of the brand and of customers' goodwill. Thus, it is critical that management communicate clearly about its motives and model the sort of behavior it expects to see across the company.

Third, take the pulse of employees' trust and morale, the extent of their commitment to Castlebridge, and the likelihood of their helping or hindering corporate objectives. A companywide survey would help unearth unspoken feelings about the firm and its values. Experienced managers know that a lack of trust inhibits high performance and that undercurrents of tension, conflict, and job insecurity foster staff indifference that, in turn, lead to declining service and, ultimately, customer discontent.

Finally, help rebuild employees' confidence in hopes of motivating them again. Toward that end, managers should communicate openly, honestly, and frequently with their teams. While they must be positive about the future, they should also be open to hearing and responding to concerns and complaints. Eventually, the crisis will pass and the worst of all fears will prove to be unfounded.

Reprint R0711A
Reprint Case only R0711X
Reprint Commentary only R0711Z
To order, see page 155.

Gill Corkindale (credo@tiscali.co.uk) is a London-based executive coach and consultant on corporate reputation and strategic media management. She is a former management editor of the *Financial Times*. Her online column, "Letter from London," is posted weekly at http://discussionleader.hbsp.com/corkindale.

685 VOICE COMMANDS. 52 PERSONALIZED DRIVER SETTINGS.
TECHNOLOGY IS THE NEW LUXURY.

The Acura RL. So intelligent, it knows your every preference. So advanced, it responds to your every command. With a word you control nearly everything, from its available voice-activated navigation with real-time traffic* alerts, to its fully integrated Bose® Surround Sound System. Resulting in a luxury car that feels as though it were designed just for you. Experience it at acura.com or call 1-800-To-Acura. **Advancing control.**

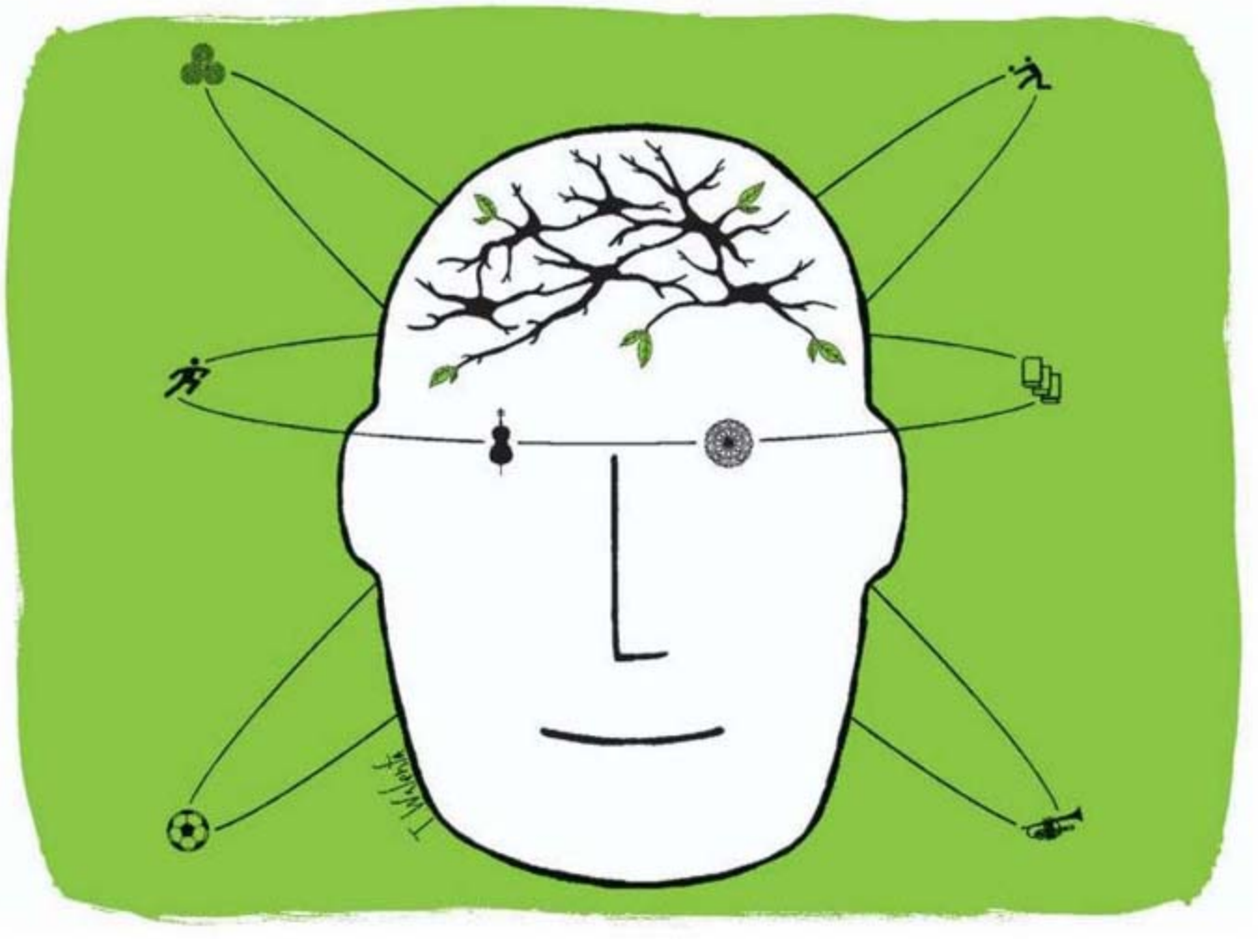
ACURA
ADVANCE.

Growt_ & P_ofit

The world's most successful companies
have this one figured out.

www.kenexa.com

Sourcing | Applicant Tracking | Skills Testing | Behavioral Assessment | Onboarding | Career Development
Performance Management | Employee Surveys | Succession Planning | HR Analytics | Exit Interviewing



Tomasz Walenta

Cognitive Fitness

New research in neuroscience shows how to stay sharp by exercising your brain.

by Roderick Gilkey and Clint Kilts

WINSTON CHURCHILL WAS outspoken on the sacred rites of smoking cigars and drinking alcohol before, after, and during meals – and in the intervals in between. But he was also exceptionally active mentally. As historians have duly noted, Churchill went on to live until 90. That speaks volumes for the information that is now coming to light about how the brain can affect the body.

Of course, few executives would be willing to follow Churchill's example in taking such poor care of their physical health. As life expectancy continues to rise, people are doing more and more to ensure that their lives, if long, are going to be healthy. The American Heart Association now recommends 30 minutes of moderate exercise five days a week. Not surprisingly, most large companies offer health club memberships as a perk; many provide gyms on-site. Find yourself on the road, and you're almost guaranteed to have a fitness center in your hotel. You may even have to get in line to use the equipment.

Until recently, however, there seemed to be no guidelines for active efforts you could make to stay *mentally* healthy. There were no brain exercises – no mental push-ups – you could do to stave off the loss of memory and analytic acuity that comes as you grow older. In the worst-case scenario, you could end up with Alzheimer's disease, for which there are no proven treatments.

But a concentrated commitment of resources by the National Institutes of Health, the National Institute of Mental Health, and the Library of Congress during the 1990s – which the White House proclaimed the "decade of the brain" to heighten public awareness of the need for neuroscience research – yielded a broad front of research and training that has upended some deeply held beliefs about the brain. One such belief is that the brain necessarily diminishes with age. It turns out that neurons, the basic cells that allow information transfer to support the brain's computing power, do *not* have to die off as we get older. In fact, a number of regions of the brain important to functions such as motor behavior and memory can actually expand their complement of neurons as we age. This process, called neurogenesis, used to be unthinkable in mainstream neuroscience.

What does all this have to do with you? The process of neurogenesis is profoundly affected by the way you live your life. The brain's anatomy, neural networks, and cognitive abilities can all be strengthened and improved through your experiences and interactions with your environment. The health of your brain isn't just the product of negative and positive childhood experiences and genetic inheritance; it reflects your adult choices and experiences as well. That's extremely good news. Sigmund Freud and those who followed him both in the neurological sciences and in the psychoanalytic tradition thought for years that brain development ceased in childhood or early adolescence. Although these periods do hold the greatest potential for neural development, we now know there is a regimen you can follow to retain and even build mental capacity as you age.

Brain-imaging studies indicate, for example, that acquired expertise in areas as diverse as playing a cello, juggling, speaking a foreign language, and driving a taxicab expands and makes more communicative the neural systems in the parts of the brain responsible for motor control and spatial navigation. In other words, you can make physical changes in your brain by learning new skills. You can even make changes in how your brain functions by exercising conscious will. In a recent experiment using real-time brain imaging, scientists demonstrated that individuals learned to mitigate the sensation of pain by consciously controlling the observable activity of the rostral anterior cingulate cortex, an area of the brain involved in pain processing. In theory, therefore, it's possible for people to alleviate pain through neurofeedback, without drugs.

These advances in neuroscience suggest that there is no reason why your brain at 60 can't be as competent as it was at 25. That would not have been news to thinkers such as Socrates, Copernicus, and Galileo, who were all still at the peak of their intellectual powers in their sixties and seventies. Nor would it surprise business leaders such as Alan Greenspan, Warren Buffett, and Sumner Redstone. These icons and others like them have intuitively understood that the brain's alertness is the result of what we call cognitive fitness – a state of optimized ability to reason, remember, learn, plan, and adapt that is enhanced by certain attitudes, lifestyle choices, and exercises. The more cognitively fit you are, the better you will be able to make decisions, solve problems, and deal with stress and change. Cognitive fitness will allow you to be more open to new ideas and alternative perspectives. It will give you the capacity to change your behaviors and forecast their outcomes in order to realize your goals. You can become the kind of person your company values most. Perhaps more important, you can delay senescence for years and even enjoy a second career.

So how can you become cognitively fit? Drawing selectively from the rapidly expanding body of neuroscience research as well as from well-established research in psychology and other mental health fields, we have identified four steps you can take. These steps are by no means exhaustive. They overlap and reinforce one another. Together they capture, we believe, some of the key opportunities for maintaining an engaged, creative brain.

STEP 1
Understand How Experience Makes the Brain Grow

The experience-dependent nature of cognitive health has long been appreciated by psychologists. As early as the middle of the twentieth century, they noted that rich experience helped very young children to interact with their environment. We've also known for some time that experience has a physiological impact on the brain. In the late eighteenth century, the Italian anatomist Vincenzo Malacarne conducted a famous series of controlled experiments on dogs and birds. He separated each litter or set of eggs into pairs, giving extensive care and training over time to one animal from every pair, and good care but no training to the other. His later autopsies revealed that the trained animals' brains were more anatomically complex, with more folds and fissures. This research was the first to identify the impact of experience

Roderick Gilkey is an associate professor of organization and management at the Goizueta Business School at Emory University in Atlanta and an associate professor in the department of psychiatry and behavioral sciences at the Emory University School of Medicine. **Clint Kilts** is the Dr. Paul Janssen Professor in the department of psychiatry and behavioral sciences.

It's a breakthrough idea.
It's tapping into a unique market.
It will invent a whole new category.
If you can get investors to understand what it is.

So, who do you want in the room?

winningsolutions.ml.com

©2007 Merrill Lynch & Co., Inc. Approved for UK distribution by Merrill Lynch, Pierce, Fenner & Smith Limited. 2 King Edward Street, London EC1A 1HQ. The UK compensation scheme and rules for the protection of private customers do not apply to the services provided or products sold by non-UK regulated affiliates.

Merrill Lynch
Global Markets & Investment Banking

and education on the structure of the brain. To build on an example mentioned earlier, the expansion of the motor area representing a hand that plays a cello is greater in someone who started lessons early in life than in someone who didn't.

While the neuroscience community has known for quite a while about the biological impact of expanding experience, we've only recently figured out how the brain actually processes experience in order to encode learning and build performance capacity. The discovery of dedicated neural systems that represent objects, people, and actions provides a new explanation of the mechanism involved. The so-called mirror neurons making up these systems aid the speed and accuracy of our perception by mentally simulating objects and actions in our environment. Knowing that mirror neurons allow us to internally reflect our external world is a quantum leap in our understanding of how humans comprehend and master their environment. Experience gained through observation activates these performance-enhancing neurons, which accelerate learning and the capacity to learn.

Traditionally, scientists have assumed that people gain new skills through practice – that is, through direct experience – but the existence of mirror neurons means you can also gain skills through observation and indirect experience. Think about this for a moment: When a golf pro demonstrates the correct stance and swing for you to imitate, mirror neurons are activated, enabling you to learn from his experience by supplying you with the mental image of the correct actions. And it's not just physical skills that can be picked up this way. Your social cognitions are similarly aided by specialized neurons that reflect facial expressions, gestures, and other signals, and develop your ability to read other people's actions and expressions by matching them with internal representations you have acquired.

This suggests that mental imagery – for instance, trying to re-create the golf pro's swing through a mental picture – is a valid mode of learning and acquiring new competences. Indeed, sports professionals often attribute their exceptional abilities to being able to "see" the ball and its flight prior to striking or catching it. The brain's ability to learn in this way makes a biological case for the use of simulations and case studies as tools in your quest for development as a leader. Such approaches not only promise effective ways of learning but are also potentially very efficient. You can conceivably gain the brain benefits of other people's long-term direct experience through, for example, short-term exposure to simulation. Simulated experiences can establish neural readiness for real experiences.

The existence of mirror neurons means you can gain skills through observation and indirect experience.

Of course, direct experience remains the keystone of a person's brain development – but we increasingly understand how to pave the way for such experience. One of the most powerful tools available for strengthening the executive brain is the walkabout. In business, this is known as management by walking around – the practice of getting out of your office and talking to employees. It's not just good business practice; it is also a sound form of cognitive exercise.

The walkabout is named after an Australian rite of passage in which aboriginal adolescents undertake a prolonged and challenging physical journey, sometimes for several months, in search of psychological and spiritual self-definition and maturity. The timing is just right, since it is during adolescence that the brain establishes and integrates the neural networks in the prefrontal cortex that encode a sense of self-identity, as well as moral and social conduct. This process culminates in late adolescence, when the brain's neurons are fully myelinated (coated with insulation) and interconnected in networks that help the mature brain function in an efficient, organized manner. The walkabout is not, of course, the only rite-of-passage ritual; it's quite remarkable how many similar rituals occur in different cultures at precisely the same stage in people's lives. There is a generally accepted understanding that adolescents need such "peak" experiences to consolidate their personal histories and their physical development into a viable, more advanced identity.

This sort of journey, more broadly speaking, can also have a strong influence on an executive's career, particularly if the timing is right. Warren Buffett is one leader who realizes this. When Anne Mulcahy, the CEO of Xerox, sought his advice about how to help the company emerge from a

emirates.com/usa

Moscow
Glasgow
Hamburg
Manchester
Birmingham
Düsseldorf
London Heathrow
Frankfurt
London Gatwick
Vienna
Paris
Munich
Istanbul
Toronto†
Zurich
Milan
Venice
Nice
Rome
Larnaca
Tehran
New York
Athens
Malta
Tunis
Beirut
Houston*,*
Alexandria
Damascus
Tripoli
Cairo
Kuwait
Casablanca
Bahrain
Dubai
Muscat
Doha
Amman
Dammam
Jeddah
Riyadh
Mumbai
Beijing
Seoul
Shanghai
Peshawar
Islamabad
Osaka
Hong Kong
Lahore
Karachi
Delhi
Kolkata
Nagoya
Dhaka
Manila

Toronto, welcome to our world.

A ripple begins as a single droplet, before its beautiful effect can be seen all across the water. Emirates now flies to over 90 destinations worldwide. Dropping in just about everywhere. Including Toronto as of October 29, 2007.

Discover the Emirates global network.

Fly Emirates. Keep discovering.

Bangkok
Bangalore
Hyderabad
Accra
Khartoum
Cochin
Chennai
Sanaa
Kuala Lumpur
Abidjan
Thiruvananthapuram
Addis Ababa
Lagos
Singapore
Colombo
Jakarta
Seychelles
Malé
Entebbe
Mauritius
Nairobi
Brisbane
Sao Paulo*
Sydney
Dar es Salaam
Perth
Johannesburg
Melbourne
Auckland
Christchurch

Emirates

300 international awards and over 90 destinations worldwide. For more details contact Emirates at 800-777-3999.
*Launching October 2007 †Launching October 2007—subject to government approval **Launching December 2007

financial crisis that was rapidly pushing it toward bankruptcy, he urged her to engage in a walkabout. His advice was that she should learn what Xerox employees and customers were thinking and worry less about what the financial analysts and shareholders were saying. It made excellent sense from a neurological standpoint for Mulcahy to acquire at the beginning of her tenure as CEO a deeper understanding of the people who would be following her, because the neural networks that would enable her decision making as a leader would not yet be fully formed. If she had stayed isolated in the corner office, those networks would certainly have ended up looking different than they do today.

STEP 2
Work Hard at Play

Another one of the most effective ways you can promote your cognitive health is to engage in the serious business of play. As the philosopher Henri Bergson wrote, "To exist is to change, to change is to mature, to mature is to go on creating oneself endlessly." To do this well requires consciously drawing on one of the great legacies of childhood – our ability to play, which lies at the heart of our capacity to imagine and invent.

The origin of the word "play" is telling: It is derived from the Old English word "plegian," which means to exercise. As a verb, "play" is often defined in terms of individual or group imaginative activity that promotes discovery and learning, or social activity that promotes what psychologist Daniel Goleman would call emotional and social intelligence. As a noun, it refers to activity engaged in for enjoyment or recreation. In both senses, it is closely tied to pleasure and strongly associated with the brain's reward systems. Indeed, Jaak Panksepp's neuroscientific research on mammals identified play as a primary human drive and the brain's source of joy, which is linked to the release of a specific neurochemical that modulates gene expression critical to the development of a child's social brain. Joy provides what has been described as "emotional fuel," which helps the brain develop and expand its synaptic networks. In early life, this neurochemical appears in lower subcortical regions, which later, according to Panksepp and his colleagues, contribute to the growth and development of higher brain functions associated with the frontal cortex. So play is not only a psychological precursor of social and emotional maturity in adulthood; it is a physiological one as well.

As you go about the hard work of your career, it is critical to remember to play. That's because in adult life, play engages the prefrontal cortex (our most highly evolved and recently acquired brain areas), nourishing our highest-level cognitive functions – those related to incentive and reward processing, goal and skill representation, mental imagery, self-knowledge, and memory, just to name a few. Play, therefore, improves your ability to reason and understand the world. Our most brilliant thinkers and leaders know this. Albert Einstein, for example, saw his ability to grasp profound insights into the nature of the universe as a result of combinatory play. When asked to describe his experience in developing the theory of relativity, he observed that it began as a "physical sensation" that later became a set of visual images and finally emerged as a written formula that he could begin to describe in words and symbols. This sounds less like an adult's process of analytical reasoning than like a child's creation of a fantasy world, where characters magically pop into being, which no doubt is why Einstein concluded that "imagination is more important than knowledge."

In companies that stifle play, brainpower may actually decrease as it does in children with failure-to-thrive syndrome, a condition created by experientially deprived or abusive environments.

Play is a tool that we must consciously use, as the demands on us increasingly call for greater levels of emotional control – but as we get older, we unfortunately tend to play less often. Here's how Daniel Goleman describes the process: "As a child matures, the circuitry for emotional control will slowly suppress the effervescent urge to giggle and romp. As the regulatory circuits of the prefrontal cortex develop in late childhood and the early teen years, children are more able to meet the social demands to 'get serious.'" The consequence is that play is relegated to the realm of distant memory, and its revitalizing capacities are reduced.

Some organizations go out of their way to let people experiment and play. A host of hard-driving Silicon Valley companies, such as Google and Apple, provide environments that encourage some kind of play, referred to variously as Zen dens, play spaces, and chat chambers. As the leaders of these companies realize, a legitimate and comfortable environment for brains to play can be a powerful tool for allowing people to develop their creative capacities and cognitive health. Conversely, in companies that stifle play, brainpower may actually decrease as it does in children with failure-to-thrive syndrome, a condition created by experientially deprived or abusive environments. One of the prototypical examples is ITT (particularly under former CEO Harold Geneen), which was once described in the *Wall Street Journal* as "a company that's continually going to disappoint you however low your expectations are."

HEARD ON RED-EYE TO FRANKFURT WEDNESDAY 6:15 AM

Pink argyles: How are we doing on the global collaboration plan?

Barefoot: We're having trouble getting buy-in from the local offices.

You've heard everyone talk about innovative business models, but IBM has the experience to help you actually get it done. Download our white paper "The Power of Many" at ibm.com/do/collaboration

STOP TALKING
START DOING

IBM, the IBM logo and ibm.com are registered trademarks or trademarks of International Business Machines Corporation in the United States and/or other countries. Other company, product and service names may be trademarks or service marks of others. © Copyright IBM Corporation 2007. All rights reserved.

A big challenge in finding the right environment for your brain to thrive is striking a balance between risk and security. You must have a stake in the game you play if you are to really engage in it; risk alerts the brain and activates capacities for both reason and imagination. If you don't allow for some risk in your career, you may become like an overprotected child who fails to explore the world with any autonomy and thus never fully achieves his potential. But too great a personal stake in the game creates stress, which activates the amygdala and other limbic brain areas that constitute the brain's homeland security system. When the limbic system kicks in, your brain reverts to instinctive, preprogrammed survival behaviors rather than engaging in higher-order learned ones. In extreme situations, stress can trigger anxiety disorders and chaotic behaviors. And the more driven you are, the greater the risk this will happen. Ambitious people don't like failing or looking stupid. As the social scientist Chris Argyris (one of the fathers of organizational-learning theory) put it, smart people have trouble learning because it involves so much floundering and failure. Play is hard work.

STEP 3
Search for Patterns

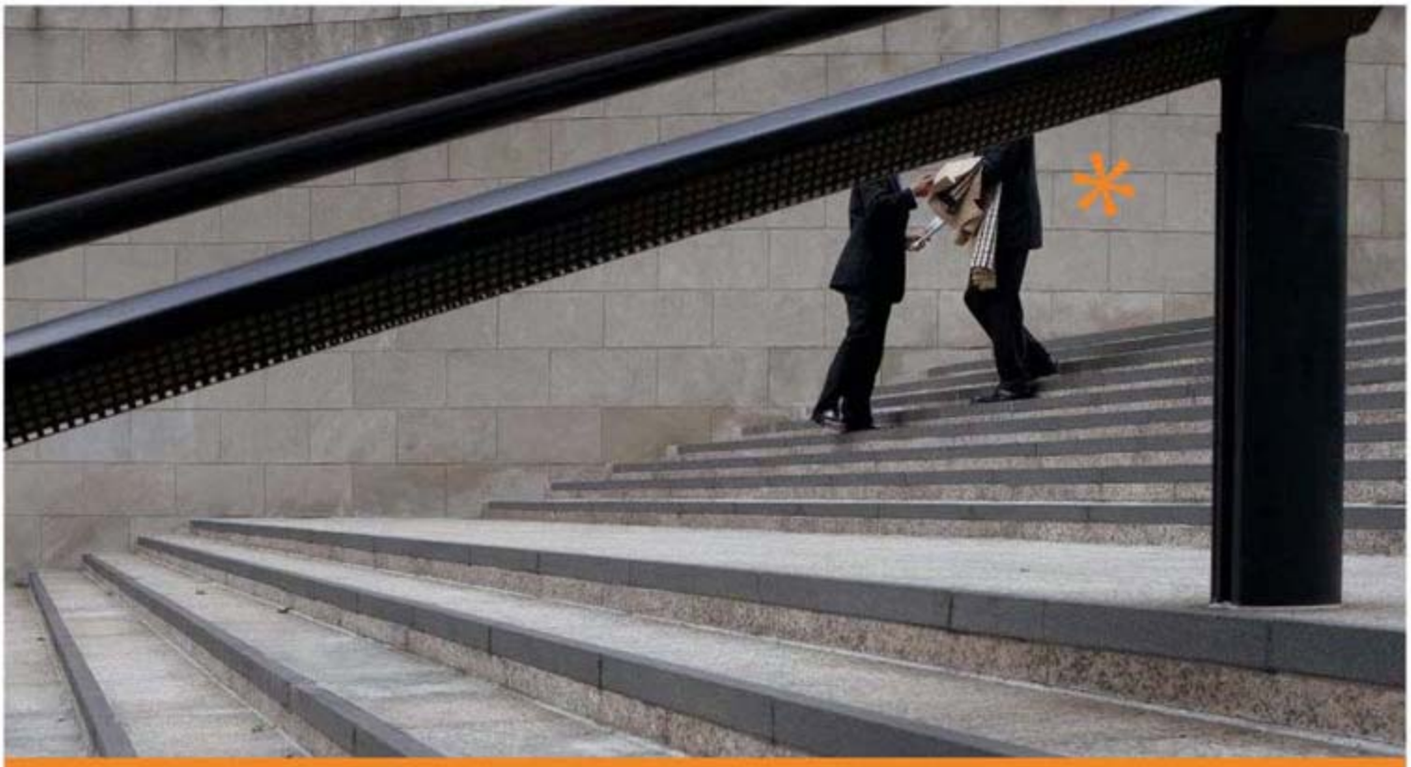
As most people know, the brain is composed of two hemispheres that have interconnected but very different functions. Neuroscience technology and research have provided us with a more complete picture of the left and right hemispheres' specialized roles. The left hemisphere is the primary source of neural information that a person uses to carry out routine tasks. The right deals with novelty, including experience and data that are less linear and less structured linguistically or mathematically. The right hemisphere is the more "poetic" part of the brain; it operates in metaphorical, image-based, imaginative ways. In this section of the article, we'll focus on what you as a leader can do to improve the functions of the left hemisphere, which often gets taken for granted as essentially determined by genetic inheritance.

Ironically, many cognitive fitness exercises directed at businesspeople focus on stimulating the right hemisphere – the creative, playful side. In part this is because of the classic stereotype of businesspeople as dull men in gray suits who need to loosen up. It's also true that in recent years creativity has come to be seen as the panacea for corporate ills. Although it's important to stimulate creative, divergent thinking, you'll derive just as much benefit, and perhaps more, from stimulating the analytic neural networks that are often viewed as left-hemispheric. These networks comprise the standard operating procedures that you use throughout a given day – a vast cognitive repository or library that is automatically activated to handle familiar tasks and challenges.

Why is the left hemisphere so important? Recent neuroimaging investigations have identified one of the engines that serve left-hemisphere performance: constellations of neurons that neuroscientists such as Elkhonon Goldberg call attractors, which mediate critical executive functions in the brain. While attractors are not exclusively located in the left hemisphere, they are especially supportive of the role played by that hemisphere. They are organized to orchestrate thought and action with great efficiency and effectiveness. Together they form the basis of what the Nobel laureate Herbert Simon referred to as pattern recognition, which he considered to be the most powerful cognitive tool we have at our disposal. Pattern recognition is the brain's ability to scan the environment; discern order and create meaning from huge amounts of data; and thereby quickly assess a situation so that appropriate action can be taken right away and with a high degree of accuracy. It is a complex chain reaction that uses the highest-level capacities for abstraction and reflection that are based on the deepest repositories of stored experience. The power of pattern recognition, a critical competence of the executive brain, can be seen in the capacity to simplify without being simplistic. For executives trying to make sense of a rapidly changing business environment, superiority in pattern recognition is perhaps the greatest competitive advantage that can be developed.

For executives trying to make sense of a rapidly changing business environment, superiority in pattern recognition is perhaps the greatest competitive advantage that can be developed.

There's a lot that you can do to develop your left-hemispheric capabilities. First and foremost, challenge your existing mind-set, enlarge it, and make it more complex. Listen to different viewpoints, read new kinds of articles and books, and visit places with a focused set of learning objectives. All



HEARD ON STEPS OF MAIN OFFICE
FRIDAY 8:15 AM

Smart guy: But how do we differentiate in a customer-centric environment?

Witty guy: Everyone else is going virtual.

Smart guy: Great. Let's do that.

Everyone's looking for innovative ways to make customers happier. Few know where to start. IBM helped Staples reshape their customer experience, resulting in a 60% increase in their online conversion rate. See how at ibm.com/do/experience

STOP TALKING
START DOING

IBM, the IBM logo and ibm.com are registered trademarks or trademarks of International Business Machines Corporation in the United States and/or other countries. Other company, product and service names may be trademarks or service marks of others. © Copyright IBM Corporation 2007. All rights reserved.

these experiences – particularly those related to your own organization or job – will expand your vocabulary, your conceptual storehouse, and your general perspective. Such immersions will call into question your own mindset and improve your abilities in pattern recognition.

Hitachi Data Systems provides a good example of the kind of foray we're talking about. Working with BrightHouse, a consulting company based in Atlanta, Hitachi executives were invited to an ideation-strategy session with a distinguished classics professor to help them think about how to reposition their business. As a result of what they learned, some of the executives have been working on reorganizing the company along the lines of the Greek agora, with a view to creating an open marketplace for the exchange of ideas and knowledge. We're not saying that the classics professor told Hitachi what to do; rather, Hitachi's leaders combined what the classicist had to say about ancient Athens with what they knew about their company to create a new and potentially better way to share information.

With activities such as these, it is of utmost importance that you do them often. Make a consistent, ongoing commitment to immersing yourself in new systems and ways of thinking. It cannot be an occasional event, because the point is to expose yourself to a variety of cases and situations that cumulatively encode rich experience in your brain.

Just as you'll need to vary your own experiences to maximize your cognitive fitness, you'll also want to make sure that the experiences of your management team members are varied. Avoid filling the team with people who've all followed the same path upward. This advice may seem obvious, but we suggest taking a cold, hard look at how executives make it to the top in your organization. Isn't there a tendency for one route to dominate? This is natural, given that those who are looking for advancement tend to benchmark, and

RISE TO ANY CHALLENGE, such as driving growth.

With an approach that fosters collaboration and inspires you to put your ideas into action, The Kellogg School can help you fulfill your aspirations. To learn about specific executive education programs in the Chicago and Miami areas, visit www.kellogg.northwestern.edu/execed or call 847-491-3100.

Kellogg
School of Management

those at the top tend to warm to subordinates with experiences similar to their own. Evolutionary biology could give you any number of explanations for the survival value of these behaviors. But if you care about your company's cognitive fitness and, in particular, your management team's overall ability to discern patterns, then you need to be on guard against the inclination to pick only one kind of leader. Selection and succession programs that draw from the same limited population of executives promote an aggregation of cognitive templates based on shared experience and common pattern recognition. When a perspective becomes codified, people stop looking for new patterns and your company sacrifices some of its cognitive fitness – and competitiveness.

STEP 4
Seek Novelty and Innovation

We have looked at the role of the left hemisphere in achieving the highest levels of cognitive fitness; now let's turn to the right hemisphere's contribution. The importance of expanding the brain's capacity to deal with novelty, a capacity typically associated with right-hemisphere functioning, becomes particularly obvious when we consider the fact that the right hemisphere deteriorates faster with age than the left.

The right hemisphere was once described by some neuroscientists as the "inferior" hemisphere in terms of cognitive functions, because it is the left side that governs our abilities in language and basic or linear logic. For many years, it wasn't clear how critical a role the right hemisphere played in obtaining the knowledge and wisdom that is later encoded in the left side. Research is now revealing that the right hemisphere is the exploratory part of the brain, dedicated to discovery and learning. When a child studies a language or an adult takes up painting – any time people look at and experience the world in a novel way – the right hemisphere is exercised. Later, the new knowledge (language, for instance) migrates to the left, exploitative hemisphere, where it is organized, encoded, and made available for day-to-day retrieval and use. If the left hemisphere is about language expression, then the right is about language acquisition.

As on the left side, the neural networks on the right benefit from exercise. The more new things you learn, the better you become at learning. Actively engaging in novel, challenging activities capitalizes on your capacity for neuroplasticity – the ability of your brain to reorganize itself adaptively and enhance its performance. Studies of older adults usually show that those who live this way possess more complex neural networks than those who do not. The people who remain engaged in life consistently display an attitude of openness to new and unexpected experiences. Abraham Goldstein followed such a regimen of cognitive fitness. As a lawyer living in Manhattan and a professor emeritus at Baruch College, Goldstein continued to tutor law students and lead a physically and mentally active life to the age of 103.

Continuous learning can provide another important benefit. Research shows that the Abraham Goldsteins of this world are more resistant to Alzheimer's disease and other forms of dementia. Take the case of Richard Wetherill, a retired university lecturer and a talented chess player who could think eight moves ahead. In early 2001, Wetherill noticed that his chess ability had diminished; he could see only five moves ahead. Convinced that this was a signal that something was wrong with him, he consulted a neurologist. He took the usual diagnostic tests and passed them all. His brain scans looked quite normal. He died two years later, and an autopsy was conducted. Postmortem brain pathology showed that Wetherill had suffered from advanced-stage Alzheimer's, which would have rendered most individuals cognitively nonfunctional. Wetherill's case illustrates how those who are cognitively fit

continued on page 66

Managing New Products and Services for Strategic Competitive Advantage: Miami Campus
February 10–13

Accelerating Sales Force Performance: Miami Campus
February 17–21

Kellogg on Retirement
February 24–27

The Science of Lean Six-Sigma Operations
February 24–26

Advanced Executive Program
February 24–March 21

Supply Chain Management: Strategy and Planning for Effective Operations
February 26–29

Find the program that will inspire you to put your ideas into action.

kellogg.northwestern.edu/execed
847-491-3100

Kellogg
School of Management

Exercising Your Brain: A Personal Program

Because the brain is an interactive system, any activities that stimulate one part of it can easily stimulate other parts. Therefore, our cognitive fitness categories need to be understood as approximations – this is particularly the case with hemispherically focused activity. Although some stimuli may initially create greater activations in, say, the right hemisphere, both hemispheres will ultimately be involved in the process of mastering new challenges. While there is much to learn about the intricacies of cognitive enhancement, we believe that the following exercises are a good selection.

Manage by walking about. Leave the executive dining room and drop by the company cafeteria, production floor, or loading docks. This could put you in unfamiliar territory, which is a good thing for broadening your perspective. What's more, the very act of walking and moving about invigorates your brain. That's why when you have a mental block on some problem you are solving, getting up and changing your environment can lead to an "aha" moment.

Read funny books. Humor promotes insight and enhances our health – even the immune system seems to love a good joke, as it is strengthened by the use of humor and the perspective it offers.

Play games. Activities like bridge, chess, sudoku, and the *New York Times* crossword puzzle all provide good neural workouts. There are ever more possibilities online, too, with the growing popularity of role-playing games. Try new games that challenge your left hemisphere, such as pool.

Act out. At its best, play is discovery – and what you discover through improvisation is your inner actor, who can try on many roles. (Believe it or not, a number of outstanding comedians started their careers as accountants.) You will be surprised to see that such play expands your behavioral repertoire – your brain has immense stored potential for enhancing your personality and leadership capacities. You can even experiment in meetings. Trying out different ways of interacting with colleagues, for example, increases cognitive fitness.

Find what you're not learning. If you're like most executives, you tend to ask very similar questions day to day in your professional and personal lives. So listen to yourself and figure out what you *don't* seek. Asking a promising young subordinate what she thinks is a good place to start. Or vary your reading list. If you normally throw yourself into history and biography, try literary fiction; if it's mostly thrillers, try science.

Get the most out of business trips. Travel provides excellent opportunities for jolting your brain. Your time investment need not be too intensive. Visit a museum; read a novel set in the city you are visiting; devote a couple of hours to talking with locals around town. These activities not only increase your cultural IQ – they are also a good form of cognitive exercise.

Take notes – and then go back and read them. One of the world's greatest entrepreneurs, Richard Branson, carries a bound book with blank pages wherever he goes. Every time he sees or hears something interesting and new, he jots it down. He says that many of these ideas have become new businesses.

Try new technologies. Playing with that new touch screen and downloading that goofy video from YouTube on your iGadget to display on your mega-screen TV activates innumerable brain channels linking your auditory, visual, and tactile networks with your limbic system and your prefrontal cortex. Talking about it and sharing your emotional energy with your friends will extend the activity throughout the brain. Even your brain stem, which keeps you wakeful and engaged, will get a workout.

Learn a new language or instrument. Studying a new language puts you at the pinnacle of mental athleticism. Learning a musical instrument or really playing that old clarinet in the closet gives your brain a big boost, too. Take lessons.

Exercise, exercise, exercise. Your brain is not an island – it is part of a system that benefits from cardiovascular exercise, good diet, and proper sleep habits. One of the most consistently identified defenses against developing Alzheimer's disease is a good exercise regimen. Very specific beneficial biochemical changes, such as increases in endorphins and cortisol, result from both cardiovascular and strength training. Those benefits literally flow through your blood vessels and reach your muscles, your joints, your bones, and, yes, your brain.

Next time the tax man comes, you don't have to be so generous.

Fidelity tax-advantaged funds.

With a variety of national municipal funds we can help you get more out of your money by managing your exposure to federal income tax and the federal Alternative Minimum Tax (AMT). We also offer municipal funds that can help you manage state income taxes. And if you live in California, New York, New Jersey, or Massachusetts, we have state funds that may help reduce your federal AMT as well. So your money can work harder for you, not your Uncle Sam.

Visit Fidelity.com/AMTfree now.

Smart move.

1 800 FIDELITY | Fidelity.com/AMTfree

An investment in a money market fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. Although the fund seeks to preserve the value of your investment at $1.00 per share, it is possible to lose money by investing in the fund.

Fidelity's tax-advantaged funds will not be appropriate for all investors. Please consult your tax advisor for further assistance.

The municipal market is volatile and can be significantly affected by adverse tax, legislative, or political changes and the financial condition of the issuers of municipal securities. A portion of the dividends you receive may be subject to federal, state, or local income tax, or may be subject to the federal Alternative Minimum Tax.

Before investing, consider the funds' investment objectives, risks, charges, and expenses. Contact Fidelity for a prospectus containing this information. Read it carefully.

Fidelity Brokerage Services, Member NYSE, SIPC

469970

thanks to vigorous intellectual stimulation can be protected from the mental decline that comes with age.

People who are receptive to novelty and innovation also tend to be good in a crisis, because they are open to seeing opportunity in even the direst situations. Gene Krantz's reaction to the darkest moment of the *Apollo 13* emergency is a case in point: "I believe this will be our finest hour." Krantz had a long history of challenging convention, policy, and practice at NASA. He organized special teams that drew talent out of traditional silos and across boundaries. He also gave outside vendors office space in his complex to build expertise and relationships. He was featured in Michael Useem's book *The Leadership Moment* as a paragon of effective creative leadership. There's no way to verify this without neural imaging, but we would expect Krantz's brain to have a highly connected network of neural pathways in the right hemisphere. His mind-set and experiences lead to the kind of right-hemisphere development that is so critical to cognitive fitness.

People who are receptive to novelty and innovation also tend to be good in a crisis, because they are open to seeing opportunity in even the direst situations.

More generally, what we're talking about is having an open attitude that Buddhist monks refer to as the beginner's mind, a willingness to step back from prior knowledge and existing conventions in order to start over and cultivate new options – a challenge that typically activates right-hemisphere cognitions. If you are really serious about creating innovative options, you couldn't do better than to turn to Buddhist thinking. In *Zen Mind, Beginner's Mind,* Shunryu Suzuki describes the Zen mind as one that is open, allowing for both doubt and possibility, and one that has the ability to see things as fresh and new. As he observed, "In the beginner's mind there are many possibilities, but in the expert's there are few."

We also advocate adopting a protégé. While it's widely known that being a protégé benefits rising executives, an ongoing stream of research reveals that the person who often gets the most value from a mentoring relationship is the mentor, who is exposed to information, queries, and ideas from which she may otherwise be too remote. In the field of medicine, for example, senior attending physicians can learn a lot from the insightful questions raised by students.

...

Cognitive fitness can affect every part of your life. On an organizational level, it may be the ultimate lever for sustainable competitive advantage. Your critical task as a leader is to promote the highest levels of organizational performance by creating environments where people can achieve their brains' full potential. Thinking through the four steps and deciding how they apply to the strategic challenges your company faces is a good way to begin. Not all companies will come up with exactly the same mix of practices and policies; the cognitive profile required by a large company in the automobile industry may differ from what you'd need to run a biotech start-up. The former might emphasize left-hemisphere activity (for example, spotting hidden patterns in demand), while the latter might call mainly for right-hemisphere activity (for example, coping with a series of failed R&D projects). Whatever the best approach for your organization may be, a brain-positive culture that encourages people to put their whole brains to work can become a reality only with the right kind of committed leadership. The future belongs to companies with leaders who develop cognitive fitness for themselves and their organizations. CEOs need to be cognitive coaches to those whose work and decisions collectively create and propel the company's strategy.

Reprint R0711B
To order, see page 155

"Rolex, Rolodex – it all sounds the same to me."

Martin Bucella

TRUST

IS EARNED IN CHALLENGING ENVIRONMENTS.

"Based on a history of success, we continue to trust Perot Systems to provide many of our key customer service processes – and they continue to exceed our expectations."

Dave Smith,
Senior Vice President of Operations
Old Mutual Financial Network

For most organizations, their information technology systems and business processes are mission-critical to success. That's why the Perot Systems team uses our deep-dive technology and industry expertise to deliver the strongest IT, consulting, applications, and business process solutions.

We are a worldwide team of skilled professionals who thrive on delivering high-impact results under the most demanding conditions. We are dedicated to meeting each of our more than 400 clients' unique business goals while driving value and earning trust.

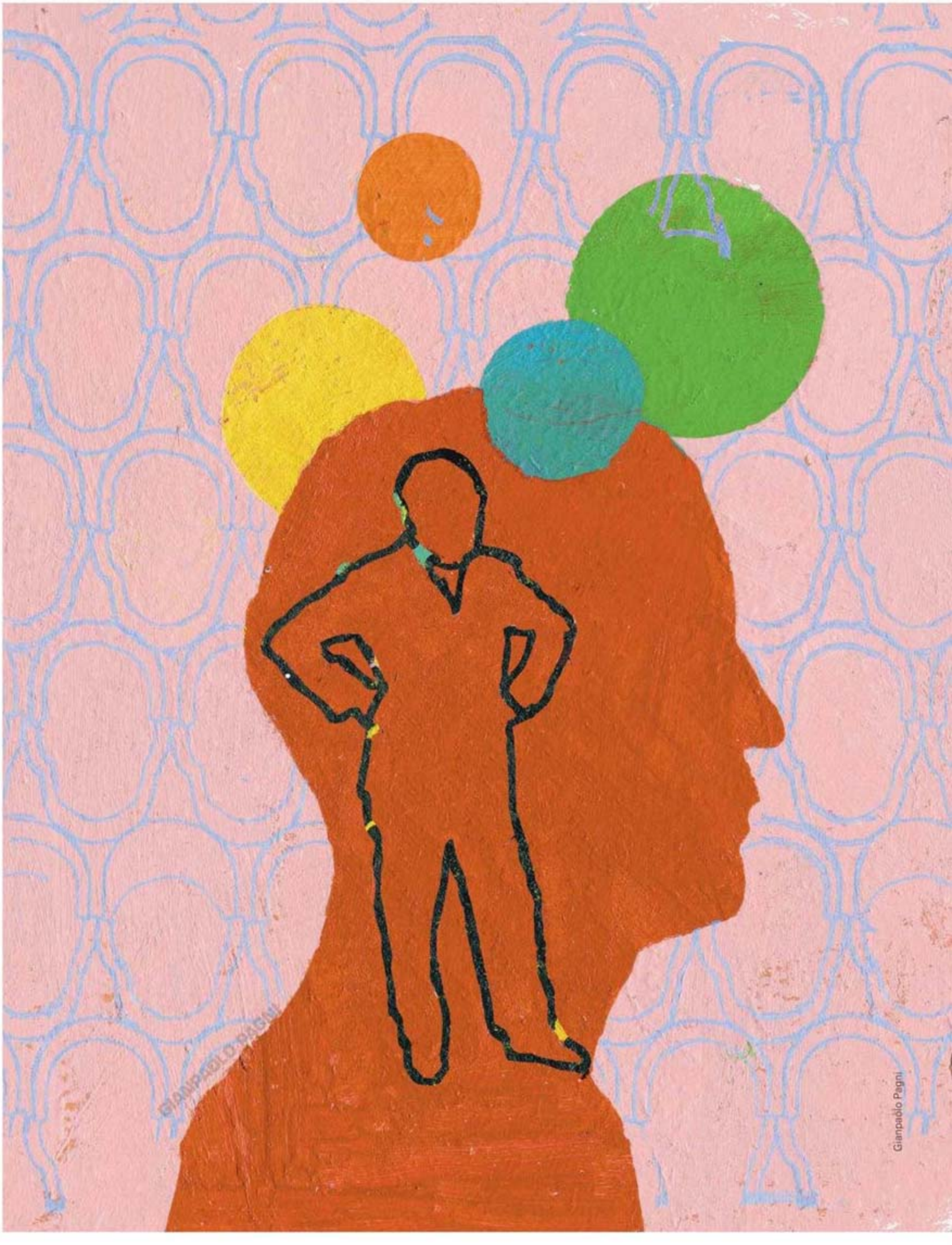
When you need a teammate to help see you through to success, call on Perot Systems at 1 888 30 PEROT, or visit www.perotsystems.com.

Building trust to achieve results. It's how we work.

perotsystems®

CONSULTING / BUSINESS PROCESSES / APPLICATIONS / INFRASTRUCTURE

© Copyright 2007 Perot Systems


GIANPAOLO PAGNI
Gianpaolo Pagni

A Leader's Framework for Decision Making

Wise executives tailor their approach to fit the complexity of the circumstances they face.

by David J. Snowden and Mary E. Boone

In January 1993, a gunman murdered seven people in a fast-food restaurant in Palatine, a suburb of Chicago. In his dual roles as an administrative executive and spokesperson for the police department, Deputy Chief Walter Gasior suddenly had to cope with several different situations at once. He had to deal with the grieving families and a frightened community, help direct the operations of an extremely busy police department, and take questions from the media, which inundated the town with reporters and film crews. "There would literally be four people coming at me with logistics and media issues all at once," he recalls. "And in the midst of all this, we still had a department that had to keep running on a routine basis."

Though Gasior was ultimately successful in juggling multiple demands, not all leaders achieve the desired results when they face situations that require a variety of decisions and responses. All too often, managers rely on

common leadership approaches that work well in one set of circumstances but fall short in others. Why do these approaches fail even when logic indicates they should prevail? The answer lies in a fundamental assumption of organizational theory and practice: that a certain level of predictability and order exists in the world. This assumption, grounded in the Newtonian science that underlies scientific management, encourages simplifications that are useful in ordered circumstances. Circumstances change, however, and as they become more complex, the simplifications can fail. Good leadership is not a one-size-fits-all proposition.

We believe the time has come to broaden the traditional approach to leadership and decision making and form a new perspective based on complexity science. (For more on this, see the sidebar "Understanding Complexity.") Over the past ten years, we have applied the principles of that science to governments and a broad range of industries. Working with other contributors, we developed the Cynefin framework, which allows executives to see things from new viewpoints, assimilate complex concepts, and address real-world problems and opportunities. (*Cynefin,* pronounced ku-*nev*-in, is a Welsh word that signifies the multiple factors in our environment and our experience that influence us in ways we can never understand.) Using this approach, leaders learn to define the framework with examples from their own organization's history and scenarios of its possible future. This enhances communication and helps executives rapidly understand the context in which they are operating.

The U.S. Defense Advanced Research Projects Agency has applied the framework to counterterrorism, and it is currently a key component of Singapore's Risk Assessment and Horizon Scanning program. Over time, the framework has evolved through hundreds of applications, from helping a pharmaceutical company develop a new product strategy to assisting a Canadian provincial government in its efforts to engage employees in policy making.

The framework sorts the issues facing leaders into five contexts defined by the nature of the relationship between cause and effect. Four of these – simple, complicated, complex, and chaotic – require leaders to diagnose situations and to act in contextually appropriate ways. The fifth – disorder – applies when it is unclear which of the other four contexts is predominant.

Using the Cynefin framework can help executives sense which context they are in so that they can not only make better decisions but also avoid the problems that arise when their preferred management style causes them to make mistakes. In this article, we focus on the first four contexts, offering examples and suggestions about how to lead and make appropriate decisions in each of them. Since the complex domain is much more prevalent in the business world than most leaders realize – and requires different, often counterintuitive, responses – we concentrate particularly on that context. Leaders who understand that the world is often irrational and unpredictable will find the Cynefin framework particularly useful.

David J. Snowden (snowded@mac.com) is the founder and chief scientific officer of Cognitive Edge, an international research network. He is based primarily in Lockeridge, England. **Mary E. Boone** (mary@maryboone.com) is the president of Boone Associates, a consulting firm in Essex, Connecticut, and the author of numerous books and articles, including *Managing Interactively* (McGraw-Hill, 2001).

Simple Contexts: The Domain of Best Practice

Simple contexts are characterized by stability and clear cause-and-effect relationships that are easily discernible by everyone. Often, the right answer is self-evident and undisputed. In this realm of "known knowns," decisions are unquestioned because all parties share an understanding. Areas that are little subject to change, such as problems with order processing and fulfillment, usually belong here.

Simple contexts, properly assessed, require straightforward management and monitoring. Here, leaders *sense, categorize,* and *respond.* That is, they assess the facts of the situation, categorize them, and then base their response on established practice. Heavily process-oriented situations, such as loan payment processing, are often simple contexts. If something goes awry, an employee can usually identify the problem (when, say, a borrower pays less than is required), categorize it (review the loan documents to see how partial payments must be processed), and respond appropriately (either not accept the payment or apply the funds according to the terms of the note). Since both managers and employees have access to the information necessary for dealing with the situation in this domain, a command-and-control style for setting parameters works best. Directives are straightforward, decisions can be easily delegated, and functions are automated. Adhering to best practices or process reengineering makes sense. Exhaustive communication among managers and employees is not usually required because disagreement about what needs to be done is rare.

Nevertheless, problems can arise in simple contexts. First, issues may be incorrectly classified within this domain because they have been oversimplified. Leaders who constantly ask for condensed information, regardless of the complexity of the situation, particularly run this risk.

Second, leaders are susceptible to *entrained thinking,* a conditioned response that occurs when people are blinded to new ways of thinking by the perspectives they acquired through past experience, training, and success.

Third, when things appear to be going smoothly, leaders often become complacent. If the context changes at that point, a leader is likely to miss what is happening and react too late. In the exhibit "The Cynefin Framework," the simple domain lies adjacent to the chaotic – and for good reason.

Understanding Complexity

COMPLEXITY is more a way of thinking about the world than a new way of working with mathematical models. Over a century ago, Frederick Winslow Taylor, the father of scientific management, revolutionized leadership. Today, advances in complexity science, combined with knowledge from the cognitive sciences, are transforming the field once again. Complexity is poised to help current and future leaders make sense of advanced technology, globalization, intricate markets, cultural change, and much more. In short, the science of complexity can help all of us address the challenges and opportunities we face in a new epoch of human history.

A complex system has the following characteristics:

- It involves large numbers of interacting elements.
- The interactions are nonlinear, and minor changes can produce disproportionately major consequences.
- The system is dynamic, the whole is greater than the sum of its parts, and solutions can't be imposed; rather, they arise from the circumstances. This is frequently referred to as *emergence*.
- The system has a history, and the past is integrated with the present; the elements evolve with one another and with the environment; and evolution is irreversible.
- Though a complex system may, in retrospect, appear to be ordered and predictable, hindsight does not lead to foresight because the external conditions and systems constantly change.
- Unlike in ordered systems (where the system constrains the agents), or chaotic systems (where there are no constraints), in a complex system the agents and the system constrain one another, especially over time. This means that we cannot forecast or predict what will happen.

One of the early theories of complexity is that complex phenomena arise from simple rules. Consider the rules for the flocking behavior of birds: Fly to the center of the flock, match speed, and avoid collision. This simple-rule theory was applied to industrial modeling and production early on, and it promised much; but it did not deliver in isolation. More recently, some thinkers and practitioners have started to argue that human complex systems are very different from those in nature and cannot be modeled in the same ways because of human unpredictability and intellect. Consider the following ways in which humans are distinct from other animals:

- They have multiple identities and can fluidly switch between them without conscious thought. (For example, a person can be a respected member of the community as well as a terrorist.)
- They make decisions based on past patterns of success and failure, rather than on logical, definable rules.
- They can, in certain circumstances, purposefully change the systems in which they operate to equilibrium states (think of a Six Sigma project) in order to create predictable outcomes.

Leaders who want to apply the principles of complexity science to their organizations will need to think and act differently than they have in the past. This may not be easy, but it is essential in complex contexts.

The most frequent collapses into chaos occur because success has bred complacency. This shift can bring about catastrophic failure – think of the many previously dominant technologies that were suddenly disrupted by more dynamic alternatives.

Leaders need to avoid micromanaging and stay connected to what is happening in order to spot a change in context. By and large, line workers in a simple situation are more than capable of independently handling any issues that may arise. Indeed, those with years of experience also have deep insight into how the work should be done. Leaders should create a communication channel – an anonymous one, if necessary – that allows dissenters to provide early warnings about complacency.

Finally, it's important to remember that best practice is, by definition, past practice. Using best practices is common, and often appropriate, in simple contexts. Difficulties arise, however, if staff members are discouraged from bucking the process even when it's not working anymore. Since hindsight no longer leads to foresight after a shift in context, a corresponding change in management style may be called for.

Complicated Contexts: The Domain of Experts

Complicated contexts, unlike simple ones, may contain multiple right answers, and though there is a clear relationship between cause and effect, not everyone can see it. This is the realm of "known unknowns." While leaders in a simple context must sense, categorize, and respond to a situation, those in a complicated context must sense, *analyze,* and respond. This approach is not easy and often requires expertise: A motorist may know that something is wrong with his car because the engine is knocking, but he has to take it to a mechanic to diagnose the problem.

Because the complicated context calls for investigating several options – many of which may be excellent – good practice, as opposed to best practice, is more appropriate. For example, the customary approach to engineering a new cell phone might emphasize feature A over feature B, but an alternative plan – emphasizing feature C – might be equally valuable.

Another example is the search for oil or mineral deposits. The effort usually requires a team of experts, more than one place will potentially produce results, and the location of the

right spots for drilling or mining involves complicated analysis and understanding of consequences at multiple levels.

Entrained thinking is a danger in complicated contexts, too, but it is the experts (rather than the leaders) who are prone to it, and they tend to dominate the domain. When this problem occurs, innovative suggestions by nonexperts may be overlooked or dismissed, resulting in lost opportunities. The experts have, after all, invested in building their knowledge, and they are unlikely to tolerate controversial ideas. If the context has shifted, however, the leader may need access to those maverick concepts. To get around this issue, a leader must listen to the experts while simultaneously welcoming novel thoughts and solutions from others. Executives at one shoe manufacturer did this by opening up the brainstorming process for new shoe styles to the entire company. As a result, a security guard submitted a design for a shoe that became one of their best sellers.

Another potential obstacle is "analysis paralysis," where a group of experts hits a stalemate, unable to agree on any answers because of each individual's entrained thinking – or ego.

Working in unfamiliar environments can help leaders and experts approach decision making more creatively. For instance, we put retail marketing professionals in several military research environments for two weeks. The settings were unfamiliar and challenging, but they shared a primary similarity with the retail environment: In both cases, the marketers had to work with large volumes of data from which it was critical to identify small trends or weak signals. They discovered that there was little difference between, say, handling outgoing disaffected customers and anticipating incoming ballistic missiles. The exercise helped the marketing group learn how to detect a potential loss of loyalty and take action before a valued customer switched to a competitor. By improving their strategy, the marketers were able to retain far more high-volume business.

Games, too, can encourage novel thinking. We created a game played on a fictional planet that was based on the culture of a real client organization. When the executives "landed" on the alien planet, they were asked to address problems and opportunities facing the inhabitants. The issues they encountered were disguised but designed to mirror real situations, many of which were controversial or sensitive. Because the environment seemed so foreign and remote, however, the players found it much easier to come up with fresh ideas than they otherwise might have done. Playing a metaphorical game increases managers' willingness to experiment, allows them to resolve issues or problems more easily and creatively, and broadens the range of options in their decision-making processes. The goal of such games is to get as many perspectives as possible to promote unfettered analysis.

Reaching decisions in the complicated domain can often take a lot of time, and there is always a tradeoff between finding the right answer and simply making a decision. When the right answer is elusive, however, and you must base your decision on incomplete data, your situation is probably complex rather than complicated.

The Cynefin Framework

The Cynefin framework helps leaders determine the prevailing operative context so that they can make appropriate choices. Each domain requires different actions. *Simple* and *complicated* contexts assume an ordered universe, where cause-and-effect relationships are perceptible, and right answers can be determined based on the facts. *Complex* and *chaotic* contexts are unordered – there is no immediately apparent relationship between cause and effect, and the way forward is determined based on emerging patterns. The ordered world is the world of fact-based management; the unordered world represents pattern-based management.

The very nature of the fifth context – *disorder* – makes it particularly difficult to recognize when one is in it. Here, multiple perspectives jostle for prominence, factional leaders argue with one another, and cacophony rules. The way out of this realm is to break down the situation into constituent parts and assign each to one of the other four realms. Leaders can then make decisions and intervene in contextually appropriate ways.

Decisions in Multiple Contexts: A Leader's Guide

Effective leaders learn to shift their decision-making styles to match changing business environments. Simple, complicated, complex, and chaotic contexts each call for different managerial responses. By correctly identifying the governing context, staying aware of danger signals, and avoiding inappropriate reactions, managers can lead effectively in a variety of situations.

	THE CONTEXT'S CHARACTERISTICS	THE LEADER'S JOB	DANGER SIGNALS	RESPONSE TO DANGER SIGNALS
SIMPLE	Repeating patterns and consistent events Clear cause-and-effect relationships evident to everyone; right answer exists Known knowns Fact-based management	Sense, categorize, respond Ensure that proper processes are in place Delegate Use best practices Communicate in clear, direct ways Understand that extensive interactive communication may not be necessary	Complacency and comfort Desire to make complex problems simple Entrained thinking No challenge of received wisdom Overreliance on best practice if context shifts	Create communication channels to challenge orthodoxy Stay connected without micromanaging Don't assume things are simple Recognize both the value and the limitations of best practice
COMPLICATED	Expert diagnosis required Cause-and-effect relationships discoverable but not immediately apparent to everyone; more than one right answer possible Known unknowns Fact-based management	Sense, analyze, respond Create panels of experts Listen to conflicting advice	Experts overconfident in their own solutions or in the efficacy of past solutions Analysis paralysis Expert panels Viewpoints of nonexperts excluded	Encourage external and internal stakeholders to challenge expert opinions to combat entrained thinking Use experiments and games to force people to think outside the familiar
COMPLEX	Flux and unpredictability No right answers; emergent instructive patterns Unknown unknowns Many competing ideas A need for creative and innovative approaches Pattern-based leadership	Probe, sense, respond Create environments and experiments that allow patterns to emerge Increase levels of interaction and communication Use methods that can help generate ideas: Open up discussion (as through large group methods); set barriers; stimulate attractors; encourage dissent and diversity; and manage starting conditions and monitor for emergence	Temptation to fall back into habitual, command-and-control mode Temptation to look for facts rather than allowing patterns to emerge Desire for accelerated resolution of problems or exploitation of opportunities	Be patient and allow time for reflection Use approaches that encourage interaction so patterns can emerge
CHAOTIC	High turbulence No clear cause-and-effect relationships, so no point in looking for right answers Unknowables Many decisions to make and no time to think High tension Pattern-based leadership	Act, sense, respond Look for what works instead of seeking right answers Take immediate action to reestablish order (command and control) Provide clear, direct communication	Applying a command-and-control approach longer than needed "Cult of the leader" Missed opportunity for innovation Chaos unabated	Set up mechanisms (such as parallel teams) to take advantage of opportunities afforded by a chaotic environment Encourage advisers to challenge your point of view once the crisis has abated Work to shift the context from chaotic to complex

Complex Contexts: The Domain of Emergence

In a complicated context, at least one right answer exists. In a complex context, however, right answers can't be ferreted out. It's like the difference between, say, a Ferrari and the Brazilian rainforest. Ferraris are complicated machines, but an expert mechanic can take one apart and reassemble it without changing a thing. The car is static, and the whole is the sum of its parts. The rainforest, on the other hand, is in constant flux – a species becomes extinct, weather patterns change, an agricultural project reroutes a water source – and the whole is far more than the sum of its parts. This is the realm of "unknown unknowns," and it is the domain to which much of contemporary business has shifted.

Most situations and decisions in organizations are complex because some major change – a bad quarter, a shift in management, a merger or acquisition – introduces unpredictability and flux. In this domain, we can understand why things happen only in retrospect. Instructive patterns, however, can emerge if the leader conducts experiments that are safe to fail. That is why, instead of attempting to impose a course of action, leaders must patiently allow the path forward to reveal itself. They need to *probe* first, then sense, and then respond.

There is a scene in the film *Apollo 13* when the astronauts encounter a crisis ("Houston, we have a problem") that moves the situation into a complex domain. A group of experts is put in a room with a mishmash of materials – bits of plastic and odds and ends that mirror the resources available to the astronauts in flight. Leaders tell the team: This is what you have; find a solution or the astronauts will die. None of those experts knew a priori what would work. Instead, they had to let a solution emerge from the materials at hand. And they succeeded. (Conditions of scarcity often produce more creative results than conditions of abundance.)

Another example comes from YouTube. The founders could not possibly have predicted all the applications for streaming video technology that now exist. Once people started using YouTube creatively, however, the company could support and augment the emerging patterns of use. YouTube has become a popular platform for expressing political views, for example. The company built on this pattern by sponsoring a debate for presidential hopefuls with video feeds from the site.

As in the other contexts, leaders face several challenges in the complex domain. Of primary concern is the temptation to fall back into traditional command-and-control management styles – to demand fail-safe business plans with defined outcomes. Leaders who don't recognize that a complex domain requires a more experimental mode of management may become impatient when they don't seem to be achieving the results they were aiming for. They may also find it difficult to tolerate failure, which is an essential aspect of experimental understanding. If they try to overcontrol the organization, they will preempt the opportunity for informative patterns to emerge. Leaders who try to impose order in a complex context will fail, but those who set the stage, step back a bit, allow patterns to emerge, and determine which ones are desirable will succeed. (See the sidebar "Tools for Managing in a Complex Context.") They will discern many opportunities for innovation, creativity, and new business models.

Chaotic Contexts: The Domain of Rapid Response

In a chaotic context, searching for right answers would be pointless: The relationships between cause and effect are impossible to determine because they shift constantly and no manageable patterns exist – only turbulence. This is the realm of unknowables. The events of September 11, 2001, fall into this category.

In the chaotic domain, a leader's immediate job is not to discover patterns but to stanch the bleeding. A leader must first *act* to establish order, then sense where stability is present and from where it is absent, and then respond by working to transform the situation from chaos to complexity, where the identification of emerging patterns can both help prevent future crises and discern new opportunities. Communica-

Truly adept leaders know not only how to identify the context they're working in but also how to change their behavior to match.

Tools for Managing in a Complex Context

Given the ambiguities of the complex domain, how can leaders lead effectively?

- **Open up the discussion.** Complex contexts require more interactive communication than any of the other domains. Large group methods (LGMs), for instance, are efficient approaches to initiating democratic, interactive, multidirectional discussion sessions. Here, people generate innovative ideas that help leaders with development and execution of complex decisions and strategies. For example, "positive deviance" is a type of LGM that allows people to discuss solutions that are already working within the organization itself, rather than looking to outside best practices for clues about how to proceed. The Plexus Institute used this approach to address the complex problem of hospital-acquired infections, resulting in behavior change that lowered the incidence by as much as 50%.
- **Set barriers.** Barriers limit or delineate behavior. Once the barriers are set, the system can self-regulate within those boundaries. The founders of eBay, for example, created barriers by establishing a simple set of rules. Among them are pay on time, deliver merchandise quickly, and provide full disclosure on the condition of the merchandise. Participants police themselves by rating one another on the quality of their behavior.
- **Stimulate attractors.** Attractors are phenomena that arise when small stimuli and probes (whether from leaders or others) resonate with people. As attractors gain momentum, they provide structure and coherence. EBay again provides an illustrative example. In 1995, founder Pierre Omidyar launched an offering called Auction Web on his personal website. His probe, the first item for sale, quickly morphed into eBay, a remarkable attractor for people who want to buy and sell things. Today, sellers on eBay continue to provide experimental probes that create attractors of various types. One such probe, selling a car on the site, resonated with buyers, and soon automobile sales became a popular attractor.
- **Encourage dissent and diversity.** Dissent and formal debate are valuable communication assets in complex contexts because they encourage the emergence of well-forged patterns and ideas. A "ritual dissent" approach, for instance, puts parallel teams to work on the same problem in a large group meeting environment. Each team appoints a spokesperson who moves from that team's table to another team's table. The spokesperson presents the first group's conclusions while the second group listens in silence. The spokesperson then turns around to face away from the second team, which rips into the presentation, no holds barred, while the spokesperson listens quietly. Each team's spokesperson visits other tables in turn; by the end of the session, all the ideas have been well dissected and honed. Taking turns listening in silence helps everyone understand the value of listening carefully, speaking openly, and not taking criticism personally.
- **Manage starting conditions and monitor for emergence.** Because outcomes are unpredictable in a complex context, leaders need to focus on creating an environment from which good things can emerge, rather than trying to bring about predetermined results and possibly missing opportunities that arise unexpectedly. Many years ago, for instance, 3M instituted a rule allowing its researchers to spend 15% of their time on any project that interested them. One result was a runaway success: the Post-it Note.

tion of the most direct top-down or broadcast kind is imperative; there's simply no time to ask for input.

Unfortunately, most leadership "recipes" arise from examples of good crisis management. This is a mistake, and not only because chaotic situations are mercifully rare. Though the events of September 11 were not immediately comprehensible, the crisis demanded decisive action. New York's mayor at the time, Rudy Giuliani, demonstrated exceptional effectiveness under chaotic conditions by issuing directives and taking action to reestablish order. However, in his role as mayor – certainly one of the most complex jobs in the world – he was widely criticized for the same top-down leadership style that proved so enormously effective during the catastrophe. He was also criticized afterward for suggesting that elections be postponed so he could maintain order and stability. Indeed, a specific danger for leaders following a crisis is that some of them become less successful when the context shifts because they are not able to switch styles to match it.

Moreover, leaders who are highly successful in chaotic contexts can develop an overinflated self-image, becoming legends in their own minds. When they generate cultlike adoration, leading actually becomes harder for them because a circle of admiring supporters cuts them off from accurate information.

Yet the chaotic domain is nearly always the best place for leaders to impel innovation. People are more open to novelty and directive leadership in these situations than they would be in other contexts. One excellent technique is to manage chaos and innovation in parallel: The minute you encounter a crisis, appoint a reliable manager or crisis management team to resolve the issue. At the same time, pick out a separate team and focus its members on the opportunities for doing things differently. If you wait until the crisis is over, the chance will be gone.

Leadership Across Contexts

Good leadership requires openness to change on an individual level. Truly adept leaders will know not only how to identify the context they're working in at any given time but also how to change their behavior and their decisions to match that context. They also prepare their organization to understand the different contexts and the conditions for transition

between them. Many leaders lead effectively – though usually in only one or two domains (not in all of them) and few, if any, prepare their organizations for diverse contexts.

During the Palatine murders of 1993, Deputy Chief Gasior faced four contexts at once. He had to take immediate action via the media to stem the tide of initial panic by keeping the community informed (chaotic); he had to help keep the department running routinely and according to established procedure (simple); he had to call in experts (complicated); and he had to continue to calm the community in the days and weeks following the crime (complex). That last situation proved the most challenging. Parents were afraid to let their children go to school, and employees were concerned about safety in their workplaces. Had Gasior misread the context as simple, he might just have said, "Carry on," which would have done nothing to reassure the community. Had he misread it as complicated, he might have called in experts to say it was safe – risking a loss of credibility and trust. Instead, Gasior set up a forum for business owners, high school students, teachers, and parents to share concerns and hear the facts. It was the right approach for a complex context: He allowed solutions to emerge from the community itself rather than trying to impose them.

•••

Business schools and organizations equip leaders to operate in ordered domains (simple and complicated), but most leaders usually must rely on their natural capabilities when operating in unordered contexts (complex and chaotic). In the face of greater complexity today, however, intuition, intellect, and charisma are no longer enough. Leaders need tools and approaches to guide their firms through less familiar waters.

In the complex environment of the current business world, leaders often will be called upon to act against their instincts. They will need to know when to share power and when to wield it alone, when to look to the wisdom of the group and when to take their own counsel. A deep understanding of context, the ability to embrace complexity and paradox, and a willingness to flexibly change leadership style will be required for leaders who want to make things happen in a time of increasing uncertainty.

Reprint R0711C
To order, see page 155.

"I don't know anything about dance, but I did once choreograph a hostile takeover."

Leo Cullum

© 2007 BASF Corporation

School buses may still be the best way for our children to get to school each day. But what if these buses could be healthier for everyone on board? BASF diesel-emission control technologies provide proven cost-effective ways to retrofit diesel buses and reduce harmful exhaust emissions. It's simply one of the smartest things we can do today for a healthier tomorrow. Learn more at basf.com/stories

Helping Make Products Better®

BASF
The Chemical Company

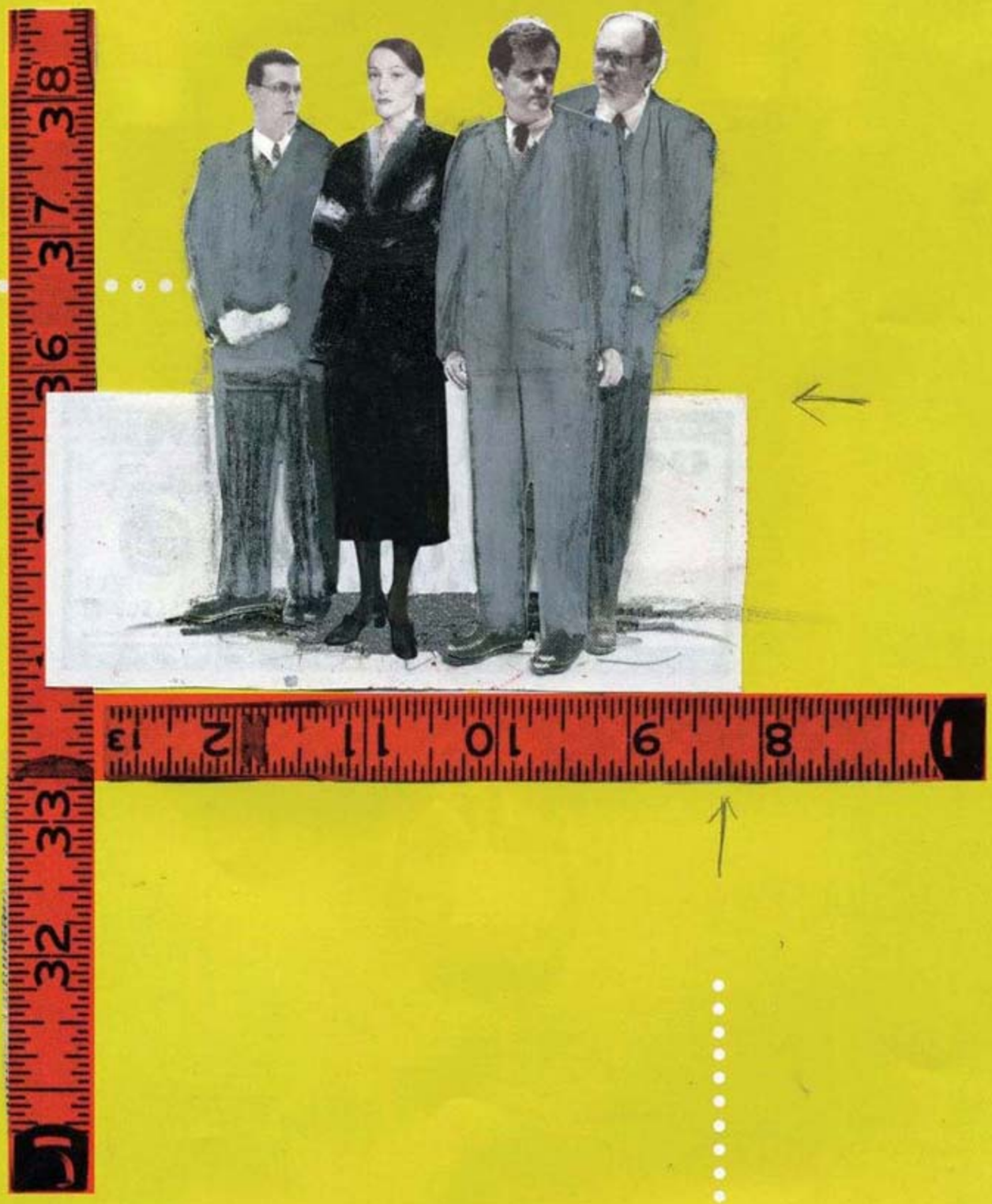
If Private Equity Sized Up Your Business

Buyout firms would see opportunity for value enhancement in five key areas. Why not beat them to the punch?

by Robert C. Pozen

OVER THE PAST DECADE, directors and executives of public companies have increasingly found themselves under scrutiny from the managers of private equity funds – especially as acquisitions by such funds have come to involve firms with market capitalizations of more than $20 billion. For some public companies, this gaze has been welcome. Individual fortunes have been made in deals to take companies private. But for most public companies, the outsize returns of a few private equity funds have posed a challenge to their own directors and executives. If private equity can get that kind of performance out of a company, why can't they?

Lino



The rejoinders have become commonplace. Company officials claim, for example, that private equity derives a huge advantage from its insulation from Wall Street's obsession with quarterly earnings. That argument goes only so far. Though it is true that a short-term focus can constrain the long-term growth plan of a public company, private equity funds must ultimately satisfy the temporal demands of Wall Street in order to reap capital gains on their investments. Others allege that the success of private equity is mainly attributable to collusive deals, excessive leverage, or overpriced IPOs. None of these allegations stands up to empirical analysis. (See the sidebar "The Reality of Returns.")

More fundamentally, some commentators reject the notion that private equity funds have lessons to teach management, citing their mixed track record. Research by professors Steven Kaplan of the University of Chicago and Antoinette Schoar of MIT shows that the net returns (after fees) to limited partners of private equity funds on average have slightly underperformed the S&P 500 over the past two decades. However, when Kaplan and Schoar analyzed the performance of the topmost private equity funds, they found that the net returns (after fees) to limited partners have been significantly higher than the S&P 500 and, most important, that these higher returns have been persistent. The persistence of high returns by the top private equity funds over long time periods is unusual. In many areas of asset management, the top performers in one year do not maintain their high rankings in the following year.

At the moment, the growth of private equity appears to be slowing as interest rates rise and risk is generally repriced. But the era of private equity is far from over – the top funds have become very large and are likely to play an influential role in future market cycles. Thus, directors of public companies would do well to step back and look with cool eyes at how the top private equity firms have produced such high returns. This is not to suggest that directors of public companies should adopt every strategy or process employed profitably by private equity funds. Some fund managers engage in unsavory practices that should not be emulated – such as charging excessive transaction fees and "flipping" acquired companies. Rather, directors should try to understand to what extent successful practices of top private equity funds can be applied to the specific circumstances of their public companies.

A broad review of what happens at companies in the aftermath of private equity buyouts reveals five major thrusts of reform. These translate into five key questions that directors should pose to senior management and expect a thoughtful analysis in response:

- Have we left too much cash on our balance sheet instead of raising our cash dividends or buying back our own shares?
- Do we have the optimal capital structure with the lowest weighted after-tax cost of total capital, including debt and equity?
- Do we have an operating plan that will significantly increase shareholder value, with specific metrics to monitor performance?
- Are the compensation rewards for our top executives tied closely enough to increases in shareholder value, with real penalties for nonperformance?
- Have our board members dedicated enough time and do they have sufficient industry expertise and financial incentive to maximize shareholder value?

This is a wide-ranging set of questions. The first three relate to the operating strategy of the company, and the remaining two focus on the incentive structure for the company's management and board. Put them together and they constitute the larger challenge to directors: How can we capture for our public shareholders the kind of value increase a private equity firm would seek? Let's start with the matter of cash on hand.

Is There Too Much Cash on the Balance Sheet?

One of the hallmarks of private equity is keeping idle cash to a minimum. It is common practice for many private equity funds to require daily reports on cash levels. By contrast, public companies in the United States have built up huge amounts of cash over the past decade – $2.7 trillion for the S&P 500 at the end of 2006, as compared with $1.6 trillion at the end of 2001 and $0.88 trillion at the end of 1996.

Perhaps today's historically high cash levels are partly related to the growing size of company balance sheets. But cash levels in many companies have also increased in relative terms, and the growing hoard is being justified in the usual ways: as a safety cushion to carry a company through lean times and as a war chest to fund new internal initiatives or make acquisitions. Directors of public companies should carefully evaluate whether either of these two justifications is overstated. It's true that companies, especially those in cyclical industries, need rainy-day funds – many experienced particular difficulties in coping with the sharp economic downturn from 2000 through 2002. But how large a cushion is needed? Private equity funds have recently structured large acquisitions without substantial cash cushions in cyclical industries like semiconductors (an example is the buyout of Freescale Semiconductor by a consortium led by the Blackstone Group). Likewise, the husbanding of cash for near-term use in starting new ventures inter-

Robert C. Pozen (bpozen@mfs.com) is the chairman of MFS Investment Management, a global money management firm. He is based in Boston.

nally or making major acquisitions can go too far. Directors should recognize that a large cash hoard can sometimes motivate management to engage in ill-considered transactions. Rhetoric of "synergy" and "transformation" accompanies many acquisitions, yet a substantial majority of them have in fact decreased the shareholder value of the acquiring company.

As directors of public companies are highly aware, the alternative to keeping excess cash is to return it to shareholders. One way to do this, favored in recent years, has been for the company to buy back stock. This tactic calls for some vigilance by directors. Despite the continuing announcements of stock buybacks, many public companies have accomplished only modest reductions in their share counts. Some companies do not fully implement their announced plans; others use a large portion of the acquired shares to fund executive compensation plans. Directors would be well advised to closely monitor the count of actual shares outstanding including shares for compensation plans.

Share buybacks do not automatically increase shareholder value, of course. A buyback makes sense only if the directors conclude that the company's shares are currently underpriced by the market. The empirical results of share buybacks are quite mixed. Buybacks have generally increased the stock price of the acquiring company in certain periods (such as from 1999 to 2001) but not in others (2004 to 2005, for example). In recent years, share buybacks have tended to increase the company's share price in certain sectors (technology, health care, and utilities) but not in others (energy, materials, and telecommunications).

The much more reliable way to increase shareholder value is to raise cash dividends. According to Citigroup research, stocks in the top quintile for dividend growth on average outperformed those in the bottom quintile by 12.6%

The Reality of Returns

Even those who concede the performance advantage of the top private equity funds often denigrate them by claiming that their excess returns have been obtained through manipulative or short-term tactics. Do these claims stand up to scrutiny? Let's consider three of the main allegations against the financial performance of private equity.

Allegation 1: *Private equity funds buy out public companies on the cheap, primarily by colluding with their sitting executives to limit the acquisition premium for public shareholders.*

Empirical evidence (from a 2006 analysis by professors Thomas Boulton of Indiana University, Kenneth Lehn of the University of Pittsburgh, and Steven Segal of Boston University) undermines the legitimacy of this claim. Over the past two decades, the average residual returns on the day of announcement were 20.2% for going-private transactions involving existing management and 13.6% for other types of going-private transactions.

Allegation 2: *Private equity funds achieve excess returns simply by leveraging up the balance sheet of any company they acquire.*

Again, the weight of empirical evidence proves the contrary. Improved operating performance was almost twice as important as increased leverage in an attribution analysis of gains in U.S. private equity deals (conducted by Robert Pease). A recent McKinsey study also found that the primary driver of value creation in a majority of the private-equity-fund deals studied was company outperformance, rather than market appreciation or financial leverage.

Allegation 3: *Private equity funds achieve excess returns by quickly taking companies public in lucrative IPOs that then proceed to do poorly over the long term.*

On this point, consider the empirical evidence presented by Jerry Cao of Boston College and Josh Lerner of Harvard Business School. They found that IPOs coming out of private equity deals between 1980 and 2002 outperformed the overall market and other IPOs launched at the same time (except for companies taken public within one year of being acquired by private equity).

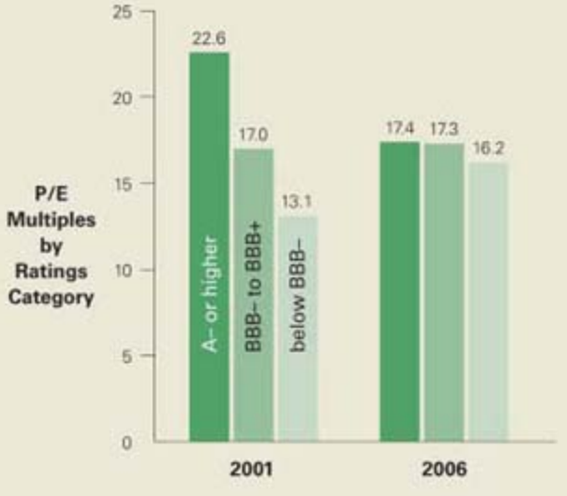
None of these allegations, in short, withstands empirical analysis. Instead, the conclusion to be drawn from the persistently high returns of these funds is that their managers have developed the strategies and processes needed to obtain superior performance from companies. While some of these practices may be unique to the circumstances of private ownership, most are relevant to public companies.

from 1990 through 2006. Companies that raised dividends on average outperformed the market by more than 4% in the year they were raised, and companies that started paying cash dividends for the first time on average outperformed the market by more than 5% in that initial year.

A recent change in tax law has made the argument for raising dividends even stronger. Cash dividends used to be taxed at ordinary income rates to shareholders, while company buybacks of stock were taxed at the lower capital gains rate. That changed with the passage of the 2003 Tax Act; now the tax rates on both qualified dividends and most capital gains are 15%. Yet the average portion of earnings paid out in dividends by S&P 500 companies has been cut in half – from approximately 60% in the early 1990s to approximately 30% today. The main argument by company management against higher cash dividends is their inflexibility: It is very difficult to lower an existing level of cash dividends. Ironically, this difficulty is a key attraction to shareholders: Company management becomes subject to the discipline of paying this higher level of cash dividends year after year.

The Diminishing Impact of Credit Rating

Over the past five years, the impact of a lower credit rating on a company's market multiple has lessened dramatically. In 2006, the price/earnings multiples for companies with debt rated A– or higher and those for companies with debt rated BBB were nearly identical.



Source: Goldman Sachs

Is the Capital Structure Optimal?

Closely related to the high cash levels of public companies are their relatively low ratios of debt to equity. Private equity funds are well known for increasing debt and reducing equity in companies they acquire. It may be that the leverage employed by private equity is too great for the public markets, but the right level for many companies is likely to be higher than today's, as we shall see.

Many executives resist increasing the leverage ratios of their companies. For them, it is a simple three-step argument. Increased leverage, they say, will lower the credit ratings on the company's debt. In turn, that lower credit rating will substantially increase the company's borrowing costs. Finally, the effect of both the increased leverage and the lower credit rating will be to substantially decrease the appeal of the company's stock to public investors.

In reality, that logic is not borne out. It's true that leverage beyond a certain point will lead to a lower credit rating for the company's debt. However, the increase in borrowing costs for lower credit ratings has been modest until the recent turmoil in the debt markets. For example, during the initial four months of 2007, the option-adjusted spreads between a credit rating of single A and BBB (the two lowest rungs of investment grade bonds) were only 32 to 34 basis points, and the option-adjusted spreads between single A and BB (the highest rung of noninvestment grade bonds) were only 112 to 120 basis points.

More important, investors in public companies have become comfortable with firms that have higher leverage ratios. As shown by the exhibit "The Diminishing Impact of Credit Rating," based on data from Goldman Sachs, the impact of a lower credit rating on a company's market multiple has shrunk sharply over the past five years. Indeed, in 2006 there was almost no difference between the market multiple for companies with debt rated A– or higher (17.4) and the market multiple for companies with debt rated BBB (17.3).

Some company executives make a further argument against taking on more debt. They point out that a company is much less diversified than a private equity fund, which owns many firms, and therefore high debt levels are riskier for the company. But this perspective is too parochial; the proper viewpoint is that of the company's shareholders. Since they can hold stocks in a diversified portfolio of public companies, shareholders can adjust their aggregate exposure to leverage to whatever level they wish. Other executives argue that during the past few years private equity has enjoyed a particularly favorable era of low long-term interest rates, which has now passed. But interest rates change rapidly and will again become favorable, so directors need to examine their capital structure on a regular basis.

The appropriate degree of leverage for a public company is seldom obvious. To discover it, the company's directors should insist on a careful empirical analysis of

The Impact of Leverage on the Cost of Capital

When a company is taken private, often its capital structure is changed so that the ratio of debt to equity rises. Does it make sense for a public company to do the same – and if so, how much should it increase its leverage ratio? Discovering the answer requires an analysis of how taking on additional debt will affect the company's weighted after-tax total cost of capital.

Consider the simplified example of a company with $1 billion in capital. In Scenario A, that capital is composed of $800 million of equity with an expected return of 12% and $200 million of debt with an interest rate of 6%. Under Scenario B, the equity of the company is reduced to $600 million, and its debt is increased to $400 million. The analysis of Scenario B is based on the assumptions that, in this capital structure, the expected return on the equity will rise from 12% to 14%, and the interest rate on the debt will rise from 6% to 6.5%. Finally, in Scenario C, the company's equity is reduced to $400 million, and its debt is increased to $600 million. The analysis of Scenario C is based on the assumptions that, in this capital structure, the expected return on the equity will rise from 14% to 17.5% and the interest rate on the debt will rise from 6.5% to 7.5%.

All scenarios are based on the current tax treatment of dividend and interest payments by companies – no tax deductions for dividends and full deductibility of interest payments (at an assumed corporate tax rate of 30%).

While the debt-to-equity ratio in a company's capital structure may be immaterial in a perfect market, this differential tax treatment makes high-equity capital structures less attractive than high-debt capital structures. Thus, the weighted after-tax cost of total capital in Scenario A, with 80% equity, is the highest at 10.44%. By contrast, the weighted after-tax cost of total capital is only 10.15% in Scenario C because of its high-debt capital structure. If the leverage ratio of Scenario C is too high for the company in the judgment of its directors, they should carefully consider Scenario B, which has less debt and a weighted after-tax cost of total capital of 10.22% – meaningfully lower than the 10.44% in Scenario A.

	Equity (in millions)	Debt (in millions)	Expected return on equity	Interest rate on debt	Weighted pre-tax cost of total capital	Weighted after-tax cost of total capital
Scenario A	**$800**		12%		9.6%	9.60%
		$200		6%	1.2%	0.84%
					10.8%	**10.44%**
Scenario B	**$600**		14%		8.4%	8.40%
		$400		6.5%	2.6%	1.82%
					11.0%	**10.22%**
Scenario C	**$400**		17.5%		7.0%	7.00%
		$600		7.5%	4.5%	3.15%
					11.5%	**10.15%**

various combinations of debt and equity to arrive at the lowest weighted after-tax cost of total capital, including debt and equity (see the exhibit "The Impact of Leverage on the Cost of Capital").

Does the Operating Plan Significantly Increase Shareholder Value?

While increased leverage has contributed to the success of private equity, improved operating performance of acquired companies has been more important. In a 2005 study of 100 businesses owned by private equity in Europe, Ernst & Young calculated that the value of these businesses grew at twice the annual rate achieved by public companies in the same country and the same sector. Why? "Making long term improvements in the profit growth and value of businesses does not come from cost cutting or financial engineering," concluded the report's authors. "It comes from focused investment, making the few key changes happen fast, and the benefit of shared incentives of investors and management."

A similar conclusion was presented in a 2005 McKinsey study of 60 deals by 11 private equity firms with above-average track records. In 63% of the deals studied, the primary source of value creation was "company outperformance," as compared with 32% from "market/sector appreciation plus financial leverage" and 5% from "arbitrage." In explaining this superior company performance, the McKinsey study emphasized that private equity firms devise value-creating plans and execute them effectively.

Board members of a public company might not recognize that as an area of shortcoming. In all probability, they hold a strategy session every year. But how transformative is the thinking at this session? Is management pressed to develop a truly bold operating plan, like the one put in place after KKR acquired Duracell in a 1988 leveraged buyout? The battery company launched a mass marketing program around the world and spent heavily on innovative TV advertising. As a result, Duracell made significant gains in market share and, eight years later, was sold to Gillette at a large premium.

The work doesn't end with the design of a great operating plan. Directors of a public company should subsequently monitor its implementation as closely as private equity does. Those firms subject companies to "near continual review and revision," the McKinsey study revealed, tracking progress against key performance indicators. If a company falls behind plan, private equity acts decisively, according to Ernst & Young: "Where necessary, plans were redrawn, management changed, and sometimes investment was increased."

There are no generic formulas to be derived from how private equity improves operating performance, but there is a typical toughness in controlling costs. There are no corporate jets or lavish dining rooms for companies owned by private equity. Public directors hoping for similar kinds of performance gains should measure the company against its peer group on several metrics, such as general administrative costs and total operating costs relative to gross profits.

Improving operating performance requires astute business judgment about where to cut back within existing units. Public company directors should also look closely at whether noncore businesses should be sold – a favorite technique of private equity to improve operating performance. On the other hand, private equity firms often invest to increase revenues in acquired companies. One example is General Nutrition, whose private equity owners reinvested cash flow to open more stores. Another involves a small oil and gas company, which Morgan Stanley Capital Partners helped to develop additional production. Looking outside, public directors should urge management to find acquisitions at reasonable prices that would consolidate the company's market position or realize economies of scale – as did the acquisition of Bethlehem Steel by Wilbur Ross after he had bought LTV's steel plants.

Bold strategies and effective implementation serve shareholders well but require a highly creative and motivated management group. Does the average public company provide executives enough incentives to pursue the company's objectives? Are board members appropriately dedicated to the task? These are the questions we turn to next.

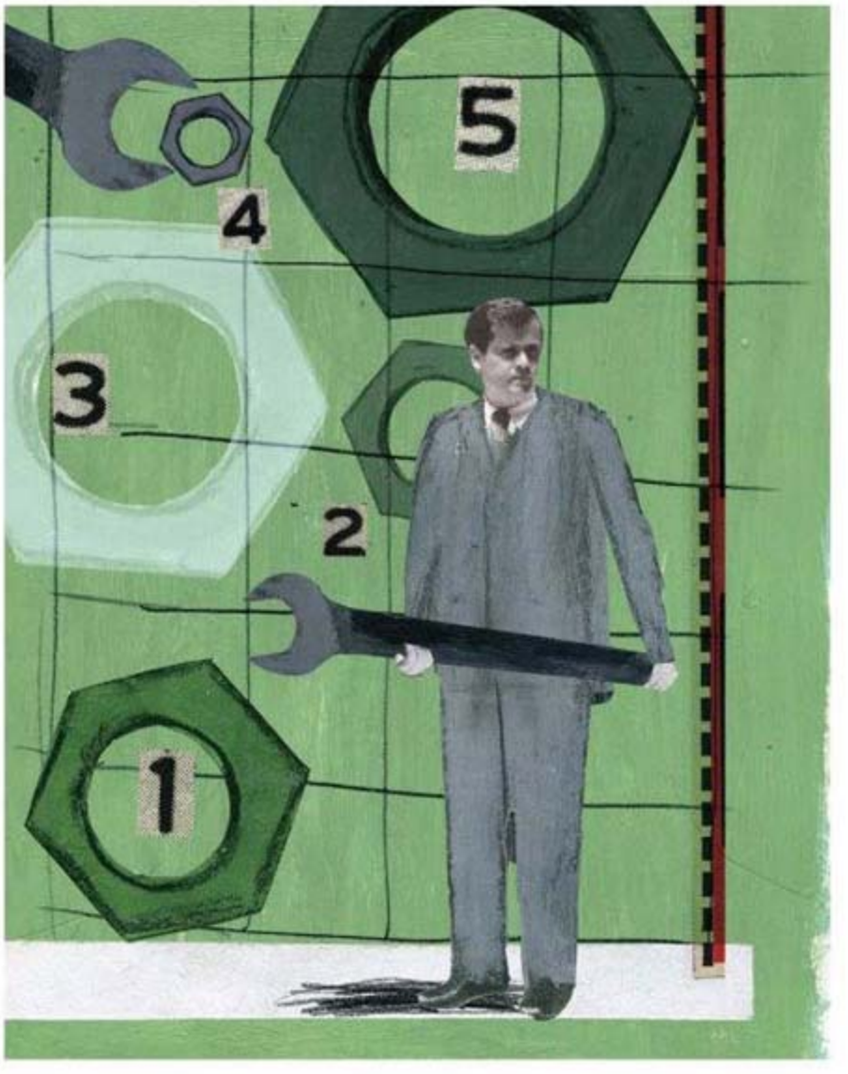
While increased leverage has contributed to the success of private equity, improved operating performance of acquired companies has been more important.

Is Executive Compensation Tied Closely Enough to Shareholder Value?

One of the distinguishing characteristics of private equity funds is how they compensate the top executives of the companies they control. To begin with, the equity stakes held

by senior management in these companies are much larger than in public companies. When Steven Kaplan studied the matter, he estimated that the stock interest of CEOs increased by four times when a company was acquired by private equity. More recently, McKinsey research found that private equity offers top management a system of rewards equal to 15% to 20% of the company's total equity.

However, these equity incentives are offered to a much more select group of executives in private equity deals than in public companies. As the McKinsey study reports, "Such incentives heavily target a company's leading officers as well as a handful of others who report directly to the chief executive." Those other executives are chosen on the basis of their direct contribution to increases in shareholder value. The implication for directors of public companies: Reconsider the practice of spreading equity awards broadly across the employee population and instead concentrate the awards on the smaller group of executives who are the proven drivers of company performance.



Furthermore, those few company executives do not actually receive any rewards from their relatively large equity packages unless the private equity fund that owns the company realizes a substantial gain. This often occurs when the company is sold to a third party or when a portion of its shares is sold in a public offering – two events that are not common in already public companies running long-standing businesses. But public company directors should learn the general lesson from private equity that stock rewards should be tied as closely as possible to increases or decreases in shareholder value. More specifically, public directors should resist the recent trend toward shifting equity incentives from stock options to restricted shares.

When directors grant stock options with an exercise price equal to fair market value at the time of grant, they are ensuring that the recipient will do well if the company's share price rises but will have no gain if the company's share price stays the same or declines. By contrast, when directors make grants of restricted shares, even if those shares vest over several years of continued employment, they are effectively guaranteeing a substantial gain to the recipient regardless of how the company's shareholders fare. If the company's share price rises, the value of the restricted shares will also appreciate. If the company's share price stays the same or declines, the restricted shares will still confer a substantial gain on the executive receiving them – just because that executive remained on the job for the requisite number of years.

If they choose to rely more heavily on stock options than on restricted shares, directors of public companies are likely to face opposition based on the potential for windfall profits from stock options. During the 1990s, some executives reaped huge profits from stock options on account of the sharp rise in the general stock market, rather than the superior performance of their particular company. However, a disconnect between executive gains and company performance can be reduced by placing conditions on the exercise of stock options. Options at Schering-Plough, for example, are not exercisable unless specific earnings targets are met, and options at Bristol-Myers Squibb are not exercisable unless the company's share price exceeds 15% of the price at the initial grant. More radically, the exercise price of a stock option could be adjusted each year to reflect the rise or fall of an appropriate stock index for the company's industry. If the tax and accounting complexities of index-based options can be overcome, this approach ensures that executives will realize gains only if the company's shares do better than those of their industry peers – regardless of whether the general stock market is rising or falling.

Most important, directors of public companies should learn from private equity not to allow top executives to leave with large exit packages despite poor performance. How is it that the CEO of Phillips-Van Heusen, for example, was able to leave the company after only eight months with a total exit package of $26.2 million, of which $10.5 million was severance? Should the CEO of Pfizer have received a total of $198.8 million, including $34.2 million in severance, after six years in which the company's stock substantially underperformed the market? Outsize exit packages are usually rationalized on the grounds that they are required by employment contracts or formulas built into benefit programs. But directors should object to contracts or programs that provide executives with substantial bonuses or equity grants regardless of performance, except as necessary to replace lost awards when a senior executive is recruited from another company. Private equity has recruited many CEOs with proven talent by offering large rewards for company outperformance without contractual protections for executive underperformance.

Do Directors Devote Enough Time and Have Enough Incentive to Increase Shareholder Value?

Another area in which companies controlled by private equity differ from public companies is in the composition of their boards of directors. To begin with, the boards of private equity companies are small, with only four to eight directors versus the ten to 14 directors in most public companies.

The larger boards of public companies result partly from the requirement that the three main committees of a public company – audit, compensation, and governance nominating – be composed solely of independent directors. This independence requirement also drives a more significant difference between the boards of public companies and private equity companies: the depth of directors' expertise in the company's business. Private equity firms recruit directors with extensive operating experience in the same industry as their portfolio companies. Elevation Partners, for example, is buying 25% of Palm in a recapitalization deal; once the transaction is final, Jon Rubenstein, who until recently led Apple's iPod division, will join as board chairman. Fred Anderson (former CFO of Apple) will also join the board of Palm.

In public companies, by contrast, many capable candidates with industry expertise do not qualify as independent because they have substantial ties to competitors, service providers, large suppliers, or customers. Thus, the independence requirement reduces the size of the pool available to public companies of potential directors with skills needed to increase company value.

Most distinctively, the expert directors recruited by private equity spend much more time on company business than do the directors of public companies. The boards of public companies usually meet six times a year with each meeting lasting a day and a half on average. Add to that the time public directors spend on review of materials, travel to meetings, and conference calls between meetings, and the total time spent on company business by public directors ranges from 132 to 183 hours a year, according to various surveys by search firms.

By contrast, directors of companies owned by private equity typically spend three to five days a month on company business, and even more at the start. For instance, according to a survey by Ernst & Young, one director of a company owned by private equity met with the management team on a daily basis for the first few months while the operating plan and new processes were hammered out. He then stepped back, letting management take the helm, but even then continued to spend four days a month, on average, communicating with the team.

Not surprisingly, there are significant differences between director compensation in public and private equity companies. The total annual compensation (including equity awards) per director in S&P 500 companies, according to a 2005 Spencer Stuart study, was on average $136,360. In most of these companies, directors may choose to take some or all of their annual fees in deferred equity units or restricted shares. This provides a modest link between rewards to public directors and increases in shareholder value, but the upside is limited. On the other hand, if a public company gets into trouble financially or legally, its directors face substantial risks of personal liability and reputational damage as well as extensive extra demands on their time.

Since directors of companies owned by private equity expend much more time and effort than their public-company counterparts, they deserve a much higher level of compensation. But this higher level of compensation does not come in the form of annual fees. Directors of companies owned by private equity hold substantial equity in those companies and share in the performance fees of the private equity funds – typically, 20% of the returns realized by these funds.

Given these differences between private and public boards, some commentators have complained about "compliance" boards at public companies – directors concerned mainly with minimizing downside risks rather than maximizing shareholder value. One possible approach would be to adopt the private equity model at certain public companies, as suggested by Malcolm Salter. The directors of these public companies would spend three to five days a month on company business and would severely limit their directorships in other organizations. These boards would be composed of only four to six directors, who would have extensive industry-specific experience. To provide more incentive to create shareholder value, these directors would be paid an annual fee of $30,000 to $50,000, together with stock options valued at $300,000 to $500,000 a year.

This board model from private equity might seem too intrusive or impractical to some CEOs, such as those leading companies with multiple lines of global businesses. It would be difficult even to find directors with global expertise in all these business lines who would qualify as independent under current standards for listed companies. But a CEO from a smaller, more narrowly focused company might welcome strategic assistance and regular consultations from a small coterie of industry experts with strong incentives to grow the business. Such companies are more likely to find directors who qualify as independent by recruiting from the ranks of retired executives from the industry and its service providers.

Getting the Message

Because of the excess financial returns achieved by the top equity funds over the past decade, the pressures on public companies have been rising. It's no surprise, then, to see public companies taking heed. IBM, for example, recently took a page out of the private equity playbook. It had $10.8 billion in cash equivalents and only $700 million in long-term debt at the end of the first quarter of 2007. On April 24, 2007, the company announced that it would use its cash to boost its quarterly dividends by one-third, going from 30 cents to 40 cents a share, and that it would use its cash plus new borrowings to buy back $15 billion worth, or 10%, of its outstanding shares. The company was promptly rewarded for applying this value-enhancing technique commonly used by private equity: The price of IBM shares rose by 3.5% on April 24.

This is only one example of a broad trend under way. Companies far too large to fear imminent takeover from private equity funds are learning from them. To formalize these lessons, large companies would do well to go through an in-house simulation of a private equity takeover. This would involve creating a SWAT team of aggressive internal staffers and instructing them to play the part of the private equity fund managers. What would be their strategic plan? How would they alter the capital structure? Which units would be cut and which grown, with an understanding that there were no sacred cows? Should the company concentrate its equity awards on a more select group? Should the company downplay grants of restricted stock in favor of stock options with performance conditions?

For companies with market capitalizations below $20 billion, the exercise takes on more immediacy because those firms are within easy shooting range of private equity funds in a favorable interest rate environment. Directors of some companies this size have adopted certain strategies before their hands are forced by overtures from private equity. For example, after watching private equity funds acquire rival hospital operations in leveraged buyouts, Health Management Associates announced its own recapitalization early this year – taking on $2.4 billion in new debt to finance a one-time dividend of $10 a share. As HMA's CEO explained, the move allowed the company to "shift to a lower cost of capital, give immediate value to our stockholders, and give them the ability to share in the future value of the company." HMA's stock price rose 2.6% on the day of the announcement.

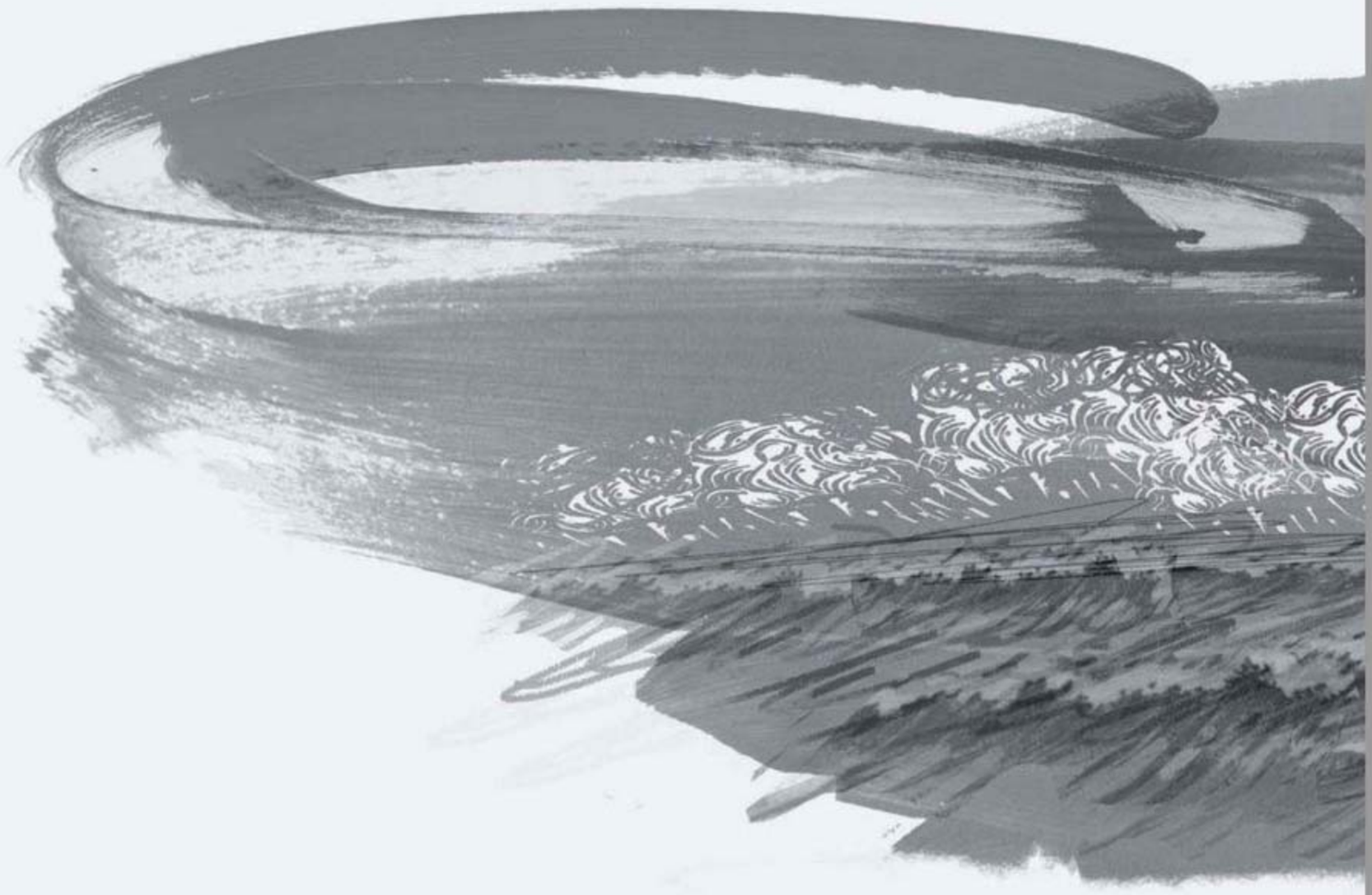
Smaller public companies in one line of business, even those not facing threats of immediate takeover, should consider switching to the private equity model of a small board composed of retired industry executives paid primarily through stock options. These are the companies that have the most trouble recruiting and paying for directors, with their heightened concerns about personal liability and the increased board time devoted to compliance procedures. At the same time, because these companies are operating mainly in one line of business, expert directors willing to make a substantial time commitment can make significant contributions. In other words, these are the companies where the small expert boards have proved effective for private equity.

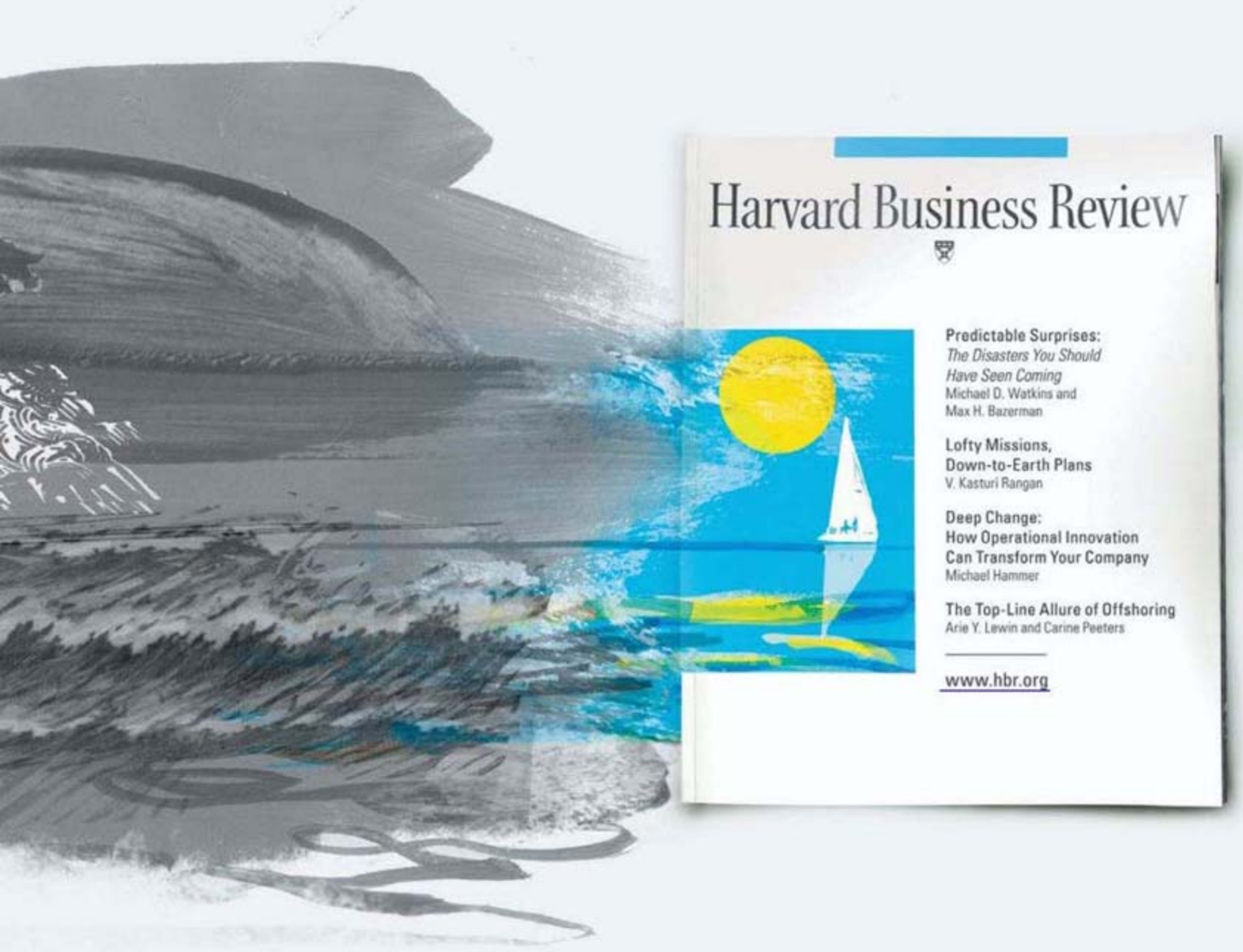
Since directors of companies owned by private equity expend much more time and effort than their public-company counterparts, they deserve a much higher level of compensation.

Regardless of the ebbs and flows of private equity deals, wise directors of public companies will find the best that private equity has to offer and apply those lessons proactively to their companies. They will keep company cash as low as feasible, reduce the company's weighted after-tax cost of total capital, and make the tough decisions required to improve operating performance. And they will draw upon the pay model of companies owned by private equity in tying executive compensation more closely to actual increases in shareholder value – without guarantees of large severance payments unrelated to performance.

Reprint R0711D

To order, see page 155.




Harvard Business Review
Predictable Surprises:
The Disasters You Should
Have Seen Coming
Michael D. Watkins and
Max H. Bazerman
Lofty Missions,
Down-to-Earth Plans
V. Kasturi Rangan
Deep Change:
How Operational Innovation
Can Transform Your Company
Michael Hammer
The Top-Line Allure of Offshoring
Arie Y. Lewin and Carine Peeters
www.hbr.org

The most successful CEOs, on balance, are those who are developed inside the company – but manage to retain an outside perspective.

Solve the Succession Crisis by Growing Inside-Outside Leaders

by Joseph L. Bower

I WAS APPALLED TO LEARN RECENTLY that 60% of the respondents to a poll of 1,380 HR directors of large U.S. companies said their firms have no CEO succession plans in place. As this finding suggests, too many companies have over the past two decades ignored the hard work of building future leaders while senior executives have focused increasingly on meeting the next quarter's earnings target. When the time comes to name a new CEO, more firms look outside. Yet strong evidence supports the

Paul Blow

notion that a well-groomed insider is a key to sustained company performance. In my analysis of 1,800 successions, for instance, I found that company performance was significantly better when insiders succeeded to the job of CEO. Other researchers, including Jim Collins in *Good to Great,* have come to similar conclusions working from different data sets.

Such quantitative research on CEO succession confirms but does not explain why more outsiders are being hired, why qualified insider leadership correlates with better company performance, or what relationship exists between those two trends. These ambiguities have prompted me to consider what I could add to the data-centered research from a qualitative review of a decade of my own and others' case studies and interviews, as well as from my experience managing successions as an outside director. That review made one thing unambiguously clear to me: A critical difference between companies that manage succession well and those that don't is the understanding that succession is a process, not an event. The process begins years before the event. Something else was clear: Both insider and outsider CEOs have strengths and weaknesses when they begin. Insiders know the company and its people but are often blind to the need for radical change – they've drunk the Kool-Aid. Outsiders see the need for a new approach but can't foster change because they don't know the company or industry sector well enough. What organizations need, then, is to find a way to nurture what I call *inside-outsiders* – that is, internal candidates who have outside perspective. For some companies, that may look like mission impossible. But the succession crisis will only get worse if companies don't tackle the problem.

A critical difference between companies that manage succession well and those that don't is the understanding that succession is a process, not an event.

The CEO Does Matter

Recently, there's been a reaction against focusing too much on the CEO – with some justification. Top teams, as much as CEOs themselves, are crucial to the execution of a great strategy. Nonetheless, strong CEOs are worth studying. They wield enormous power. And as stewards of the corporate purpose, their ability to make sense of the business environment and to craft and articulate the mission and the strategy are central to long-term success.

Nothing illustrates the point better than the last 35 years of succession at General Electric. Reginald Jones took the helm at GE in 1972. He developed the strategic-planning system he inherited from his predecessors into the model for companies everywhere. He made huge changes in GE's portfolio, exiting the computer business and acquiring the giant inflation hedge, Utah International. Jones's GE regularly outperformed the U.S. GDP by more than 25%. Recognizing the dawn of a very different environment in 1981, successor Jack Welch proceeded in two or three years to dismantle much of the planning and organizational structure Jones had put in place. Welch sold Utah, acquired RCA, and built a huge financial services business. Entire levels of middle management and staff disappeared. In the second decade of his tenure, GE's market capitalization grew more than 1,000%. Welch's successor, Jeff Immelt, is changing GE once again. He is making major investments in biosciences, water, security, and platforms for infrastructure growth in emerging countries. The stock market is giving him the same cool reception it gave Welch in his first decade, but GE is growing both revenues and profits as it changes.

What GE's CEOs exemplify is the ability to perform four seemingly contradictory tasks (a near-impossible quadrafecta):

- Produce good short-term performance regardless of how the markets and competitors buffet the company they've inherited.
- Deploy resources so that organizational capabilities improve in the medium term.
- Align the talents and energies of hundreds of thousands of employees with clear strategic objectives.
- Develop and modify those objectives over the long term so that strategy adjusts to the changing business environment.

This is a feat that simply cannot be done by a team. It can be pulled off only by an individual with a clear vision.

The job is inherently difficult – and becoming more so. CEO turnover is on the rise globally, and studies show that

Joseph L. Bower (jbower@hbs.edu) is the Donald Kirk David Professor of Business Administration at Harvard Business School in Boston. He is the author of *The CEO Within: Why Inside Outsiders Are the Key to Succession Planning* (Harvard Business School Press, 2007).

succeed in the long run: After two or three early years of squeezing more to the bottom line, the CEO leaves or sells the company. This short-term orientation destroys value in the medium and long terms. The seeds of growth are eliminated along with overhead.

When a board looks inside for future leaders, all too often it sees men and women who don't seem to have the stature and vision to lead. In the board's view, they are good operators, but they lack a strategic sense: They have never run a business in anything like the circumstances that loom on the horizon. And where no systematic effort has been made to build future leaders, that perception may be correct.

But there's no better way to reverse the long-term destruction of shareholder value than for companies to commit themselves to growing executives from inside the company who are prepared to lead through good times and bad. Simple? No. The right thing to do? Absolutely.

Consider the four skills that a new CEO needs to drive a company forward and produce the results cited above:

- Judge where the world and the company's markets are headed, and frame a vision of how the company should reposition itself.
- Identify (and if needed recruit) the talent that can turn this vision into reality.
- Understand, in a deep and substantive way, the problems the company faces.
- Know, comprehensively, how the company really works – in other words, be plugged into its administrative inheritance and know key players well.

True, carrying out these tasks requires a clear outside perspective. Industries are regularly transformed by changes that disrupt traditional economic relationships. That's what the Internet did to the world of personal computers and minimills did to the big, integrated steel producers. It's what high-quality, low-cost Asian manufacturers did to a whole set of businesses based in Europe and the United States. Individuals with an outside perspective can see such trends as they're happening.

But three of these four leadership skills require extensive inside knowledge. Executives who successfully lead large corporations to new heights usually have accumulated a body of knowledge over a long span of time, much of which is specific to the company they're leading and the industry it's a part of. They can assess the talents of their colleagues relative to the skills needed to compete in a new situation. When, in

the proportion that can be traced to inadequate performance is steadily trending upward. Why should the job be harder now than in the past? I see two reasons. First, arguably, market conditions are making the task of getting good results harder. Hypercompetition, changing technology, and a raft of emerging players from every corner of the globe are pressuring companies to keep changing their game, and a lot of firms are just not doing it very well. When I took a look at the performance of U.S. firms over the last five years and discounted the top two firms from any industry, the rest, on average, failed to earn their cost of capital. Second, owner expectations have changed radically. In a world where markets are growing 5% annually, the stock market is looking for 15% returns. Institutions count for an increasing share of ownership, and their holding period is getting shorter – under a year is now typical. These are not owners so much as speculators in for the short ride.

Outsiders, Insiders, and Hybrids

When company performance disappoints, boards of directors tend to seek a white knight from the outside to come in and change everything. Most of the time, the only way to change things fast is to cut costs – which is exactly what someone unfamiliar with the specifics of an industry and its markets, or the company and its people, is likely to do first. Yet a study by Booz Allen reports that outsider CEOs who make a quick mark by cutting costs generally fail to

response to a change initiative, colleagues declaim, "We can do that," insiders can distinguish wishful thinking from an accurate recognition of vital, new internal capabilities – and they can do so early on. It's hard to overstate how important it is to understand, when competing in a new field, the true value of recognizing a winning versus a wannabe capability.

My research suggests that as a rule the best leaders are, therefore, people from inside the company who have somehow maintained enough detachment from the local traditions, ideology, and shibboleths to maintain the objectivity of an outsider. They know the traditions and the people of the company but also know how those will have to change. They know what best-in-class looks like as well as how the class will change. They're able to look at the organization's administrative heritage as if they had just bought the company.

How do they preserve that view? Often they come from outside the mainstream of the organization. They've spent more of their time away from headquarters living with new opportunities and threats. If you've been living in modern Shanghai, for instance, you're aware that the threat from China is not cheap labor.

Am I advocating the elevation of eccentrics and misfits? Of course not. Procter & Gamble's A.G. Lafley spent the years before becoming CEO in Asia building the Chinese operation – in beauty products rather than the core and very mature P&G detergent business. His resulting broad view of P&G's potential may have laid the basis for the series of major acquisitions that have substantially widened the domain of the company's businesses. IBM's Sam Palmisano was a champion of software and open systems at a time when Big Blue was essentially a closed-system, hardware-oriented company. Again, his broader view of how IBM should compete appears to have shaped the company's progress as a systems and services solution provider. What Jack Welch built into a world leader was GE Plastics – not engines, lighting, or appliances (which were GE's core at the time). Welch once told me, "One of the things that I was lucky about in my early days in GE: I got good businesses and I saw bad businesses. I was managing diamonds – industrial diamonds – and semiconductors. So one of the advantages of being in a business with a 50% margin and moving to a business with a 4% margin is that you can tell the difference between the two, and you want to get rid of [the 4%] and keep [the 50%.]"

Being outside the mainstream does two things for a high-potential manager: It allows a certain detachment from the conventional wisdom to develop, and it keeps the manager from being cowed by a powerful CEO. As one CEO said to me, "Acorns don't grow well in the shadow of great oaks."

Being outside the mainstream allows for a certain detachment from the conventional wisdom and prevents managers from being cowed by a powerful CEO.

Growing Leaders

How do you build a pipeline of future leaders that includes inside-outsiders? It begins with recruiting from a diverse pool of individuals who are both highly talented in their area of specialization and have the potential to be general managers. Over time, they will learn to manage effectively in the context of the company's strategy, systems, and culture – they will become good insiders. The best of them will also see the potential for radical improvement, and that vision may ultimately match up with the sense the board and the departing leaders have of where the world is headed. Grooming that kind of insider – the one blessed with an outside view – should be the fundamental goal of the executive development process. If building the skills these managers need takes a decade or more – and if they are to assume leadership positions while they still have at least a decade of service ahead of them – they need to be on board and identified for grooming by the time they are 30.

"Grooming" may be a bad word for the development process, as it sounds more cosmetic than it really is. What high-potentials need is to be handed a series of increasingly complex assignments that give them the chance to manage a whole business as early as possible. That means the company has to be organized into more than one business unit – even if it is basically a one-business company. Sometimes regions are distinct enough to benefit from different managers. Western and Eastern Europe are like that today: One market is mature, highly developed, and very competitive; the other is growing rapidly under rapidly changing conditions. Thus managing them is quite genuinely two different jobs.

As high-potentials move through this series of increasingly complex assignments, performance evaluation is critical. They must be held accountable and learn how to deliver, but they must not be abused by arbitrarily imposed goals.

Becoming an Inside-Outside Leader

If you want to become a company leader – and especially if you want to be an inside-outside CEO – you need to manage your own development from the start. These questions can help you keep the big picture in mind.

At recruitment

> **Why are you being hired?** Is it just for a job today, or is there a career path?

> **Is this a company where talented people stay for many years?** If not, will the experience it provides make you attractive to future employers?

> **How will the company help you grow?** What pattern of assignments will you get? Will you have time to learn?

> **What kind of mentoring will you receive?**

> **What kind of training is offered?** What is done in-house? What is done through outside programs?

> **How soon can you run a business?** If you don't get general management responsibility early, you can't learn the job.

> **Is this a cookie-cutter program, or are young people given the chance to try out new ideas?**

Now that you're on the job

> **Do you meet your numbers?**

> **Do you help others?** Are *you* developing their talent?

> **What do you do for your peers?** Are you just their in-house competitor?

> **When you manage up, do you bring problems – or problems with possible solutions?**

> **Are you transparent?** Managers who get a reputation for spinning events gradually lose the trust of peers and superiors.

> **Are you developing a group of senior-manager friends who know you and are willing to back your original ideas with resources?**

Developing yourself

> **Is your network expanding outside your division?** What about outside the company? Have you visited with customers, vendors, and related organizations? If you have a union, have you ever talked with its leaders?

> **Do you know individuals in your community who aren't businesspeople?** You can learn more about what you don't know from them than from people just like you.

> **Do you attend seminars or expand your general knowledge beyond your immediate business?**

> **Are you involved with the community in some way?** You can develop many leadership skills by working with an outside organization.

Living a balanced life

> **Are you there for your family?** Managing can be lonely – support of family can be invaluable.

> **Have you cultivated a relationship with someone – spouse, close friend, mentor – who tells you the truths you don't want to hear?** The higher you rise in your organization, the more your colleagues will tell you what they think you want to hear.

When young managers stumble, they should be mentored by talented senior managers. This mentoring is part of the senior manager's path to further growth as well.

Senior managers who are overseeing the development of talented junior managers should pay special attention to planning, budgeting, performance evaluation, and compensation – and to how these different processes are linked. When managed well, planning and budgeting present an endless series of development opportunities: learning how to present deliverable plans so that they are not arbitrarily raised to meet some corporate aspiration; learning how to ratchet up growth while still delivering current performance; learning how to present new ideas in such a way that they are not underfunded. These challenges involve, on the one hand, being held accountable for deliverables and, on the other, being given space to nurture new activities.

Earning and learning require different approaches to evaluation and compensation. Both entail accountability, but one set of targets and measures is pretty clear, while the other is often more ambiguous. Rewards need to reflect each in a way that is understandable. An individual might be promoted for success in building an operation over a number of years, for instance, but at the same time be denied a bonus based on a formula related to short-term earnings.

Oftentimes, the inside-outsiders appear to present a special challenge. They seem like mavericks to the extent that they do see outside the box. What this comes down to is that most people think some of their ideas are really weird. Indeed, these unusual ideas may not be sound until they're worked through. Inside-outsiders need encouragement, as well as protection from old-timers who might be inclined to teach them a lesson. That is the job of the mentor.

The critical moment is when the young high-potential shows up with something new that just might be important. That is when the investment of a mentor's time is most important. It may take numerous meetings and a long walk or two to help the high-potential think through what it means to develop an idea in the context of the company. More often than not, the mentor will be at least as skeptical as the old-timer. The trick is to give the young manager the time and leeway to turn a new idea into a great business without giving him the rope to hang himself. The mentor must make sure resources are adequate but not excessive, dole them out stage by stage, and then wait and see. The mentor, in other words, is a kind of venture capitalist, teaching potential leaders how to make new ideas work.

...

It takes world-class quality and cost control for any company to stay in the game. It takes fast-to-market innovation to sustain industry leadership. Those dual (and dueling) priorities have put great pressure on the men and women at the top. They must drive efficient operations and creative change at the same time, even though from a management perspective those tasks are nearly contradictory.

For both the company leadership and those who seek to become leaders, that means balancing the need to meet short-term expectations with the need to invest over the long term in the development of the organization's people. For management, development involves giving potential leaders jobs with increasing responsibility. Helping them maintain their unique perspective takes hours of mentoring; protecting them from the consequences of their mistakes requires careful intervention. Those who want to be chosen as leaders must build a track record of delivering in the short term while building for the long term. Both challenges are tough, but both must be met if we are to restore our companies to long-term competitive health.

If leaders need a decade to develop and need to take the helm with a decade of service still ahead of them, they need to be identified by the time they are 30.

Reprint R0711E

To order, see page 155.

"We really need to talk. How fast can you get to your phone?"

P.C. Vey

Growth-Focused
Investment Banking
– *on a* Global Scale

TECHNOLOGY | HEALTHCARE | FINANCIAL INSTITUTIONS | ENERGY | WATER & ENVIRONMENT | CONSUMER & MEDIA

Business opportunities for companies of all sizes exist not just down the street – but across oceans. In seeking growth potential, savvy investors and smart companies embrace a world view.

Stanford serves investors and emerging growth companies with highly experienced advice and world-class investment banking solutions – on a global scale.

Investment Banking
Equity & Policy Research
Institutional Sales & Trading
Merchant Banking
Commercial Banking

Private Wealth Management
International Private Banking
Asset Allocation Strategies
Investment Advisory Services
Trust Administration

STANFORD

HARD WORK, CLEAR VISION, VALUE *for the* CLIENT.℠

Stanford Group Company
Investment Banking Division
201 South Biscayne Blvd., 27th Floor, Miami, FL 33131
(305) 347-2400
stanfordinstitutional.com

Investment Banking services offered in the U.S. through Stanford Group Company, member FINRA/SIPC.
Stanford Group Company is a member of the Stanford Financial Group, a global network of financial services companies.

Atlanta
Austin
Baton Rouge
Boca Raton
Boston
Charlotte
Dallas
Denver
Greensboro
Houston
Jackson
Lafayette
Little Rock
Longboat Key
Memphis
Miami
Nashville
New York
Orlando
San Antonio
San Francisco
Tupelo
Washington

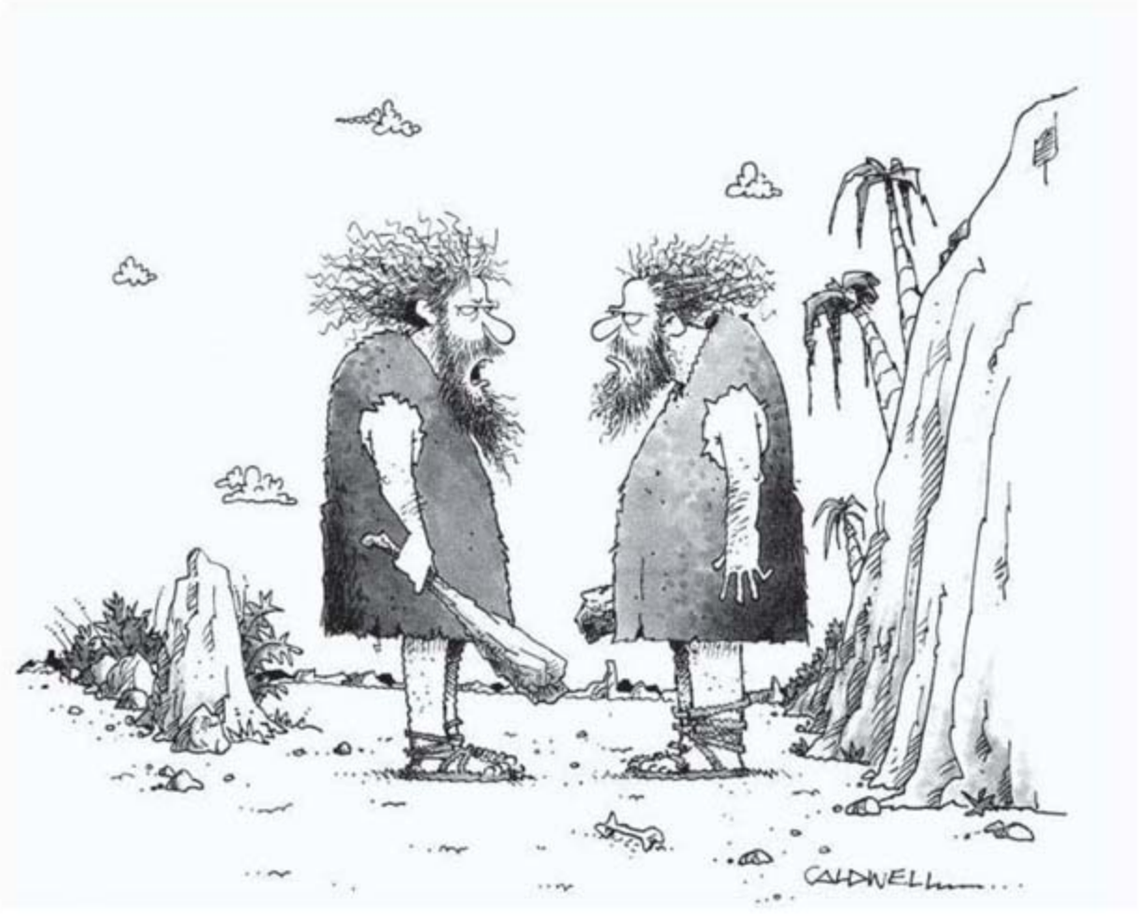
Antigua
Barquisimento
Bogotá
Caracas
Guayaquil
Lima
Maracaibo
Maracay
Medellín
México City
Monterrey
Montreal
Oranjestad
Panamá City
Puebla
Puerto Ordaz
Quito
St Croix
Valencia
Zürich

Spin Cycles

"Companies that continue to see marketing as a bag of tricks will lose out in short order to companies that stress substance and real performance."

Regis McKenna
"Marketing Is Everything"
Harvard Business Review
January–February 1991

"With the right sponsorship, we could be busy *and* smart."



"You may have invented the wheel, but who do you think created the buzz about it?"

John Caldwell, C.S. Calvert, Scott Arthur Masear, and Chris Wildt

"You're doing the crop circles anyway. We want to pay you to do them with our corporate logo."

"Sorry, Bill, you're fired. You're gonzo marketing, Josh here is *guerrilla* marketing."

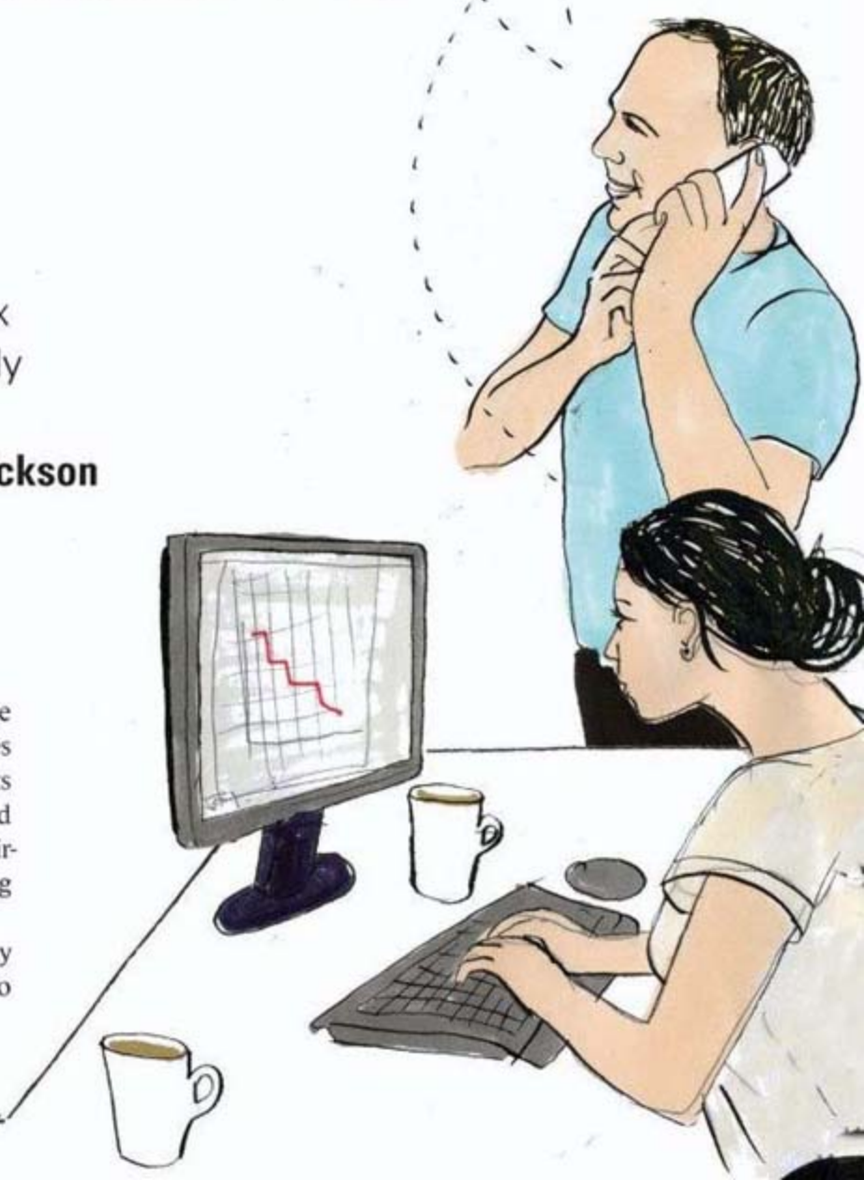
"Utilizing hydrants for ad space will make marketing this product a no-brainer."

Clare Mallison

8 Ways to Build Collaborative Teams

Even the largest and most complex teams can work together effectively if the right conditions are in place.

by Lynda Gratton and Tamara J. Erickson



WHEN TACKLING A MAJOR INITIATIVE like an acquisition or an overhaul of IT systems, companies rely on large, diverse teams of highly educated specialists to get the job done. These teams often are convened quickly to meet an urgent need and work together virtually, collaborating online and sometimes over long distances.

Appointing such a team is frequently the only way to assemble the knowledge and breadth required to

pull off many of the complex tasks businesses face today. When the BBC covers the World Cup or the Olympics, for instance, it gathers a large team of researchers, writers, producers, cameramen, and technicians, many of whom have not met before the project. These specialists work together under the high pressure of a "no retake" environment, with just one chance to record the action. Similarly, when the central IT team at Marriott sets out to develop sophisticated systems to enhance guest experiences, it has to collaborate closely with independent hotel owners, customer-experience experts, global brand managers, and regional heads, each with his or her own agenda and needs.

Our recent research into team behavior at 15 multinational companies, however, reveals an interesting paradox: Although teams that are large, virtual, diverse, and composed of highly educated specialists are increasingly crucial with challenging projects, those same four characteristics make it hard for teams to get anything done. To put it another way, the qualities required for success are the same qualities that undermine success. Members of complex teams are less likely – *absent other influences* – to share knowledge freely, to learn from one another, to shift workloads flexibly to break up unexpected bottlenecks, to help one another complete jobs and meet deadlines, and to share resources – in other words, to collaborate. They are less likely to say that they "sink or swim" together, want one another to succeed, or view their goals as compatible.

Consider the issue of size. Teams have grown considerably over the past ten years. New technologies help companies extend participation on a project to an ever greater number of people, allowing firms to tap into a wide body of knowledge and expertise. A decade or so ago, the common view was that true teams rarely had more than 20 members. Today, according to our research, many complex tasks involve teams of 100 or more. However, as the size of a team increases beyond 20 members, the tendency to collaborate naturally decreases, we have found. Under the right conditions, large teams can achieve high levels of cooperation, but creating those conditions requires thoughtful, and sometimes significant, investments in the capacity for collaboration across the organization.

Working together virtually has a similar impact on teams. The majority of those we studied had members spread among multiple locations – in several cases, in as many as 13 sites around the globe. But as teams became more virtual, we saw, cooperation also declined, unless the company had taken measures to establish a collaborative culture.

As for diversity, the challenging tasks facing businesses today almost always require the input and expertise of people with disparate views and backgrounds to create cross-fertilization that sparks insight and innovation. But diversity also creates problems. Our research shows that team members collaborate more easily and naturally if they perceive themselves as being alike. The differences that inhibit collaboration include not only nationality but also age, educational level, and even tenure. Greater diversity also often means that team members are working with people that they know only superficially or have never met before – colleagues drawn from other divisions of the company, perhaps, or even from outside it. We have found that the higher the proportion of strangers on the team and the greater the diversity of background and experience, the less likely the team members are to share knowledge or exhibit other collaborative behaviors.

We found that the greater the proportion of experts a team had, the more likely it was to disintegrate into nonproductive conflict or stalemate.

In the same way, the higher the educational level of the team members is, the more challenging collaboration appears to be for them. We found that the greater the proportion of experts a team had, the more likely it was to disintegrate into nonproductive conflict or stalemate.

So how can executives strengthen an organization's ability to perform complex collaborative tasks – to maximize the effectiveness of large, diverse teams, while minimizing the disadvantages posed by their structure and composition?

To answer that question we looked carefully at 55 large teams and identified those that demonstrated high levels

Lynda Gratton (lgratton@london.edu) is a professor of management practice at London Business School and a senior fellow at the Advanced Institute of Management. She is the author of *Hot Spots: Why Some Teams, Workplaces, and Organizations Buzz with Energy – and Others Don't* (Berrett-Koehler, 2007). **Tamara J. Erickson** (tjerickson@concoursgroup.com) is the president of the Concours Institute, the research and education arm of BSG Alliance. She is based in Boston and is a coauthor of several articles for HBR, including the McKinsey Award winner "It's Time to Retire Retirement" (March 2004).

Collaboration Conundrums

Four traits that are crucial to teams – but also undermine them

Large Size

Whereas a decade ago, teams rarely had more than 20 members, our findings show that their size has increased significantly, no doubt because of new technologies. Large teams are often formed to ensure the involvement of a wide stakeholder group, the coordination of a diverse set of activities, and the harnessing of multiple skills. As a consequence, many inevitably involve 100 people or more. However, our research shows that as the size of the team increases beyond 20 members, the level of natural cooperation among members of the team decreases.

Virtual Participation

Today most complex collaborative teams have members who are working at a distance from one another. Again, the logic is that the assigned tasks require the insights and knowledge of people from many locations. Team members may be working in offices in the same city or strung across the world. Only 40% of the teams in our sample had members all in one place. Our research shows that as teams become more virtual, collaboration declines.

Diversity

Often the challenging tasks facing today's businesses require the rapid assembly of people from multiple backgrounds and perspectives, many of whom have rarely, if ever, met. Their diverse knowledge and views can spark insight and innovation. However, our research shows that the higher the proportion of people who don't know anyone else on the team and the greater the diversity, the less likely the team members are to share knowledge.

High Education Levels

Complex collaborative teams often generate huge value by drawing on a variety of deeply specialized skills and knowledge to devise new solutions. Again, however, our research shows that the greater the proportion of highly educated specialists on a team, the more likely the team is to disintegrate into unproductive conflicts.

of collaborative behavior despite their complexity. Put differently, they succeeded both because of and despite their composition. Using a range of statistical analyses, we considered how more than 100 factors, such as the design of the task and the company culture, might contribute to collaboration, manifested, for example, in a willingness to share knowledge and workloads. Out of the 100-plus factors, we were able to isolate eight practices that correlated with success – that is, that appeared to help teams overcome substantially the difficulties that were posed by size, long-distance communication, diversity, and specialization. We then interviewed the teams that were very strong in these practices, to find out how they did it. In this article we'll walk through the practices. They fall into four general categories – executive support, HR practices, the strength of the team leader, and the structure of the team itself.

Executive Support

At the most basic level, a team's success or failure at collaborating reflects the philosophy of top executives in the organization. Teams do well when executives invest in supporting social relationships, demonstrate collaborative behavior themselves, and create what we call a "gift culture" – one in which employees experience interactions with leaders and colleagues as something valuable and generously offered, a gift.

Investing in signature relationship practices. When we looked at complex collaborative teams that were performing in a productive and innovative manner, we found that in every case the company's top executives had invested significantly in building and maintaining social relationships throughout the organization. However, the way they did that varied widely. The most collaborative companies had what we call "signature" practices – practices that were memorable, difficult for others to replicate, and particularly well suited to their own business environment.

For example, when Royal Bank of Scotland's CEO, Fred Goodwin, invested £350 million to open a new headquarters building outside Edinburgh in 2005, one of his goals was to foster productive collaboration among employees. Built around an indoor atrium, the new structure allows more than 3,000 people from the firm to rub shoulders daily.

The headquarters is designed to improve communication, increase the exchange of ideas, and create a sense of community among employees. Many of the offices have an open layout and look over the atrium – a vast transparent space. The campus is set up like a small town, with retail shops, restaurants, jogging tracks and cycling trails, spaces for picnics and barbecues – even a leisure club complete with swimming pool, gym, dance studios, tennis courts, and football pitches. The idea is that with a private "Main Street" running through the headquarters, employees will remain on the campus throughout the day – and be out of their offices mingling with colleagues for at least a portion of it.

To ensure that non-headquarters staff members feel they are a part of the action, Goodwin also commissioned an adjoining business school, where employees from other locations meet and learn. The visitors are encouraged to spend time on the headquarters campus and at forums designed to give employees opportunities to build relationships.

Indeed, the RBS teams we studied had very strong social relationships, a solid basis for collaborative activity that allowed them to accomplish tasks quickly. Take the Group Business Improvement (GBI) teams, which work on 30-, 60-, or 90-day projects ranging from back-office fixes to IT updates and are made up of people from across RBS's many businesses, including insurance, retail banking, and private

banking in Europe and the United States. When RBS bought NatWest and migrated the new acquisition's technology platform to RBS's, the speed and success of the GBI teams confounded many market analysts.

BP has made another sort of signature investment. Because its employees are located all over the world, with relatively few at headquarters, the company aims to build social networks by moving employees across functions, businesses, and countries as part of their career development. When BP integrates an acquisition (it has grown by buying numerous smaller oil companies), the leadership development committee deliberately rotates employees from the acquired firm through positions across the corporation. Though the easier and cheaper call would be to leave the executives in their own units – where, after all, they know the business – BP instead trains them to take on new roles. As a consequence any senior team today is likely to be made up of people from multiple heritages. Changing roles frequently – it would not be uncommon for a senior leader at BP to have worked in four businesses and three geographic locations over the past decade – forces executives to become very good at meeting new people and building relationships with them.

Modeling collaborative behavior. In companies with many thousands of employees, relatively few have the opportunity to observe the behavior of the senior team on a day-to-day basis. Nonetheless, we found that the perceived behavior of senior executives plays a significant role in determining how cooperative teams are prepared to be.

Executives at Standard Chartered Bank are exceptionally good role models when it comes to cooperation, a strength that many attribute to the firm's global trading heritage. The Chartered Bank received its remit from Queen Victoria in 1853. The bank's traditional business was in cotton from Bombay (now Mumbai), indigo and tea from Calcutta, rice from Burma, sugar from Java, tobacco from Sumatra, hemp from Manila, and silk from Yokohama. The Standard Bank was founded in the Cape Province of South Africa in 1863 and was prominent in financing the development of the diamond fields and later gold mines. Standard Chartered was formed in 1969 through a merger of the two banks, and today the firm has 57 operating groups in 57 countries, with no home market.

It's widely accepted at Standard Chartered that members of the general management committee will frequently serve as substitutes for one another. The executives all know and understand the entire business and can fill in for each other easily on almost any task, whether it's leading a regional celebration, representing the company at a key external event, or kicking off an internal dialogue with employees.

While the behavior of the executive team is crucial to supporting a culture of collaboration, the challenge is to make executives' behavior visible. At Standard Chartered the senior team travels extensively; the norm is to travel even

Eight Factors That Lead to Success

1 **Investing in signature relationship practices.** Executives can encourage collaborative behavior by making highly visible investments – in facilities with open floor plans to foster communication, for example – that demonstrate their commitment to collaboration.

2 **Modeling collaborative behavior.** At companies where the senior executives demonstrate highly collaborative behavior themselves, teams collaborate well.

3 **Creating a "gift culture."** Mentoring and coaching – especially on an informal basis – help people build the networks they need to work across corporate boundaries.

4 **Ensuring the requisite skills.** Human resources departments that teach employees how to build relationships, communicate well, and resolve conflicts creatively can have a major impact on team collaboration.

5 **Supporting a strong sense of community.** When people feel a sense of community, they are more comfortable reaching out to others and more likely to share knowledge.

6 **Assigning team leaders that are both task- and relationship-oriented.** The debate has traditionally focused on whether a task or a relationship orientation creates better leadership, but in fact both are key to successfully leading a team. Typically, leaning more heavily on a task orientation at the outset of a project and shifting toward a relationship orientation once the work is in full swing works best.

7 **Building on heritage relationships.** When too many team members are strangers, people may be reluctant to share knowledge. The best practice is to put at least a few people who know one another on the team.

8 **Understanding role clarity and task ambiguity.** Cooperation increases when the roles of individual team members are sharply defined yet the team is given latitude on how to achieve the task.

for relatively brief meetings. This investment in face-to-face interaction creates many opportunities for people across the company to see the top executives in action. Internal communication is frequent and open, and, maybe most telling, every site around the world is filled with photos of groups of executives – country and functional leaders – working together.

The senior team's collaborative nature trickles down throughout the organization. Employees quickly learn that the best way to get things done is through informal networks. For example, when a major program was recently launched to introduce a new customer-facing technology, the team responsible had an almost uncanny ability to understand who the key stakeholders at each branch bank were and how best to approach them. The team members' first-name acquaintance with people across the company brought a sense of dynamism to their interactions.

Creating a "gift culture." A third important role for executives is to ensure that mentoring and coaching become embedded in their own routine behavior – and throughout the company. We looked at both formal mentoring processes, with clear roles and responsibilities, and less formal processes, where mentoring was integrated into everyday activities. It turned out that while both types were important, the latter was more likely to increase collaborative behavior. Daily coaching helps establish a cooperative "gift culture" in place of a more transactional "tit-for-tat culture."

At Nokia informal mentoring begins as soon as someone steps into a new job. Typically, within a few days, the employee's manager will sit down and list all the people in the organization, no matter in what location, it would be useful for the employee to meet. This is a deeply ingrained cultural norm, which probably originated when Nokia was a smaller and simpler organization. The manager sits with the newcomer, just as her manager sat with her when she joined, and reviews what topics the newcomer should discuss with each person on the list and why establishing a relationship with him or her is important. It is then standard for the newcomer to actively set up meetings with the people on the list, even when it means traveling to other locations. The gift of time – in the form of hours spent on coaching and building networks – is seen as crucial to the collaborative culture at Nokia.

Focused HR Practices

So what about human resources? Is collaboration solely in the hands of the executive team? In our study we looked at the impact of a wide variety of HR practices, including selection, performance management, promotion, rewards, and training, as well as formally sponsored coaching and mentoring programs.

We found some surprises: for example, that the type of reward system – whether based on team or individual achievement, or tied explicitly to collaborative behavior or not – had no discernible effect on complex teams' productivity and innovation. Although most formal HR programs appeared to have limited impact, we found that two practices did improve team performance: training in skills related to collaborative behavior, and support for informal community building. Where collaboration was strong, the HR team had typically made a significant investment in one or both of those practices – often in ways that uniquely represented the company's culture and business strategy.

Ensuring the requisite skills. Many of the factors that support collaboration relate to what we call the "container" of collaboration – the underlying culture and habits of the company or team. However, we found that some teams had a collaborative culture but were not skilled in the practice of collaboration itself. They were encouraged to cooperate,

they wanted to cooperate, but they didn't know how to work together very well in teams.

Our study showed that a number of skills were crucial: appreciating others, being able to engage in purposeful conversations, productively and creatively resolving conflicts, and program management. By training employees in those areas, a company's human resources or corporate learning department can make an important difference in team performance.

In the research, PricewaterhouseCoopers emerged as having one of the strongest capabilities in productive collaboration. With responsibility for developing 140,000 employees in nearly 150 countries, PwC's training includes modules that address teamwork, emotional intelligence, networking, holding difficult conversations, coaching, corporate social responsibility, and communicating the firm's strategy and shared values. PwC also teaches employees how to influence others effectively and build healthy partnerships.

A number of other successful teams in our sample came from organizations that had a commitment to teaching employees relationship skills. Lehman Brothers' flagship program for its client-facing staff, for instance, is its training in selling and relationship management. The program is not about sales techniques but, rather, focuses on how Lehman values its clients and makes sure that every client has access to all the resources the firm has to offer. It is essentially a course on strategies for building collaborative partnerships with customers, emphasizing the importance of trust-based personal relationships.

Supporting a sense of community. While a communal spirit can develop spontaneously, we discovered that HR can also play a critical role in cultivating it, by sponsoring group events and activities such as women's networks, cooking weekends, and tennis coaching, or creating policies and practices that encourage them.

At ABN Amro we studied effective change-management teams within the company's enterprise services function. These informal groups were responsible for projects associated with the implementation of new technology throughout the bank; one team, for instance, was charged with expanding online banking services. To succeed, the teams needed the involvement and expertise of different parts of the organization.

The ABN Amro teams rated the company's support for informal communities very positively. The firm makes the technology needed for long-distance collaboration readily available to groups of individuals with shared interests – for instance, in specific technologies or markets – who hold frequent web conferences and communicate actively online. The company also encourages employees that travel to a new location to arrange meetings with as many people as possible. As projects are completed, working groups disband but employees maintain networks of connections. These practices serve to build a strong community over time – one that sets the stage for success with future projects.

The most productive, innovative teams were led by people who were *both* task- and relationship-oriented. What's more, these leaders changed their style during the project.

Committed investment in informal networks is also a central plank of the HR strategy at Marriott. Despite its size and global reach, Marriott remains a family business, and the chairman, Bill Marriott, makes a point of communicating that idea regularly to employees. He still tells stories of counting sticky nickels at night as a child – proceeds from the root-beer stand founded in downtown Washington, DC, by his mother and father.

Many of the firm's HR investments reinforce a friendly, family-like culture. Almost every communication reflects an element of staff appreciation. A range of "pop-up" events – spontaneous activities – create a sense of fun and community. For example, the cafeteria might roll back to the 1950s, hold a twist dance contest, and in doing so, recognize the anniversary of the company's first hotel opening. Bill Marriott's birthday might be celebrated with parties throughout the company, serving as an occasion to emphasize the firm's culture and values. The chairman recently began his own blog, which is popular with employees, in which he discusses everything from Marriott's efforts to become greener, to his favorite family vacation spots – themes intended to reinforce the idea that the company is a community.

The Right Team Leaders

In the groups that had high levels of collaborative behavior, the team leaders clearly made a significant difference. The question in our minds was how they actually achieved this. The answer, we saw, lay in their flexibility as managers.

Assigning leaders who are both task- and relationship-oriented. There has been much debate among both academ-

ics and senior managers about the most appropriate style for leading teams. Some people have suggested that relationship-oriented leadership is most appropriate in complex teams, since people are more likely to share knowledge in an environment of trust and goodwill. Others have argued that a task orientation – the ability to make objectives clear, to create a shared awareness of the dimensions of the task, and to provide monitoring and feedback – is most important.

In the 55 teams we studied, we found that the truth lay somewhere in between. The most productive, innovative teams were typically led by people who were *both* task- and relationship-oriented. What's more, these leaders changed their style during the project. Specifically, at the early stages they exhibited task-oriented leadership: They made the goal clear, engaged in debates about commitments, and clarified the responsibilities of individual team members. However, at a certain point in the development of the project they switched to a relationship orientation. This shift often took place once team members had nailed down the goals and their accountabilities and when the initial tensions around sharing knowledge had begun to emerge. An emphasis throughout a project on one style at the expense of the other inevitably hindered the long-term performance of the team, we found.

Producing ambidextrous team leaders – those with both relationship and task skills – is a core goal of team-leadership development at Marriott. The company's performance-review process emphasizes growth in both kinds of skills. As evidence of their relationship skills, managers are asked to describe their peer network and cite examples of specific ways that network helped them succeed. They also must provide examples of how they've used relationship building to get things done. The development plans that follow these conversations explicitly map out how the managers can improve specific elements of their social relationships and networks. Such a plan might include, for instance, having lunch regularly with people from a particular community of interest.

To improve their task leadership, many people in the teams at Marriott participated in project-management certification programs, taking refresher courses to maintain their skills over time. Evidence of both kinds of capabilities becomes a significant criterion on which people are selected for key leadership roles at the company.

How Complex Is the Collaborative Task?

Not all highly collaborative tasks are complex. In assembling and managing a team, consider the project you need to assign and whether the following statements apply:

- ❑ The task is unlikely to be accomplished successfully using only the skills within the team.
- ❑ The task must be addressed by a new group formed specifically for this purpose.
- ❑ The task requires collective input from highly specialized individuals.
- ❑ The task requires collective input and agreement from more than 20 people.
- ❑ The members of the team working on the task are in more than two locations.
- ❑ The success of the task is highly dependent on understanding preferences or needs of individuals outside the group.
- ❑ The outcome of the task will be influenced by events that are highly uncertain and difficult to predict.
- ❑ The task must be completed under extreme time pressure.

If more than two of these statements are true, the task requires complex collaboration.

Team Formation and Structure

The final set of lessons for developing and managing complex teams has to do with the makeup and structure of the teams themselves.

Building on heritage relationships. Given how important trust is to successful collaboration, forming teams that capitalize on preexisting, or "heritage," relationships, increases the chances of a project's success. Our research shows that new teams, particularly those with a high proportion of members who were strangers at the time of formation, find it more difficult to collaborate than those with established relationships.

Newly formed teams are forced to invest significant time and effort in building trusting relationships. However, when some team members already know and trust one another, they can become nodes, which over time evolve into networks. Looking closely at our data, we discovered that when 20% to 40% of the team members were already well connected to one another, the team had strong collaboration right from the start.

It helps, of course, if the company leadership has taken other measures to cultivate networks that cross boundaries. The orientation process at Nokia ensures that a large number of people on any team know one another, increasing the odds that even in a company of more than 100,000 people, someone on a companywide team knows someone else and can make introductions.

Nokia has also developed an organizational architecture designed to make good use of heritage relationships. When it needs to transfer skills across business functions or units, Nokia moves entire small teams intact instead of reshuffling individual people into new positions. If, for example, the company needs to bring together a group of market and technology experts to address a new customer need, the group formed would be composed of small pods of

colleagues from each area. This ensures that key heritage relationships continue to strengthen over time, even as the organization redirects its resources to meet market needs. Because the entire company has one common platform for logistics, HR, finance, and other transactions, teams can switch in and out of businesses and geographies without learning new systems.

One important caveat about heritage relationships: If not skillfully managed, too many of them can actually disrupt collaboration. When a significant number of people within the team know one another, they tend to form strong subgroups – whether by function, geography, or anything else they have in common. When that happens, the probability of conflict among the subgroups, which we call fault lines, increases.

Understanding role clarity and task ambiguity. Which is more important to promoting collaboration: a clearly defined approach toward achieving the goal, or clearly specified roles for individual team members? The common assumption is that carefully spelling out the approach is essential, but leaving the roles of individuals within the team vague will encourage people to share ideas and contribute in multiple dimensions.

Our research shows that the opposite is true: Collaboration improves when the roles of individual team members are clearly defined and well understood – when individuals feel that they can do a significant portion of their work independently. Without such clarity, team members are likely to waste too much energy negotiating roles or protecting turf, rather than focus on the task. In addition, team members are more likely to want to collaborate if the path to achieving the team's goal is left somewhat ambiguous. If a team perceives the task as one that requires creativity, where the approach is not yet well known or predefined, its members are more likely to invest time and energy in collaboration.

At the BBC we studied the teams responsible for the radio and television broadcasts of the 2006 Proms (a two-month-long musical celebration), the team that televised the 2006 World Cup, and a team responsible for daytime television news. These teams were large – 133 people worked on the Proms, 66 on the World Cup, and 72 on the news – and included members with a wide range of skills and from many disciplines. One would imagine, therefore, that there was a strong possibility of confusion among team members.

To the contrary, we found that the BBC's teams scored among the highest in our sample with regard to the clarity with which members viewed their own roles and the roles of others. Every team was composed of specialists who had deep expertise in their

The Research

Our work is based on a major research initiative conducted jointly by the Concours Institute (a member of BSG Alliance) and the Cooperative Research Project of London Business School, with funding from the Advanced Institute for Management and 15 corporate sponsors. The initiative was created as a way to explore the practicalities of collaborative work in contemporary organizations.

We sent surveys to 2,420 people, including members of 55 teams. A total of 1,543 people replied, a response rate of 64%. Separate surveys were administered to group members, to group leaders, to the executives who evaluated teams, and to HR leaders at the companies involved. The tasks performed by the teams included new-product development, process reengineering, and identifying new solutions to business problems. The companies involved included four telecommunication companies, seven financial services or consulting firms, two media companies, a hospitality firm, and one oil company. The size of the teams ranged from four to 183 people, with an average of 44.

Our objective was to study the levers that executives could pull to improve team performance and innovation in collaborative tasks. We examined scores of possible factors, including the following:

The general culture of the company. We designed a wide range of survey questions to measure the extent to which the firm had a cooperative culture and to uncover employees' attitudes toward knowledge sharing.

Human resources practices and processes. We studied the way staffing took place and the process by which people were promoted. We examined the extent and type of training, how reward systems were configured, and the extent to which mentoring and coaching took place.

Socialization and network-building practices. We looked at how often people within the team participated in informal socialization, and the type of interaction that was most common. We also asked numerous questions about the extent to which team members were active in informal communities.

The design of the task. We asked team members and team leaders about the task itself. Our interest here was in how they perceived the purpose of the task, how complex it was, the extent to which the task required members of the team to be interdependent, and the extent to which the task required them to engage in boundary-spanning activities with people outside the team.

The leadership of the team. We studied the perceptions team members had of their leaders' style and how the leaders described their own style. In particular, we were interested in the extent to which the leaders practiced relationship-oriented and task-oriented skills and set cooperative or competitive goals.

The behavior of the senior executives. We asked team members and team leaders about their perceptions of the senior executives of their business unit. We focused in particular on whether team members described them as cooperative or competitive.

In total we considered more than 100 factors. Using a range of statistical analyses, we were able to identify eight that correlated with the successful performance of teams handling complex collaborative tasks. (See the sidebar "Eight Factors That Lead to Success.")

given function, and each person had a clearly defined role. There was little overlap between the responsibilities of the sound technician and the camera operator, and so on. Yet the tasks the BBC teams tackle are, by their very nature, uncertain, particularly when they involve breaking news. The trick the BBC has pulled off has been to clarify team members' individual roles with so much precision that it keeps friction to a minimum.

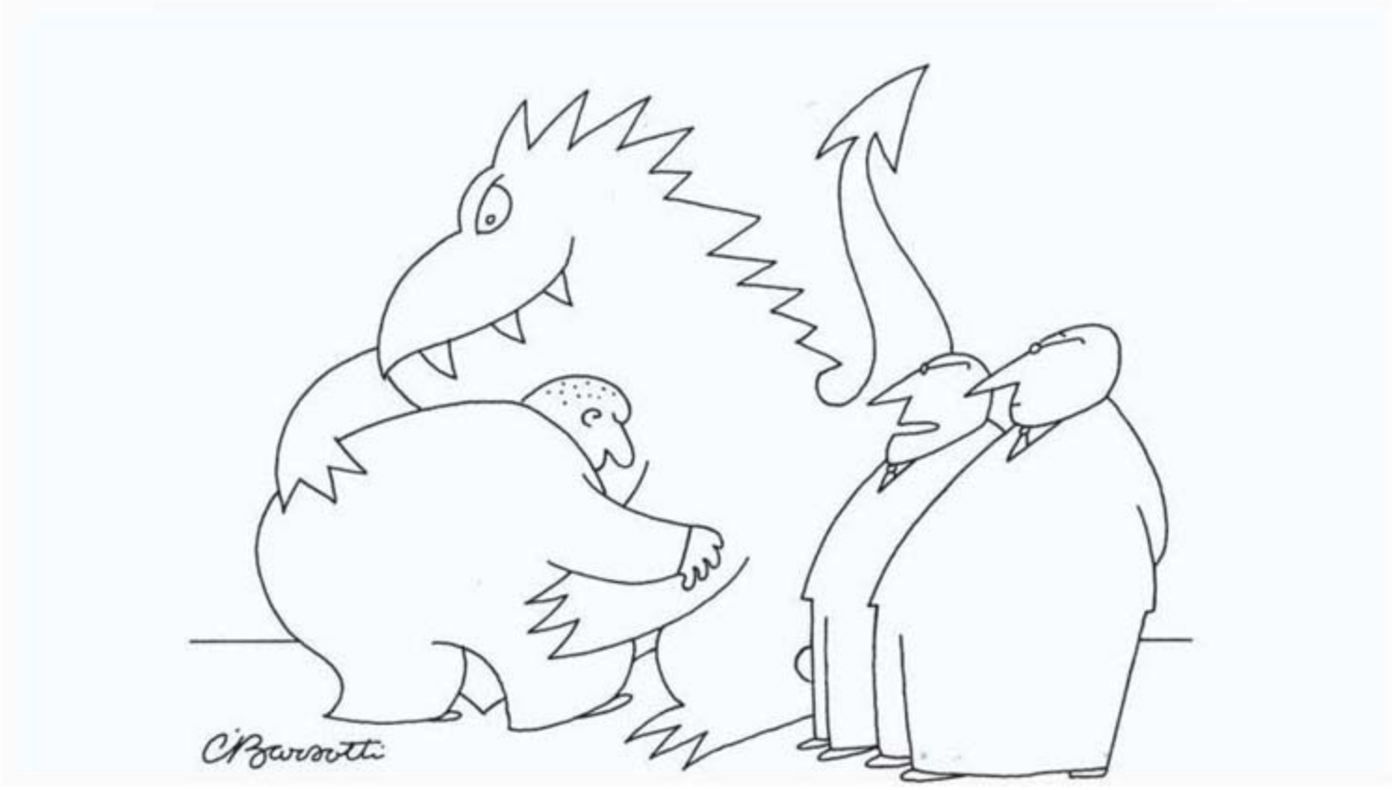
The successful teams we studied at Reuters worked out of far-flung locations, and often the team members didn't speak a common language. (The primary languages were Russian, Chinese, Thai, and English.) These teams, largely composed of software programmers, were responsible for the rapid development of highly complex technical software and network products. Many of the programmers sat at their desks for 12 hours straight developing code, speaking with no one. Ironically, these teams judged cooperative behavior to be high among their members. That may be because each individual was given autonomy over one discrete piece of the project. The rapid pace and demanding project timelines encouraged individual members to work independently to get the job done, but each person's work had to be shaped with an eye toward the overall team goal.

...

Strengthening your organization's capacity for collaboration requires a combination of long-term investments – in building relationships and trust, in developing a culture in which senior leaders are role models of cooperation – and smart near-term decisions about the ways teams are formed, roles are defined, and challenges and tasks are articulated. Practices and structures that may have worked well with simple teams of people who were all in one location and knew one another are likely to lead to failure when teams grow more complex.

Most of the factors that impede collaboration today would have impeded collaboration at any time in history. Yesterday's teams, however, didn't require the same amount of members, diversity, long-distance cooperation, or expertise that teams now need to solve global business challenges. So the models for teams need to be realigned with the demands of the current business environment. Through careful attention to the factors we've described in this article, companies can assemble the breadth of expertise needed to solve complex business problems – without inducing the destructive behaviors that can accompany it.

Reprint R0711F
To order, see page 155.



Charles Barsotti

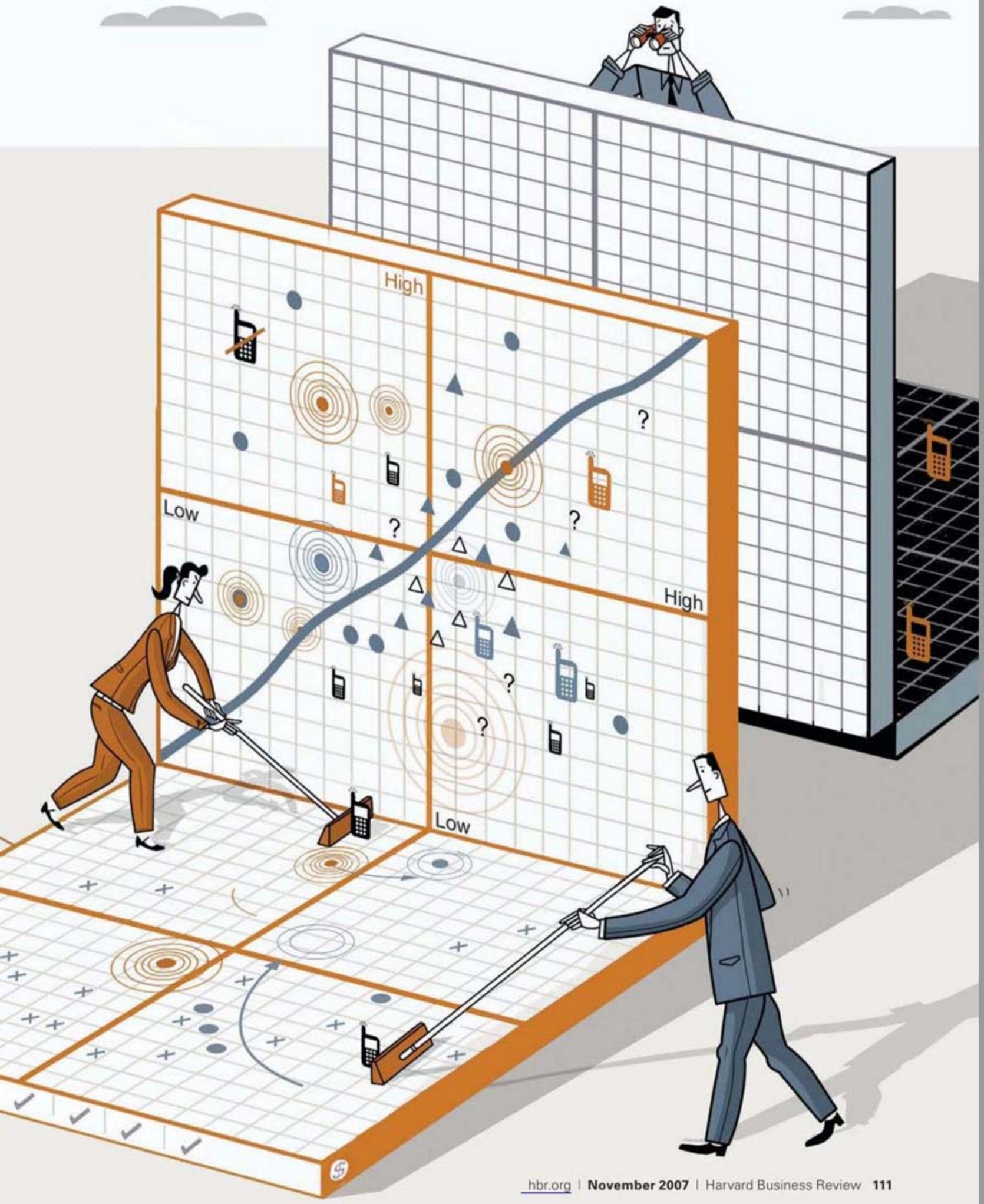
"One of my private demons – I hired Louis to wrestle it for me."

A simple chart shows how much a customer will pay for a perceived benefit. This is more than a marketing aid, it's a powerful tool for competitive strategy. **by Richard A. D'Aveni**

EIGHT WEEKS. That's all that separated the launch of Apple's revolutionary iPhone, on June 29, 2007, and Motorola's next-generation Razr² (pronounced Razr Squared) cellular telephone, on August 24. Before unveiling the successor to the Razr, which *PC World* magazine in 2005 ranked 12th on a list of the 50 greatest gadgets of the past 50 years, Motorola's top management team was more worried than usual. With sales of the American communication giant's other cellular telephones tapering off, the company's fate rested squarely on the Razr². Moreover, senior executives like chairman and CEO Edward J. Zander wondered if the iPhone had changed

Mapping YOUR Competitive Position

Ian Whadcock


High
Low
High
Low

the competitive dynamics of the market in ways they hadn't foreseen. Had the iPhone created a new niche or would it take the Razr² head-on? How much extra could they charge for the Razr²'s new features? Should Motorola play up the Razr²'s noise-filtering technology, which it had patented? The executives couldn't wait for the results of focus group sessions or sample surveys. They needed a fast, yet reliable way of capturing changes that were emerging in the market so they could finalize strategy quickly.

Like Motorola, most companies have to build fresh competitive advantages and destroy others' advantages faster than they used to. As innovation pervades the value chain, they must migrate quickly from one competitive position to another, creating new ones, depreciating old ones, and matching rivals'. The process is disorderly and unstable. Senior executives desperately need new tools to help them systematically analyze their own and other players' competitive positions in hypercompetitive markets.

One way to do that is to track the relationship between prices and a product's key benefit over time. However, it isn't easy to come to grips with either benefits or prices. Most customers are unable to identify the features that determine the prices they are willing to pay for products or services, according to a 2004 survey by Strativity, a global research and consulting firm. Worse, 50% of salespeople don't know what attributes justify the prices of the products and services they sell.

If customers don't know what they're paying for, and managers don't know what they're charging for, it's almost impossible for companies to identify their competitive positions. Whenever I've asked senior executives to map the positions of their company's brands and those of key rivals, we end up confused and dismayed. Different executives place their firm's offerings in different spots on a price-benefit map; few know the primary benefit their product offers; and they all overestimate the benefits of their own offerings while underestimating those of rivals. The lack of understanding about competitive positions is palpable in industries such as consumer electronics, where the number of features makes comparisons complicated; in markets like computer hardware, where technologies and strategies change all the time; and when products, such as insurance policies, are intangible.

Seven years ago, I came up with a way companies could capture competitive positions graphically to serve as the basis for strategy discussions. Drawn by using simple statistical analysis, a price-benefit positioning map provides insights into the relationship between prices and benefits, and tracks how competitive positions change over time. Executives can use the tool to benchmark themselves against rivals, dissect competitors' strategies, and forecast a market's future, as we shall see in the following pages. By creating an accurate map of the competitive landscape, companies can also get everyone in the organization on the same page. During my consulting and research work, I have applied this tool in more than 30 industries, including automobiles, advanced materials, artificial sweeteners, cellular telephones, restaurants, retailing, turbines, tires, motorcycles, and ships. Let me show you how to create and read a positioning map.

Whenever I've asked senior executives to map the positions of their company's brands and those of key rivals, we end up confused and dismayed.

Drawing Positioning Maps

In its simplest form, a price-benefit positioning map shows the relationship between the primary benefit that a product provides to customers and the prices of all the products in a given market. Creating such a map involves three steps.

Define the market. To draw a meaningful map, you must specify the boundaries of the market in which you're interested. First, identify the consumer needs you wish to understand. You should cast a wide net for products and services that satisfy those needs, so you aren't blindsided by fresh entrants, new technologies, or unusual offerings that take care of those needs. Second, choose the country or region you wish to study. It's best to limit the geographic scope of the analysis if customers, competitors, or the way products are used differ widely across borders. Finally, decide if you want to track the entire market for a product or only a specific segment, if you wish to explore the retail or wholesale market, and if you're going to track products or brands. You can create different maps by changing these frames of analysis.

Choose the price and determine the primary benefit. Once you've defined the market, you need to specify the scope of your analysis of prices. You have implicitly decided

Richard A. D'Aveni (richard.a.daveni@Dartmouth.edu) is the Professor of Strategic Management at Dartmouth College's Tuck School of Business in Hanover, New Hampshire. He is the author of three books, including *Hypercompetition* (Free Press, 1994).

whether to study retail or wholesale prices when you chose which market to focus on, but you must also consider other pricing parameters. You must choose whether to compare initial prices or prices that include life cycle costs, prices with transaction costs or without them, and the prices of unbundled or bundled offers. These choices depend on the yardstick that customers use in making purchasing decisions in the market under study. Remember to be consistent about the price definition you use while gathering data.

Identifying the primary benefit – the benefit that explains the largest amount of variance in prices – can be complicated. A product offers several benefits: basic functions, additional features, durability, serviceability, aesthetics, ease of use, and so on. Besides, companies usually differentiate products by focusing on a different benefit than competitors do. However, the success of strategies depends on the value that customers, not companies, place on features. To determine that value, you must first draw up a list of the benefits offered by all the different products or brands in the market and gather data on how customers perceive those benefits.

You should use unbiased data, rather than rely on gut instinct or top managers' opinions, so that you estimate the benefits' value correctly. There are more sources of hard data today than ever before. You can draw on the product ratings of independent organizations, such as Consumers Union, J.D. Power, and Edmunds, as well as on government agencies, like the U.S. Environmental Protection Agency and the U.S. National Highway Traffic Safety Administration. Consumer guides, such as *Zagat* and *Michelin;* websites, such as TripAdvisor and the Tire Rack; and trade publications, like *Ward's AutoWorld,* also provide information on products and services. Industrial catalogs publish detailed product specifications, especially for high-tech and industrial goods. Distributors often collect details about product benefits. For example, vehicle dealers gather warranty information to track how reliable automobiles are. Your own R&D department probably tracks scientific data: Consumer electronics manufacturers, for instance, collect information on audio and video systems' reproduction quality.

Once you've gathered data on products' benefits and prices, employ regression analysis to find out which benefit explains most of the variance in products' prices. Using regression analysis is more reliable than asking people how much they are willing to pay for each feature because consumers often can't explain how they make their choices and they often don't do what they say.

Regression analysis examines the relationship between a dependent variable (in this case, price) and several independent variables (product benefits) and creates a mathematical model of that relationship called the regression equation (in this case, the price-benefit equation). Many software packages – Excel, SAS Analytics, and SPSS 15.0 for Windows, for instance – allow executives to perform regression analyses. When the software finds the regression equation, it will also yield an incremental r-square statistic for each independent variable. That statistic shows the extent to which each benefit contributes to the differences in the prices of competing offerings while controlling for the impact of all other benefits. The benefit with the highest incremental r-square accounts for more of the variation in prices than the other benefits, so it's the most important driver of price. If several benefits correlate with one another,

that suggests they jointly influence price differences. In such cases, you can combine them into a single benefit by creating an index or a scale – a common practice in marketing research.

Plot positions and draw the expected-price line. When you have identified the primary benefit, you are ready to draw a positioning map by plotting the position of every company's product (or brand) in the marketplace according to its price and its level of primary benefit. Such positioning maps may be an oversimplification, but they show the relative positions of competitors on a common scale.

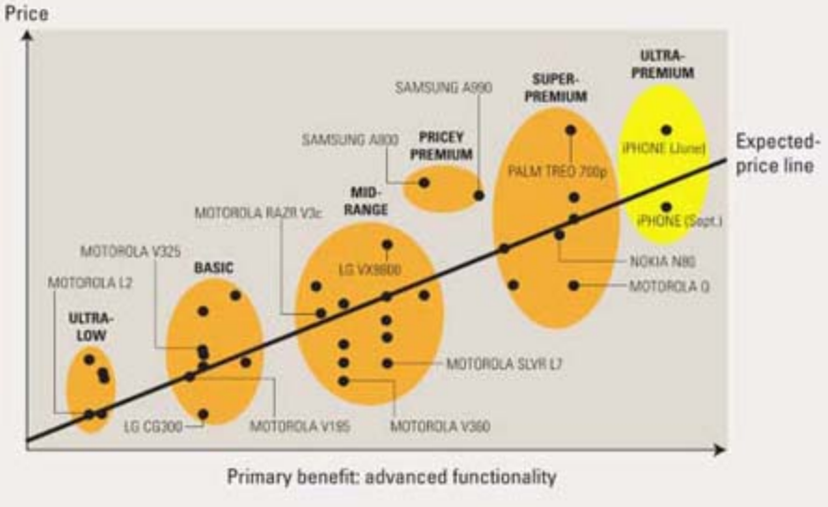
Finally, you must draw the expected-price line – that is, the line that best fits the points on the map. The line shows how much customers expect to pay on average to get different levels of the primary benefit. In addition, the line's slope tells us how much more a customer is likely to pay for a higher level of the primary benefit. You can find the line that best fits the data by taking the slope associated with the portion of the price-benefit equation that links the primary benefit to prices. Or you can look at the map and draw a line that runs roughly through the middle of the cloud of points; in other words, half the points should lie above the line and half should lie below. Research shows that in almost all industries, a straight line that rises to the right fits the data best. Curved lines and negatively sloped lines are possibilities in theory, but they describe short-lived phenomena. Markets tend to converge on the same price for each benefit, and people tend to pay more for a higher level of benefit, so those trends create a straight line with a positive slope.

Products lie on either side of the line not by accident but because of companies' strategies. Enterprises position a product or brand above the line to maximize profits, which they can do by simply raising the price in the short run. They can also do so by enticing customers to pay a higher price for desirable secondary benefits. Companies can slot their offerings below the line to maximize market share by simply charging less than expected, or they may drop some secondary benefits to attract price-sensitive customers. Sometimes, a product's secondary attributes may actually reduce its price below what people would usually pay for that level of benefit. For example, if a calorie-free sweetener leaves an aftertaste, people will pay less for the same level of dieting benefit the sweetener gives them. Thus, deviations in price above or below the line are caused by the added or reduced value associated with secondary benefits or pricing strategies designed to milk or build market share.

Let me illustrate the process and purposes of drawing a positioning map by returning for a moment to the challenges that Motorola faced in launching the Razr². In early June 2007, my research assistant and I spent a week collecting data from public sources on 40 "unlocked" cellular telephones, which work with the calling plans of many U.S. cellular service providers. We also gathered all the data we could find on the iPhone. We drew up a list of the phones' features, consumer ratings of those features, and retail prices. A regression analysis showed that advanced functionality accounted for most of the difference in the prices of cellular telephones. By advanced functionality, I mean high-tech features like the ability to play music in the MP3 format and to snap high-resolution photographs, the presence of sophisticated e-mail software, and a QWERTY keyboard. Advanced functionality accounted for 68% of the variation in prices, and according to my analysis customers paid on average $28 more for each advanced feature in a cellular telephone.

Mapping the Cell Phone Market

Plotting prices against the primary benefit products offer in a market makes it easy to see how that market looks to customers. This price-benefit positioning map suggests there were five segments in the U.S. cellular telephone market when Apple launched the iPhone in June 2007, carving out a new ultrapremium niche. That was short-lived though, as Apple quickly dropped the price by $200 in September. The move, which might have been anticipated in view of Apple's iPod strategy, clearly puts pressure on many players in the superpremium segment.



Two other benefits contributed to price differences, albeit to a lesser degree: display quality (color, high-resolution screens, and touch screens) and advanced connectivity (Bluetooth, 3G, and Wi-Fi technologies). These three benefits together accounted for 80.5% of the difference in the prices of handsets. Contrary to the popular perception that battery life and the clarity of sound while making and receiving calls matter to consumers, I found that competition had reduced those to hygiene factors (indicated by the fact that their r-square values were extremely low). Although Motorola has patented a technology that filters out background noise from conversations, the results suggested the company should think twice before emphasizing that as one of the Razr²'s main benefits.

When I mapped the competitive positions that various products occupied in the marketplace and drew the expected-price line, I found five clusters of mobile phones (see the exhibit "Mapping the Cell Phone Market"). Motorola had wisely spread its bets, positioning products in four of the five groups. Like all the other cellular telephone manufacturers, it had no product in the ultrapremium segment that the iPhone seems to be pioneering, but it had positioned products on both sides of the expected-price line. For example, in the midrange group, the Razr V3c was almost exactly on the line, whereas the Razr SLVR L7 and Razr V360 were below it. Sony Ericsson, Samsung, and LG had also positioned devices below the line, which suggested that the segment was becoming crowded and prices would soon go into freefall. The LG VX9800 had positioned itself above the line, because of the added pricing power of its superb color display.

Clearly, the iPhone will have a major impact on the superpremium segment; Motorola's Q, for example, will be outclassed. While some customers are likely to postpone purchases of cellular telephones until they can afford the iPhone, it is unlikely to have an impact on the rest of the market – initially. However, Motorola will face a stiff challenge because Apple is deploying its iPod strategy in the cellular telephone market.

In the market for downloadable-music players, Apple started in a high-price, high-benefits position but rapidly moved down and to the right by lowering the price for the same primary benefit (see the exhibit "How Apple Set the Pace with the iPod"). In like vein, the company slashed the price of the iPhone by 33% in early September, two months after its launch. If Apple continues to use the same strategy, the iPhone will move quickly from the ultrapremium to a midrange position. The Razr² will then become a basic phone because it doesn't offer the iPhone's advanced functions.

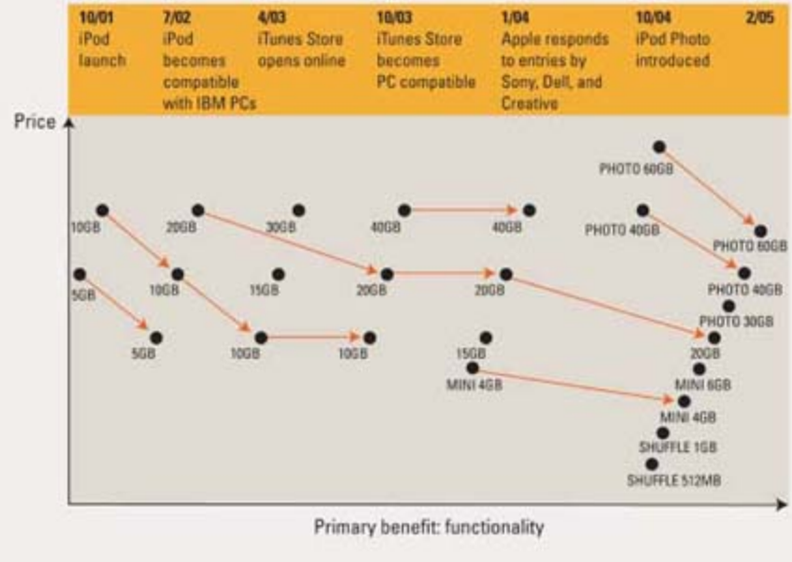
Apple also created a full line of iPod products, making it tough for rivals to find uncontested spaces. If it does the same with the iPhone, Motorola will soon have to contend with a line of iPhones that will match Motorola's full line of Razrs. Motorola would do well, in that case, to push those of the Razr²'s advanced functions that consumers value most, rather than add more secondary features. For instance, having a haptic touch screen on the Razr² is a novel benefit. Do customers want it? Perhaps – but it comes second to the advanced functionality they are more willing to pay for.

Interpreting Positioning Maps

Positioning maps help companies penetrate the fog that shrouds the competitive landscape. They can pinpoint the benefits that customers value, locate unoccupied or less competitive spaces, identify opportunities created by changes in

How Apple Set the Pace with the iPod

Plotting price against the primary benefit over time for a product line can make shifts in market strategy clear. In this example, Apple has stayed ahead in the MP3-player market since October 2001 by giving customers more functionality and additional storage capacity at ever lower prices. That has made it tough for competitors like Sony, Dell, and Creative to gain toeholds.



the relationship between the primary benefit and prices, and allow companies to anticipate rivals' strategies. When interpreted within the context of industry and customer knowledge, they help explain why some enterprises' products and brands perform better than others do.

Valuing intangible benefits. Many companies, especially in industrial markets, seek to retain customers by offering intangible benefits. To that end, they spend a great deal of money to offer supplementary services without knowing if customers want them enough to pay for them. This often proves to be a drain on corporate resources. Companies can avoid the problem by calculating the premiums they earn for intangible secondary benefits.

That was driven home to me when my colleagues and I conducted an analysis of the U.S. motorcycle market. According to a regression analysis, in the early 2000s, variations in engine power, as measured by displacement, explained much of the difference in motorcycle prices. Yet a positioning map showed that, in 2002, most of Harley-Davidson's models earned large premiums compared with rival products. Customers paid 38% more, on average, for Harleys than they did for motorbikes from Honda, Yamaha, Kawasaki, and Suzuki, even though the Japanese Big Four offered 8% to 12% more engine power. Because we had accounted for the impact on prices of all physical features and attributes, we concluded that the premium was most probably the result of the intangible secondary benefits the company offered, such as the image created by membership in the Harley Owners Group (HOG) and apparel from Harley-Davidson's MotorClothes. These benefits had helped Harley-Davidson create the impression that its customers were rebels, that they enjoyed an adventurous lifestyle, and that they belonged to a macho club. Harleys had attained cult status, especially among the baby boomer generation.

However, the 2004 positioning map revealed a different picture. The price of a Harley was still higher than that of equivalent Japanese motorbikes, but it no longer commanded the highest premiums in the market. New American rivals, such as Victory and Big Dog, earned a 41% premium over Harley-Davidson for the same level of engine capacity. The market leader was leaving money on the table, possibly because its image no longer appealed to customers. We hypothesized that both Generation X and Generation Y consumers were seeing the Harley as their father's motorbike and that many women hated its bad-boy image. Victory and Big Dog had capitalized on the desire for a "New American Bike" as opposed to Harley-Davidson's "Easy Rider" image, which the Harley Owners Group and Harley's MotorClothes helped maintain. The newcomers' highly customized products were trumping Harleys because riding a motorcycle had changed from being an act of rebellion to one of self-expression.

The 2004 analysis was an early indicator that Harley-Davidson was in trouble, despite the fact that industry experts insisted it would remain dominant owing to its history and market share. As it turned out, by 2006, Harley-Davidson recognized the need to create a new image for its products, saying in its annual report: "We've embarked on a full range of marketing outreach activities, new events, and new strategies to connect with emerging customer segments. Through these efforts, we welcome more and more African-Americans, Hispanics, women, and younger riders into the family every year." These initiatives included ladies-only "garage parties"; a line of women's jackets in pink, blue, red, and other bright colors; and motorbikes with lower seats to accommodate customers with smaller builds. Harley-Davidson is also using its new Buell line to reach out to younger riders who want to have fun rather than portray a macho image. Still, Harley-Davidson's stock price floundered between 2005 and 2007, rising only recently on rumors that Honda is trying to acquire it!

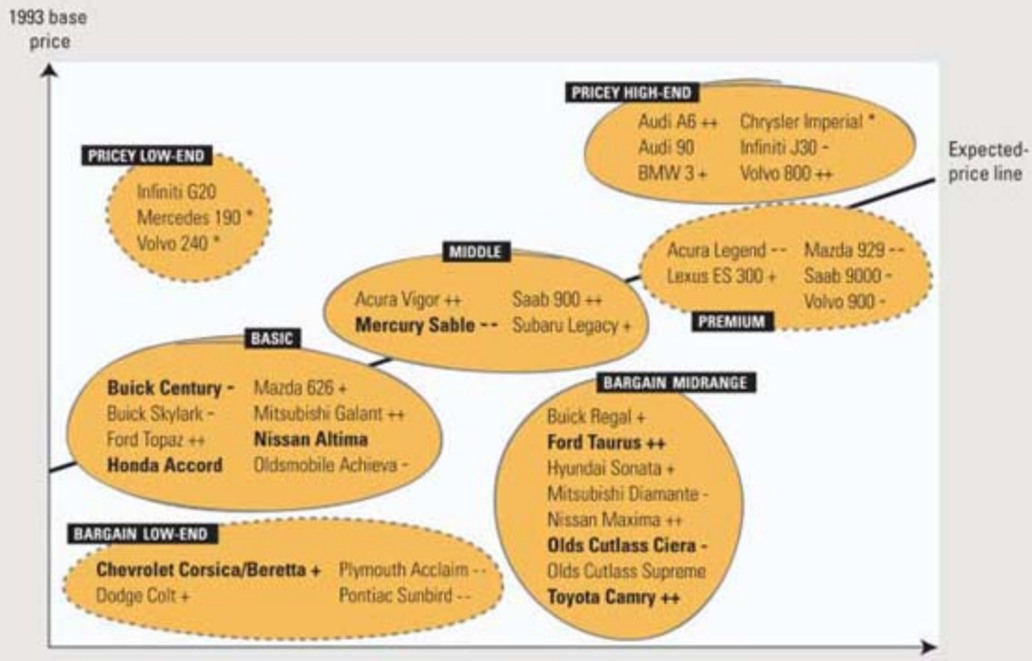
"Customer experience"– a combination of decor, taste of food, and service – accounted for 73% of the price variation at NYC restaurants; cuisine accounted for 3.5%, location just 2.5%.

Anticipating shifts in the value of benefits. Companies can employ the price-benefit equation to get ahead of rivals in markets where consumers keep demanding different benefits. Once they have identified what benefits appeal to customers, executives can use the equation to decide which features to develop, at what cost, and how soon they must create the next differentiator.

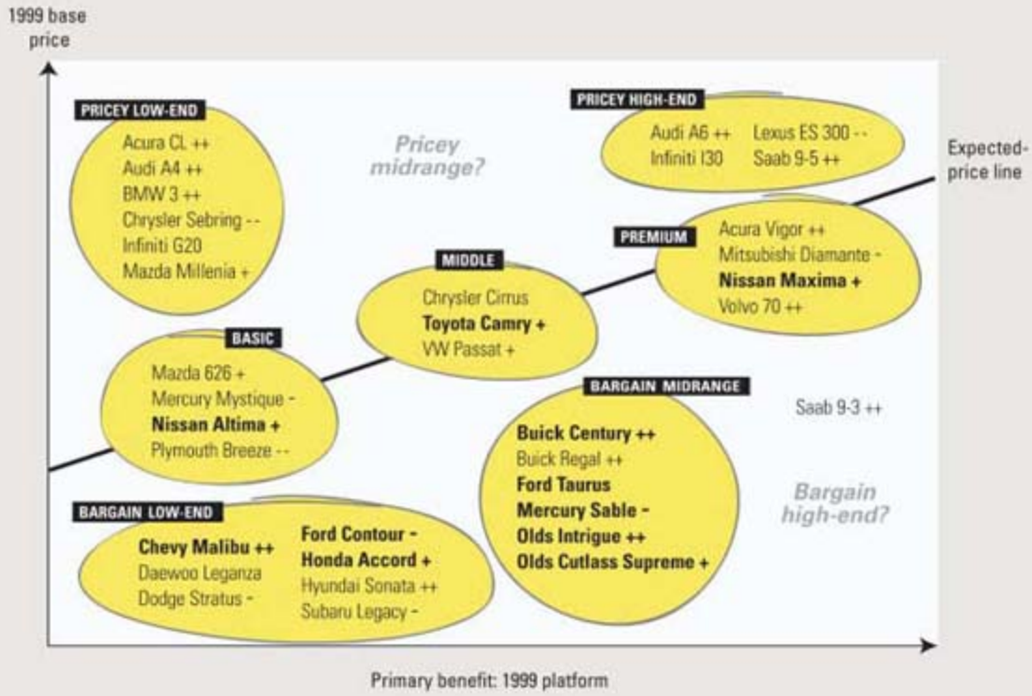
Take the case of a major U.S. hotel chain that in 2000 wanted to know what new restaurants it should open in its New York City hotels, which ones it should reformat, and how it could earn more from them all. The food business is notoriously fickle, so I decided to conduct a three-year historical analysis of the 1,700 restaurants in the city on which *Zagat*, the restaurant guide, had data. The eateries served every possible cuisine, from pizza to French haute cuisine, and

Finding Opportunity in the Crowded Midsize-Car Market

Adding more data to a price-benefit map can make it easier to spot opportunities to reposition products. In this case, including indicators of sales growth and decline, best-sellers, and withdrawn models revealed subsegments of the midsize-car market in which competition was less intense and were therefore good opportunities to pursue.



In 1993, as the dotted ovals show, three subsegments of the U.S. midsize-car market – pricey low-end, bargain low-end, and premium – were relatively less competitive than the others.



KEY

- **+** = annual unit sales rose 3% to 10%
- **++** = annual unit sales rose more than 10%
- **-** = annual unit sales fell 3% to 10%
- **--** = annual unit sales fell more than 10%
- **bold** = more than 100,000 units sold in year
- ***** = model withdrawn from market in year
- ⬚ = segments of lower competitive intensity

Automakers quickly slotted more products into those niches, and by 1999, all three had become crowded. Even the middle subsegment remained competitive owing to the overwhelming dominance of the Toyota Camry.

they were located in all the city's boroughs. The restaurants in the analysis ranged from Gray's Papaya, which featured a $2 two-dogs-and-a-tropical-drink special, to Le Bernardin's seafood, which set a customer back $75, on average, for dinner and a drink in 1998.

The analysis revealed that from the beginning of 1998 through the end of 2000, the primary driver of variations in food prices wasn't restaurants' locations or the type of cuisine, as one might expect. It was a composite factor I called "customer experience" – the extent to which the decor, the taste of the food, and the service satisfied customers. That explained 73% of the variation in prices, whereas cuisine accounted for a mere 3.5% and location just 2.5%. Other features, such as outdoor tables and dancing, were each responsible for only 1% of the differences in price.

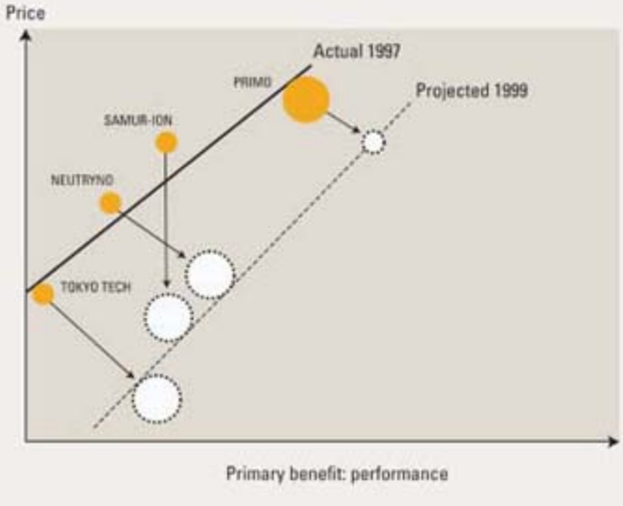
The longitudinal study helped identify several trends and strategies. Initially, locating a restaurant in a hotel added between $2 and $3.60 to the price that could be charged for each meal, but that amount declined significantly between 1998 and 2000. This suggested the hotel chain would do better if it placed restaurants outside its properties, with an entrance from the lobby. Restaurants with dance floors charged $4.50 to $7.25 more for a meal and saw their pricing power rise over the three years. That was a convincing argument for adding dancing to the menu – something the W Hotels chain, which turns its lobbies into clubs, has successfully done. The premium on seafood and Russian food rose during the period while it declined for French and Japanese cuisines, indicating that the hotel chain could earn more by repositioning its sushi bars as seafood restaurants and setting up restaurants that served Russian food.

Interestingly, the expected-price line became steeper over the three years of the study, an indication of a more intense demand for the primary benefit. So it wasn't surprising that high-end restaurants were enjoying a rising premium for the customer experience they offered while the pricing power of low-end restaurants was eroding. It seemed plausible that as incomes rose in the city over the period, more people frequented upscale restaurants. Declining demand at the low end meant that such restaurants had to offer better deals to hold market share or to grow: For instance, a meal's average price in restaurants with the lowest ratings in our sample fell from $7.20 to $5.80. The tilt in the line was good news for restaurants in the hotel chain's high-end properties, but it created a dilemma for the middle-tier properties.

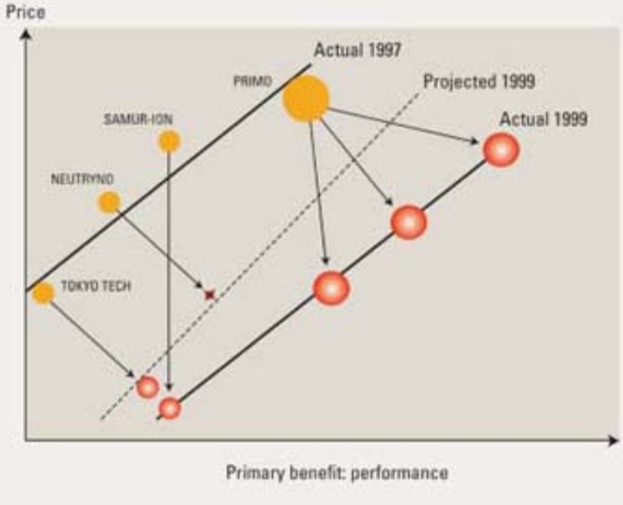
Capturing an Evolving Strategy

Companies can use past trends to map projected future market moves. That's what a company we'll call Primo did to anticipate rivals in the price-sensitive market for advanced materials for electronic components.

The projection showed that archrivals "Neutryno," "Tokyo Tech," and "Samur-Ion" would dramatically gain market share as they boosted the performance/price ratio of their offerings. Primo's executives were shocked.



In response, over the next two years, Primo moved both up and down the expected-price line, giving customers a range of options with even better performance for the price. As a result, Neutryno quit the industry.



The chain decided that instead of reducing prices in the restaurants in those hotels, it would enhance the customer experience or change the restaurants' cuisines. In its budget hotels, the chain lowered the price of the food to match or undercut local rivals because those restaurants needed traffic to make money.

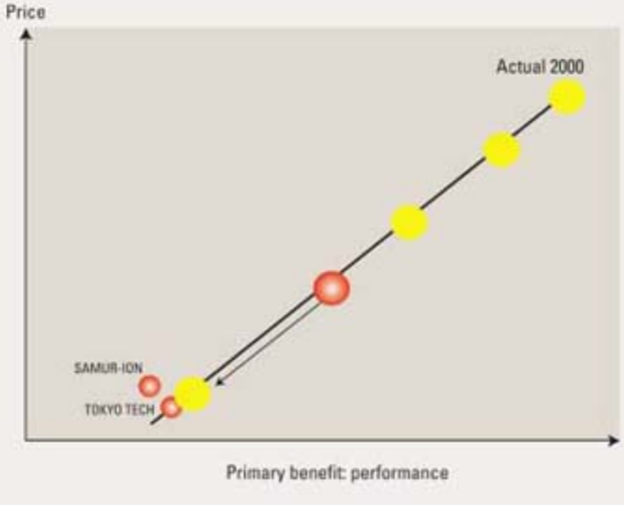
Finding paths of least resistance. To extend the use of price-benefit maps, companies can throw more data into the mix. A map that includes unit sales and sales growth, for instance, can help companies identify areas with low competitive intensity. In the 1990s, when I worked with a major U.S. automobile manufacturer, we created positioning maps to spot fresh opportunities in the American midsize-car market (see the exhibit, "Finding Opportunity in the Crowded Midsize-Car Market"). A regression analysis showed that the most important driver of price in that segment was a measure that combined several automobile characteristics such as engine power, chassis size, passenger capacity, gasoline tank capacity, trunk capacity, and crashworthiness. We called this primary benefit, the "platform," for lack of a better word.

When we created a price-benefit positioning map for 1993, we found some subsegments with few big sellers or products whose sales were growing markedly, an indication of low competitive intensity. In niches like the pricey low-end (where the low-end versions of luxury brands like Mercedes and Volvo reside), companies were withdrawing models from the market. This suggested that a manufacturer with the right price-platform mix and some desirable secondary benefits could find untapped customers by offering products in those spaces. Auto aficionados will remember that in the mid-1990s, many experts criticized BMW for trying to enter the pricey low-end subsegment of the U.S. market by repositioning the 3 Series. The map indicated that there was an opportunity – and history tells us that BMW capitalized on it.

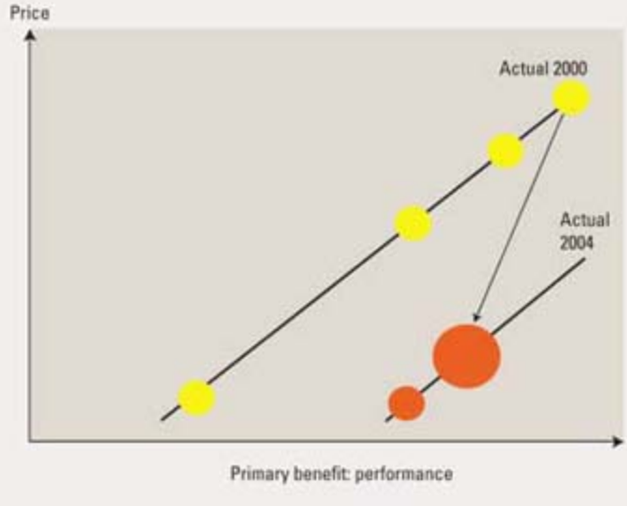
Fast-forward to 1999, and you will see that there were few open segments left (that is, segments with fewer than a couple of big sellers or fast-growing models). Most companies had moved from intensely competitive positions in 1993 into less competitive positions. For example, there was an exodus from the basic and bargain midrange positions. The three big sellers in the 1993 basic subsegment – the Buick Century, the Honda Accord, and the Nissan Altima – all moved to new positions by 1999. The Honda Accord moved to a bargain low-end position, the Century shifted to a bargain midrange position, and the Altima created an ultralow position in the basic niche. At the same time, the 1999 map indicated some opportunities. The pricey midrange – the white space between the pricey low-end and pricey high-end segments – was still virgin territory, while the Saab's 9-3 was exploring the white space below the premium end of the expected-price line.

When customers' priorities shift radically, the benefits they desire also change. Careful price-benefit analysis can

In 2000, Primo introduced a new high-end product. At the same time, it moved another product down the line, pinning its Japanese competitors down at the market's low end.



Primo continued to sell its old, lower-end product at a discount. It also radically improved the performance/price ratio of its high-end offering, and by 2004, it had shifted the expected-price line to the extreme right.



provide an early warning of such a shift. For example, the slope of the expected-price line in the midsize-car market declined throughout the 1990s, implying that customers were becoming less willing to pay for a larger platform. Instead, our regression analyses showed, customers were starting to pay more for safety. In 1993, customers weren't willing to pay very much for new safety features, but by 1999 they were paying an extra $1,800 for each increment of improvement in air bags and crash test performance, and an additional $1,500 for antilock-braking systems. The rate of change in the expected-price line's slope suggested that the basis of competition among midsize cars would shift by the 2000s. Sure enough, by 2001, safety features overtook the platform as the primary benefit that customers looked for in midsize cars. Due to the advance warning provided by this analysis, the car manufacturer I worked with was able to anticipate the shift, rather than play catch-up.

Preempting rivals. Companies can use price-benefit maps to predict the strategic intent of rivals and to find ways of preempting them. One method of doing that is to draw maps based on projections of market trends. That's what a division of a U.S. *Fortune* 500 company did. The $1 billion unit, which I'll call Primo (the company requested anonymity), manufactures advanced materials for high-tech component makers in the electronics industry. When its senior managers and I teased out the impact of each feature, we found that the product's primary customer benefit was performance. At that stage, Primo sold a high-priced product that delivered better results than the offerings of its three major rivals, an American company I'll call Neutryno, and two Japanese competitors I'll label Tokyo Tech and Samur-Ion. In 1997, Primo had the biggest market share, as indicated by the size of its circle in the exhibit "Capturing an Evolving Strategy." But its rivals were improving quality and reducing prices. We projected and mapped their possible trajectories, based on the firms' historic rate of improvement.

When Primo's senior executives saw the map, they were shocked. According to the scenario, Primo's competitors in this highly price-sensitive market would dominate the market by 1999 because they would be able to offer more for less. Primo's executives decided to seize the initiative. They increased R&D investment to come up with product improvements and process changes that would lower manufacturing costs. Primo first moved at the high end, pushing the expected-price line to a higher level of the primary benefit even as it lowered prices. It also split its high-end product into three, so that customers interested in middle-level performance would stop buying low-end products, while high-end customers might stick with its premium product longer. More and more people began to use the products, and to use them in additional applications. Primo gained market share, which more than made up for the loss in margins. The strategy hurt Neutryno so much that it quit the market.

Having outpaced its competitors, Primo then decided to outflank them. In 2000, Primo moved one of its products down the new expected price line to a low-cost position in the basic segment. The same year it also introduced a high-end product for a new generation of electronic devices. Between 2001 and 2004, the company reduced this product's price as Primo gained experience and economies of scale, moving it from a high-end niche to the mass market. Primo also sold its old product at a discount to keep its Japanese competitors pinned down at the market's low end. This cut deep into its rivals' profit margins, which left them without the money to invest in new product development. Had it not been for their parents' deep pockets, the Japanese companies would have left the market. Not only did Primo escape the vicious cycle of declining market share and profit margins but it also turned the tables on rivals by shaping the emerging competitive landscape. By forecasting the movements of prices and benefits, Primo stayed ahead of shifts in the expected-price line – and its rivals.

Many experts criticized BMW for repositioning the 3 Series. The map indicated there was an opportunity at the pricey low end – and history tells us that BMW capitalized on it.

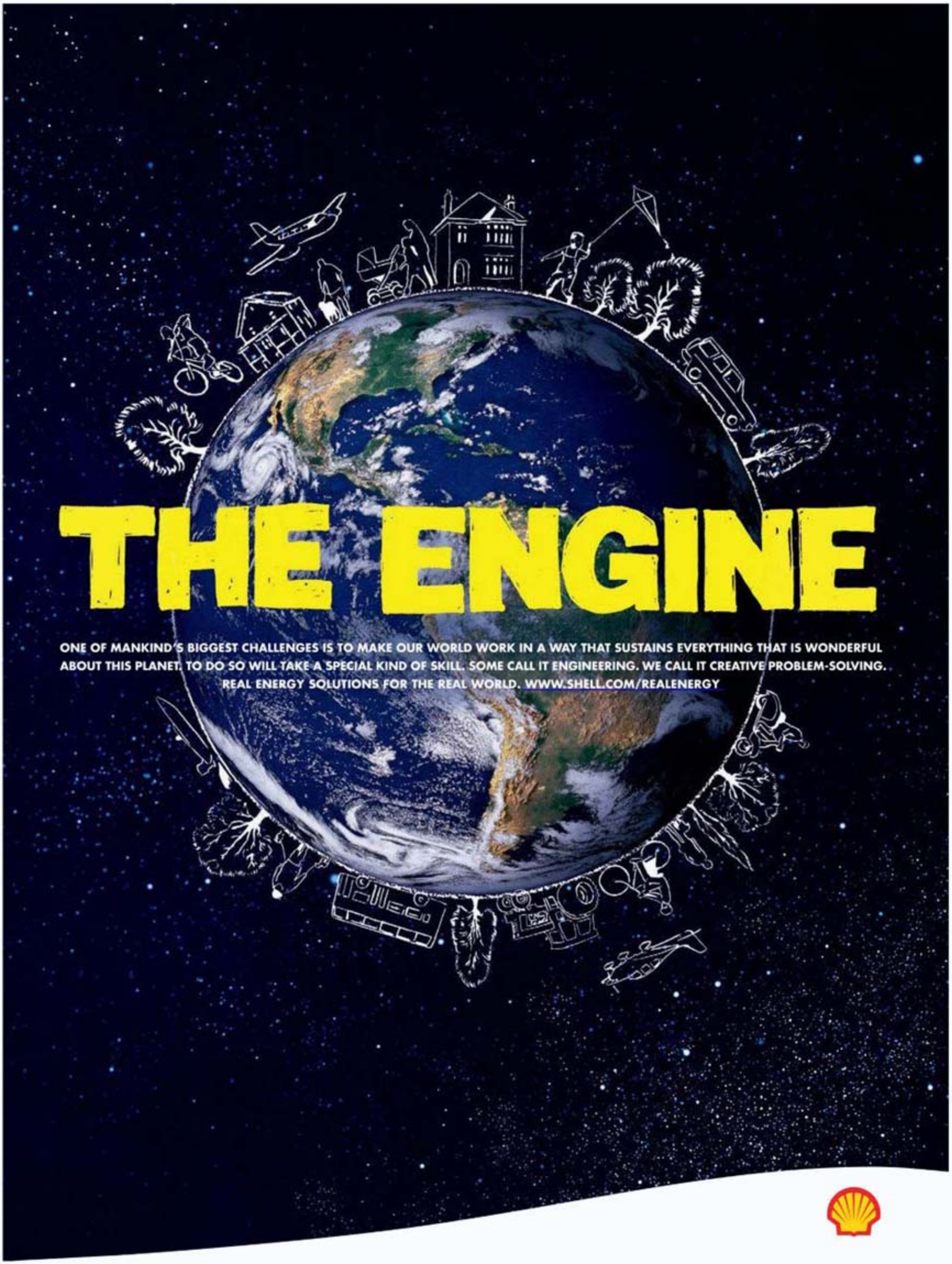
...

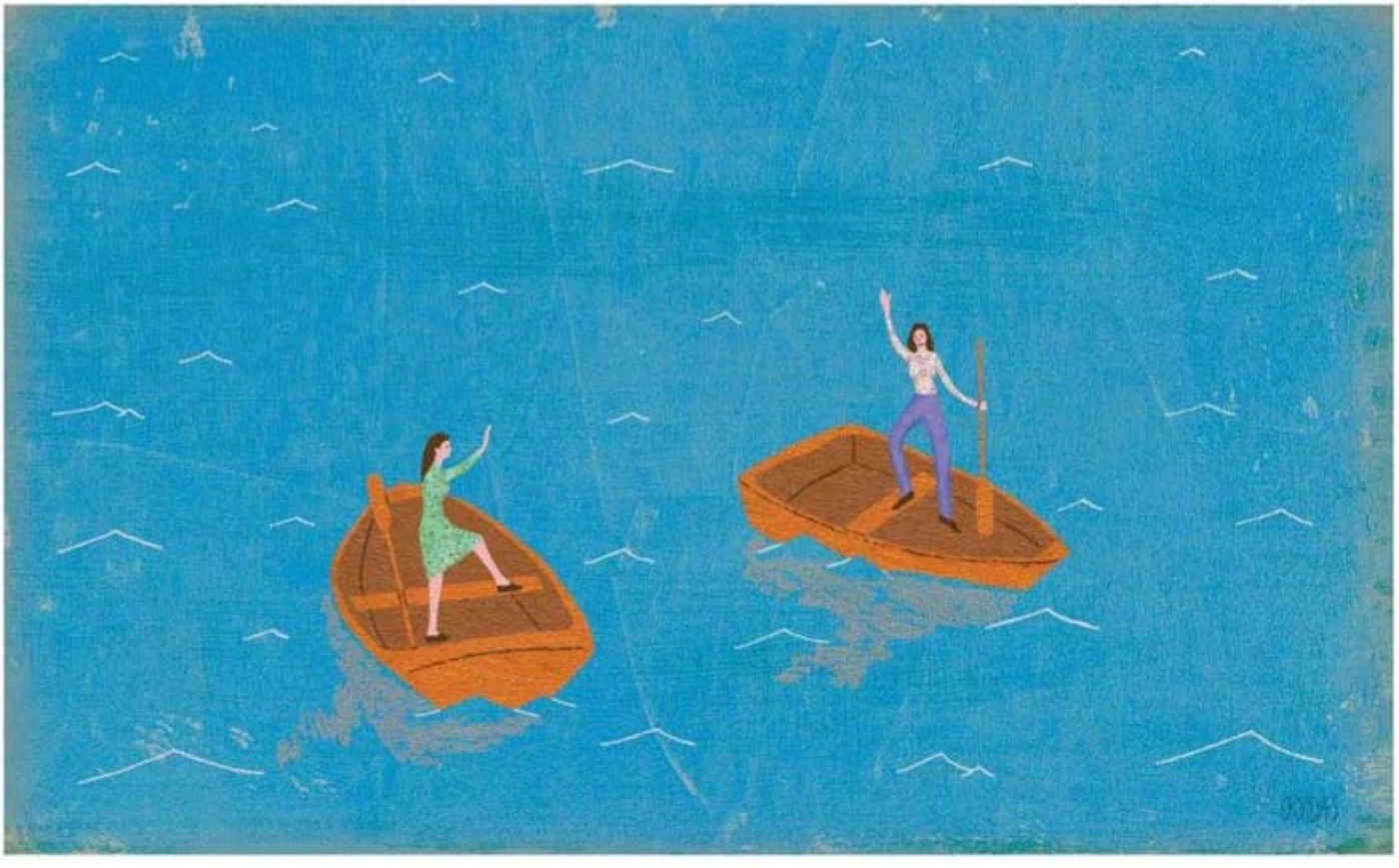
A price-benefit map sounds early warnings, suggests responses to competitive threats, and opens executives' minds to many possibilities. Like all strategy frameworks, it isn't a silver bullet. Every map suggests several hypotheses about the reasons behind changes in competitive positions, and executives must use their knowledge of the industry to interpret them and arrive at the right strategies. Ultimately, though, price-benefit maps allow executives to make decisions based on fact and to avoid the fatal allure of wishful thinking.

Reprint R0711G

To order, see page 155.

preempting them. One method of doing that is to draw maps based on projections of market trends. That's what a division of a U.S. *Fortune* 500 company did. The $1 billion unit, which I'll call Primo (the company requested anonymity), competitors pinned down at the market's low end. This cut deep into its rivals' profit margins, which left them without the money to invest in new product development. Had it not been for their parents' deep pockets, the Japanese companies


THE ENGINE
ONE OF MANKIND'S BIGGEST CHALLENGES IS TO MAKE OUR WORLD WORK IN A WAY THAT SUSTAINS EVERYTHING THAT IS WONDERFUL ABOUT THIS PLANET. TO DO SO WILL TAKE A SPECIAL KIND OF SKILL. SOME CALL IT ENGINEERING. WE CALL IT CREATIVE PROBLEM-SOLVING.
REAL ENERGY SOLUTIONS FOR THE REAL WORLD. WWW.SHELL.COM/REALENERGY



Simple Rules for Making Alliances Work

Conventional advice about alliances hasn't reduced their dismal failure rate. Success requires shifting your focus to a complementary set of principles.

by Jonathan Hughes and Jeff Weiss

IT'S A REMARKABLE PARADOX: Studies show that the number of corporate alliances increases by some 25% a year and that those alliances account for nearly a third of many companies' revenue and value – yet the failure rate for alliances hovers between 60% and 70%. And despite an abundance of advice on how to make alliances work, that dismal record hasn't improved in the past decade.

The conventional advice from the experts is quite consistent: Create a solid business plan backed up by a detailed contract. Define metrics for assessing the value your alliance delivers. Seek common ground with partners and pay close attention to managing your interface with them. Establish formal systems and

Ken Orvidas

structures. The recommendations are all sensible; you'd apply them to any business arrangement.

Alliances, however, are not just any business arrangement. They demand a high degree of interdependence between companies that may continue to compete against each other in the marketplace. They require the ability to navigate – and often to actively leverage – significant differences between partners' strengths and operating styles. These characteristics make the common wisdom about alliance management both incomplete and misleading, causing companies to ignore or underemphasize other, potentially more important drivers of success.

To begin achieving reliably higher success rates with their alliances, companies need to shift their focus to five principles that complement the conventional advice. This means:

PLACING LESS EMPHASIS ON. . .	. . .AND MORE EMPHASIS ON
defining the right *business arrangement*	developing the right *working relationship*
creating *ends* metrics	creating *means* metrics
eliminating differences	*embracing* differences
establishing formal alliance management *systems and structures*	enabling collaborative *behavior*
managing the *external* relationship with partners	managing your own *internal* stakeholders

When companies can make such a shift in emphasis, they improve their chances for success tremendously – a conclusion based on our 20 years of experience working with both successful and failed alliances and on systematic research we have conducted over the past six years. In this article we will illustrate the five key principles of this approach to alliance management, using several companies we have worked with as examples.

Principle 1

Focus less on defining the business plan and more on how you'll work together.

Companies have learned the hard way not to enter into an alliance without a detailed business plan and contract. But sound business planning is only half the battle. Dwelling on a formal plan can obscure the critical need to explore and clarify up front the nature of the partners' working relationship – not just what they will do but how they will interact.

People involved in the hundreds of failed alliances we have seen over the years have consistently pointed to breakdowns in trust and communication and the inability to resolve an inevitable succession of disagreements as the most common causes of failure. Better business planning was cited rarely – and more carefully crafted contracts almost never – as something that could have saved those alliances.

Successful alliances depend on the ability of individuals on both sides to work almost as if they were employed by the same company. For this kind of collaboration to occur, team members must know how their counterparts operate: how they make decisions, how they allocate resources, how they share information. That, in turn, requires a clear understanding of each partner's organizational structure, policies and procedures, and culture and norms. The partners should use that understanding to establish guidelines for working together.

Usually, if partners discuss the kind of relationship they want at all, they do so in such abstract terms that it produces little benefit. Laudable guiding principles are bandied about, but what they mean for each side is typically undetermined. For example, two companies may agree that a good relationship is characterized by mutual trust and respect for each other's strengths. But unspoken assumptions about what that means in practice may differ sharply. One partner may think that acting with trust and respect means being direct and challenging decisions that seem not to make sense. The other may think it means that each side will defer to its partner's judgment when the partner says it can't do something. Such assumptions lie in wait ready to sabotage the relationship.

Schering-Plough, like other pharmaceutical companies, is critically dependent on alliances. Recently, during a rigorous analysis of the company's alliance portfolio, executives discovered that although they had carefully structured their business arrangements and documented them in detailed contracts, many of their alliances were failing to live up to their full potential. So Schering-Plough sought ways to establish a stronger foundation for collaboration with partners from the start of alliances.

Once an agreement is reached, the company engages in a systematic "alliance relationship launch." This process, which typically takes four to six weeks, involves meetings at which the partners explore the potential challenges of working together, examine differences, develop shared protocols for managing those differences, and establish mechanisms for their day-to-day work. Time is spent on how each company makes decisions: What approval steps are needed for different kinds of decisions? Are there formal review committees that make certain decisions, and if so, how often do they meet? Is the day-to-day decision-making culture consensual or hierarchical? Such conversations are valuable in preventing frustration and conflict later on, but Schering-Plough takes the discussion even further: Among other things, it maps out in detail the key decisions that are likely to arise and specifies who on the alliance team will make them; who those people should consult with; which ones will need to be separately approved by senior executives at the partner companies; and so on. The resulting clarity has led to faster decision making, reduced frustration, and better follow-through once decisions have been made.

Schering-Plough is not alone. In a recent study we conducted involving 93 companies from a cross-section of industries, we found that when partners invest time up front to jointly define the relationship they want, the alliance generates significantly greater value than when they focus exclusively on business goals, contract terms, and formal governance structures.

Principle 2

Develop metrics pegged not only to alliance goals but also to alliance progress.

When partners sit down to create alliance scorecards, they typically choose such goals as increased revenue, reduced costs, gains in market share, and the like. They then immediately begin to measure alliance performance against those goals, often as frequently as once a month.

Rarely, however, does an alliance yield significant results in the first months or even in the first year or two. By their nature, alliances usually require considerable investment and effort before a substantial payoff is realized. Confronted with reports that show an absence of payoff, partners often lose confidence in the venture. Senior executives' attention wanes, resources are redeployed elsewhere, and morale slumps, all too frequently leading to the alliance's demise.

Instead of focusing exclusively on "ends" measurements of financial value, companies need to establish "means" measurements of the factors that will affect the alliance's ultimate performance – leading indicators, if you will, of its success (or failure). Good results on these interim metrics can sustain corporate commitment precisely when it is needed most.

In the first months of an alliance these metrics may focus on things like information sharing between the partners, the development of new ideas, and the speed of decision making. Such measures may seem soft, but they are important – and the simple act of defining them is beneficial, because it can highlight differing expectations of how the partners will work together.

Blue Cross and Blue Shield of Florida (BCBSF) has formed alliances with other health insurers and with technology and financial services companies to cost-effectively develop new services for members. It includes metrics in its alliance scorecards that gauge progress toward the ultimate objectives and identify problems that might undermine them.

For example, the company tracks the number of issues that are sent up, or escalated, to a joint alliance oversight committee for resolution. In the case of one important alliance, tracking this figure uncovered major differences between the partners over whether the alliance should focus on consolidating its position in the Florida market or on expanding rapidly into other states. The number and pattern of escalated issues helped senior executives on both sides see that this unspoken clash over strategic direction was leading to daily disagreements on the alliance interface about how to prioritize efforts and allocate resources. The executives realized they needed to resolve their differences before uncertainty undermined the effective functioning of the alliance in the marketplace.

BCBSF also generates qualitative measures of alliance progress through regular surveys that are completed by staff members from each partner. At the outset of an alliance the company and its partner jointly define behavior they consider indicative of a good relationship. BCBSF has developed a survey workbook from which alliance managers at both partners can select those questions that are relevant to their situation. One question designed to measure trust and communication asks personnel to respond, on a 1-to-5 scale, to "How often are we surprised to learn of an action our partner has taken that affects us?"

These surveys provide an audit of the company's alliance relationships. They also ensure that partners regularly and explicitly discuss their mutual expectations, thus helping to prevent alliance failure.

Principle 3

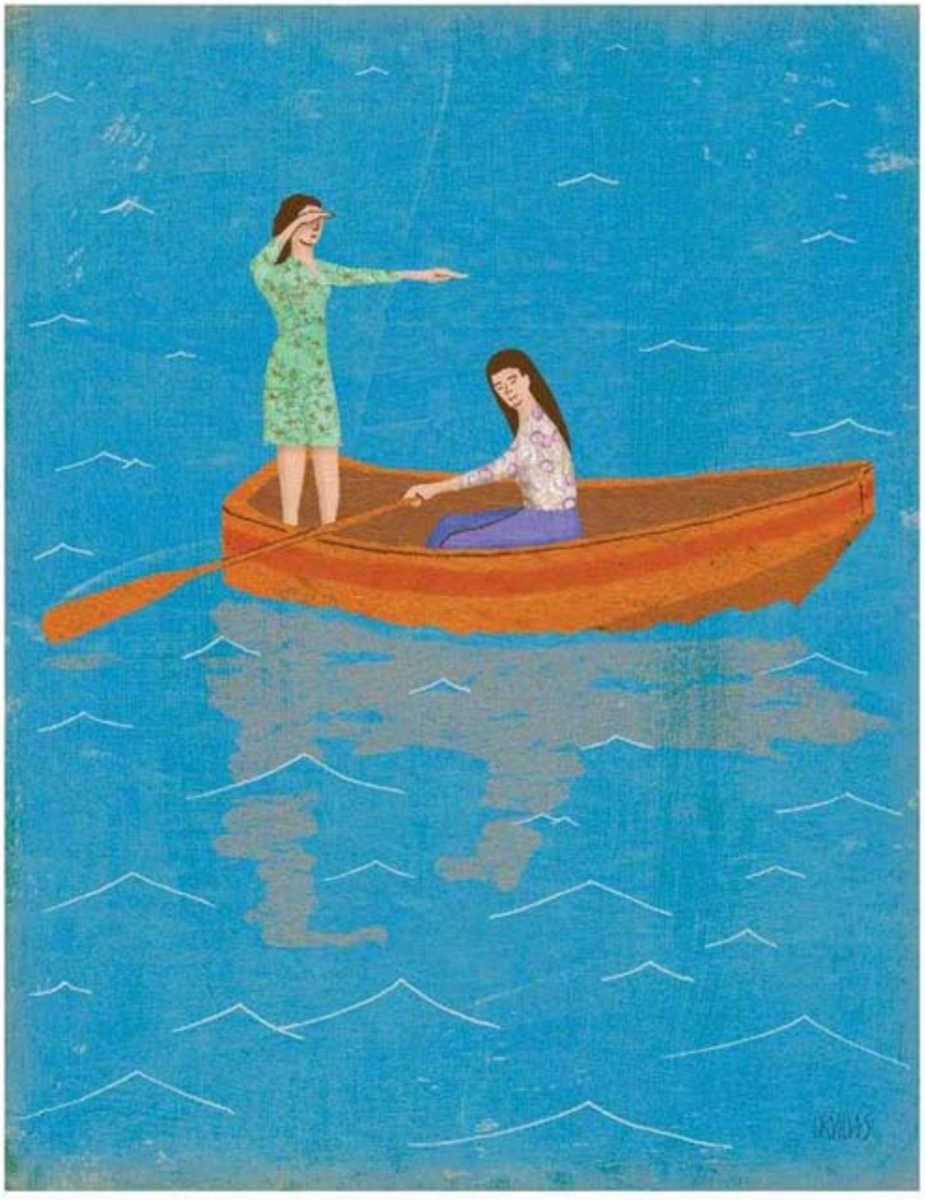
Instead of trying to eliminate differences, leverage them to create value.

Companies ally because they have key differences they want to leverage – different markets, customers, know-how, processes, and cultures. It takes most managers in a new alliance about two months to forget this.

In fact, in the majority of alliances a tremendous amount of time and attention is spent in efforts to minimize conflict and reach agreement on what should be done and how to do it. This practice reflects more than a commendable focus on execution: It arises from a deep discomfort with differences and conflict and a mistaken belief that the same management strategies that (sometimes) work within a company will work equally well in collaboration with external partners. "Our differences are slowing us down; let's just figure out one way of getting things done and move on" is a common refrain – though what is usually meant is "you need to accept *our* way of doing things." Unfortunately, because these efforts send a message that differences are bad, they tend to drive conflict underground. They erode the partners' ability to make use of the very differences that prompted formation of the alliance in the first place.

Consider the partnership between a leading regional health insurance carrier in the United States and the U.S. subsidiary of a major international diversified insurance company. On paper the alliance had all the markings

Jonathan Hughes (jhughes@vantagepartners.com) and **Jeff Weiss** (jweiss@vantagepartners.com) are principals at Vantage Partners, a Boston-based management consulting firm that focuses on alliance strategy and relationship management.



of success. One partner had innovative high-deductible plans coupled with unique wellness incentives; an entrepreneurial culture that rolled out product improvements fast and worked out wrinkles later if necessary; and systems for gathering customer input that could be used to rapidly adapt products to changing market conditions. The other partner had a large and loyal customer base; a culture focused on strong customer service; and sophisticated product management and quality assurance processes. The companies were confident that by leveraging their complementary strengths and assets, they could develop innovative insurance products and quickly scale their distribution without experiencing the service lapses common to new product rollouts.

Within months, however, each company's unique competencies had become sources of resentment rather than enablers of success. A year into the alliance the partners were barely speaking to each other. The company valued for being "nimble" was now viewed as "sloppy and reckless." Its partner was no longer "process driven and quality focused" but a "bureaucratic dinosaur" unable to make a decision. Within two years the alliance had been dissolved.

Contrast this with the alliance between Hewlett-Packard and Microsoft under which HP hosted Microsoft's Exchange messaging and collaboration software at its data centers, so that customers wouldn't have to install and maintain it themselves. These companies, like the two insurance carriers, had different but complementary strengths in the areas of technical expertise, culture, business model, and knowledge of market segments – differences that both inspired the alliance and created significant challenges.

Each side was regularly baffled by the behavior of the other, which by turns seemed incompetent, untrustworthy, or downright crazy. For example, Microsoft often interpreted HP's consultative approach to the sales process as a lack of enthusiasm for its NT operating system. All the work at the outset of the alliance to define shared goals and rules of engagement became increasingly irrelevant. Indeed, the mantra of shared goals and rules had made the very acknowledgment, much less the discussion, of differences between the partners almost impossible.

A turning point came when some alliance executives began systematically documenting differences between the companies and then held working sessions with team members to discuss how those differences were being perceived and whether they might benefit the alliance if they weren't ignored or suppressed. Because many of the dif-

Because spending a lot of time and attention on reaching agreement sends the message that differences are bad, it tends to drive conflict underground.

continued on page 128

The Eye of the Beholder

An alliance between Hewlett-Packard and Microsoft, under which HP would host Microsoft's Exchange messaging and collaboration software, was foundering because of clashes sparked by differences in the two companies' business models, cultures, and expertise. A systematic attempt to document the partners' differing perceptions of themselves and each other led to acknowledgment of both sides' strengths and to strategies that played to them.

HOW HP PERCEIVED ITSELF	HOW MICROSOFT PERCEIVED HP
Collaborative partnering mind-set – looks for the greater good	A nonplayer in services
Reinventing – trying to get more focused under new CEO's leadership	Falling behind its competitors
Disciplined – takes a long-term, mature approach to evaluating market opportunities	Slow, bureaucratic – a laggard
Win-win partnering – actively seeks the other company's wins	Unable to execute consistently and predictably
Flexible – looks for creative deals	Conflicted sales strategies in the field
HOW MICROSOFT PERCEIVED ITSELF	**HOW HP PERCEIVED MICROSOFT**
Competitive, fast-moving, and entrepreneurial	Excessively competitive and confrontational
"Our products are changing the world in profoundly positive ways"	Controlling, paranoid, and greedy
Center of the new economy	"Win–don't care" partnering mind-set
Focuses on objectives and assumes others do the same	Focused only on the deal
Misunderstood: The world doesn't realize what positive things the company does for everyone	Packaged-software mentality – commoditizes everything, even partnering
Brings partners into deals, expecting they will be grateful and go get the business without continued hand-holding	Doesn't get it – doesn't know what it takes to sell professional services to an enterprise customer

Through the joint exploration of differences, a more constructive and valuable view emerged:

HP'S STRENGTHS	MICROSOFT'S STRENGTHS
General expertise related to complex-solution selling to enterprise customers	Technical and product knowledge about Exchange, which is essential to successful enterprise solution sales
Tends to focus on long-term objectives and opportunities	Disciplined focus on short-term objectives (without which there may be no long term)
Good at minimizing risk in complex situations through careful analysis	Good at capitalizing on opportunities by making decisions quickly
In difficult circumstances, likely to find the creative solution that others might miss	Unlikely to waste time and effort when the "standard" answer or solution provides the optimal balance of performance and value
Good at understanding and focusing on customer needs and building close, durable relationships	Good at identifying and responding to competitive threats

WINNING COLOR

Xerox announces color prints for the same price as black and white. Now with the Phaser® 8860, making the move to color really is a no-brainer. Checkmate.

Xerox Color. It makes business sense.

Black and white prints used to have one big advantage over color. Cost. But now, Xerox levels the playing field with the new Phaser 8860 network color printer. It prints color for the exact same price you've always paid to print in black and white. Print speed is exactly the same as black and white, too: 30 ppm. The solid-ink Phaser 8860 is surprising in other ways, too: it saves up to 50% on color consumables over 3 years* and creates 90% less waste than typical color laser printers. So don't shy away from color, embrace it. After all, it's a move any budget can easily accommodate. Brilliant.

Phaser® 8860
Color Printer

XEROX.

xerox.com/checkmate
1-800-ASK-XEROX

Technology | Document Management | Consulting Services

©2007 XEROX CORPORATION. All rights reserved. XEROX® Phaser® and Xerox Color. It makes business sense are trademarks of XEROX CORPORATION in the United States and/or other countries.
*Based on a 4,000-page print volume per month when compared to HP and Lexmark using own-brand consumables.

ferences touched on sensitive issues concerning competencies and culture, people were initially reluctant to address them, preferring to focus on imagined or desired commonality. When the teams finally overcame their reluctance, frustration that had built up over many months came pouring out, and perceptions of each other were often expressed in negative or even inflammatory language.

Over time, though, the partners were better able to view each other's qualities in a positive light. (See the exhibit "The Eye of the Beholder.") Once the air had been cleared and the differences discussed in a productive fashion, both sides also became somewhat more willing to acknowledge their own weaknesses and limitations – which, not surprisingly, were often the flip side of their strengths.

Ultimately, HP and Microsoft were able not only to respect differences that earlier had been a source of frustration and suspicion but also to actively leverage them. For example, they began to vary their approaches to sales opportunities rather than always following the standard approach led by the same balance of HP and Microsoft sales and technical staffs. Sometimes HP would take a clear lead, relying on help from Microsoft colleagues but employing strategies and tactics that HP had honed in similar market contexts. Sometimes the partners would agree that Microsoft's particular technical strengths and sales tactics made sense for a particular customer. Sales accelerated. Today more than 14 million Microsoft Exchange Server 2000/2003 user seats are under contract through HP Services.

Principle 4

Go beyond formal governance structures to encourage collaborative behavior.

Just as partners need to focus on building a strong working relationship at the start of an alliance, so they need to nurture that relationship throughout the life of the partnership. This means leaders must actively foster collaborative behavior among all the people who work on the alliance. Although effective governance structures, such as joint steering committees charged with providing oversight and direction to alliance teams, can facilitate collaboration between individuals, they cannot guarantee it.

Perhaps the most difficult behavior to overcome in alliance teams is a tendency to assign blame the minute something goes wrong. This very human propensity needs to be replaced with something that doesn't come naturally to most people: a dispassionate analysis of how both parties contributed to a problematic situation and what each can do to improve it. An emphasis on inquiry rather than judgment acknowledges that in a complex and interdependent relationship, difficulties usually result from the actions (or inaction) of both sides.

Adopting this mind-set frees up time and energy (otherwise devoted to figuring out who is at fault or to fending off blame) for productively diagnosing problems, such as to what extent a missed milestone resulted from the diversion of resources by intervening priorities. Dispensing with finger-pointing also helps prevent the alliance partners from defensively withholding information from each other – information, such as significant testing data, that may be important to their mutual success – for fear that it will be used as evidence of incompetence or poor performance. This does not mean that issues of accountability will never arise – only that they will be dealt with more effectively after the parties have together explored all the factors that contributed to the problem.

Many companies provide training in relationship skills to their alliance managers, but Aventis (now part of Sanofi-Aventis) and Millennium Pharmaceuticals went a step beyond that: To encourage collaboration at the individual level, they jointly created a list of behavioral protocols (see the sidebar "Working Rules"). Although these protocols weren't incorporated into the formal agreement governing the alliance, managers at the two companies regularly checked to see that they were being followed. As the protocols took root, consistently collaborative behavior became the norm.

Dispensing with finger-pointing helps prevent alliance partners from defensively withholding information from each other for fear that it will be used as evidence of incompetence or poor performance.

The end result was an alliance characterized by innovation and efficient execution. Complex technologies, equipment, and operating procedures were successfully transferred from Millennium to Aventis within a tight time frame. The Aventis staff was able to begin quickly generating data to support clinical research projects. (Speed is crucial in a business where every day of delay in bringing a drug to market can mean a million dollars in lost revenue that can't be recouped once patent protection expires.)

The need to cultivate collaborative behavior between alliance partners may seem obvious, but it's often not met. According to our study of alliance management success factors, more than 70% of companies have developed formal management systems for at least some of their alliances, but fewer than 10% have initiatives to promote the type of collaborative behavior we have described. This is all the more surprising

Transform ideas into impact.

Only the **Stanford Executive Program** offers senior executives the chance to learn from world leaders in management strategy in an environment unrivaled for openness and collaboration. Your experience will transform the way you think and magnify your impact on your organization. **Transform today.**

The Stanford Executive Program runs June 22 to August 5, 2008.
Visit our website to learn more.

EXECUTIVE EDUCATION
www.gsb.stanford.edu/exed/sep

STANFORD
GRADUATE SCHOOL OF BUSINESS
Change Lives. Change Organizations. Change the World.

given that 90% of alliance managers cite a collaborative mind-set and behaviors as critical to success.

Principle 5

Spend as much time on managing internal stakeholders as on managing the relationship with your partner.

This last principle may sound heretical. Managers set out to maintain a laser-like focus on their alliance partners and the customers they jointly serve. Indeed, they sometimes strive with such fervor to make the partnership work that they are accused of overidentifying with "the other side."

But again, though eminently reasonable, the conventional advice – to serve the partnership at all costs – is insufficient. Equally important, and often more difficult, is maintaining commitment from and alignment among the business units and functions (finance, legal, R&D, sales) in your own company that are affected by the alliance or on whose contributions its success depends.

Companies are not monolithic, yet alliance advice tends to gloss over this basic reality and treat partners as if they were simple, homogeneous entities. Although most counsel on alliances highlights the fundamental importance of trust, it rarely delves into what our research and experience indicate are the biggest barriers to trust: mixed messages, broken commitments, and unpredictable, inconsistent behavior from different segments of a partner organization.

In the late 1990s two financial services companies formed an alliance to exploit technological developments enabling electronic payments. A few years into the alliance the partners found themselves struggling. They had developed an excellent product and international distribution channels. Each had put a top-notch alliance management team into place. The companies had devoted a great deal of time to learning about each other and had invested heavily in defining rules of engagement to guide interactions between them. People from the two sides worked well together. Furthermore, the companies developed common approaches to managing interactions with the alliance's target customers. In the words of one senior manager, "We were advised to be 'maniacally focused' on our partner and our customers – and we were."

But as the alliance managers focused on interactions with their counterparts, they lost control of what was happening within their own organizations. While the partners were marketing and selling the new product, executives at one of the companies began to move in multiple directions. The heads of four divisions – international sales, marketing, business development, and finance – started to express differing levels of willingness to invest in the alliance. Some questioned the original rationale for it, while others criticized its performance. The two camps began weighing in with conflicting opinions about how to make the alliance more successful.

Not surprisingly, members of the four divisions began to send mixed messages to the partner company, where people became frustrated by their inability to get definitive answers. Some reported that they felt as if they were managing an alliance with four different partners rather than one.

The managers tried their best to get their respective companies' executives realigned in support of the partnership, but it was too little too late. Looking back, they realized that the alliance had been driven, shaped, and negotiated by executives from only two of the affected divisions; true buy-in from other parts of the enterprise had never been secured. Things went smoothly until the other divisions were asked to

Working Rules

To encourage behavior that would further the goals of their alliance, the drug manufacturer Aventis and the biotechnology company Millennium Pharmaceuticals created a list of formal protocols to be followed by people working on the alliance. Here are some of them:

"We agree to escalate issues [communicate them to senior executives for resolution] jointly, rather than unilaterally up our own management chains."

"We agree to share information regarding internal strategic [and] business environment changes, so we can discuss their potential impact on the alliance."

"[When discussing challenges] we will present possible solutions, not just problems."

"We will use objective criteria to decide among multiple possible options – criteria that set good precedent for solving problems going forward."

"We will strive to generate multiple, creative options for mutual gain."

"We will share with one another complaints we hear from internal constituents [people within our own company] with the understanding that a) we are not defending or accusing but sharing information, b) we agree that we will jointly decide when something is significant enough to take action, c) we will collect data together about the situation, analyze and draw joint conclusions, and develop jointly any actions or plans in response to the problem."

"We will hold regular weekly phone calls even if there are not critical issues at hand."

invest time and money in the alliance and to adjust well-established processes and policies to facilitate collaboration with the partner.

The alliance management team started focusing most of its efforts on damage control. Even its members began to lose faith in a venture that had once held great promise. A majority of senior executives at each company declared that the relationship was not meeting its now unclear – and certainly not mutually accepted – goals and decided to dismantle the alliance.

Similar experiences have led some companies to make ongoing management of internal constituents a central part of their alliance management process. For example, Aventis, drawing on its own experience with the undermining effects of insufficient internal alignment, formalized a series of meetings with internal stakeholders – prior to all joint governance meetings with partners – during which internal disagreements were brought to the surface and then wrestled to the ground, without the awkwardness of doing so in front of partners.

Various constituencies at Aventis that were affected by alliances no longer felt shut out of planning and decision making that might have an impact on them. Consequently, alliance managers began to notice significantly more support from internal business units and functional groups. Resources were easier to get, milestones were more regularly achieved on time, and partners reported that Aventis was more consistent and reliable – all of which contributed to making it an attractive alliance partner.

...

It is time for executives to realize that alliance management is facing a crisis. Companies are making huge investments in alliances and are increasingly reliant upon them as vehicles for growth, yet more than half of them fail. The advice managers have been following is not so much wrong as it is incomplete. As Fred Hassan, the CEO of Schering-Plough, told us recently, "Alliances require ways of working with partners that are very different from what is required in traditional business relationships. The future will belong to those companies that embed alliance management capabilities into the fabric of their culture and how they do business."

The good news is that companies have radically improved their alliance success rates by incorporating the practices described in this article. According to one company, they have helped it achieve or exceed the goals in 90% of its alliances. Clearly, the rewards of rethinking your alliance practices can be great. The risks of not doing so may be even greater.

Reprint R0711H

To order, see page 155.

February 4 – 5, 2008 | Four Seasons Hotel | Miami, Florida

AN EVENT FOR LEADERS IN ANALYTICS-BASED COMPETITION

THINK!Analytics

Exploring the frontiers of superior performance

THINK!Analytics is an invitation-only event limited to 150 senior executives, researchers, and thought leaders that will bring together the latest research and best practices to provide a deep, meaningful look at what is happening at the frontiers of analytics-based competition. The emphasis will be on practical take-aways that can be put to use immediately.

The Age of Analytics has arrived. More and more companies are using superior insight into customer data to make better, faster, and more strategic decisions about everything from marketing to the supply chain to product development.

Companies that compete on analytics outperform their competitors. How do they do it? Join heads of business intelligence, business unit leaders, marketers, and others who want to be at the forefront of analytics who need to know. Put Think!Analytics on your agenda.

Featuring Professor Thomas Davenport and Jeanne Harris, co-authors of *Competing on Analytics*, as well as executives from leading global companies.

CRITICAL QUESTIONS TO BE ADDRESSED AT THINK!ANALYTICS:

Customers: How can you find the critical analytical insights on customers that will enable you to out-think, out-maneuver, and out-perform your competitors?

People: Where can you find "analytics people" who can turbo charge your efforts?

Organization: How do you embrace analytics for the long-term?

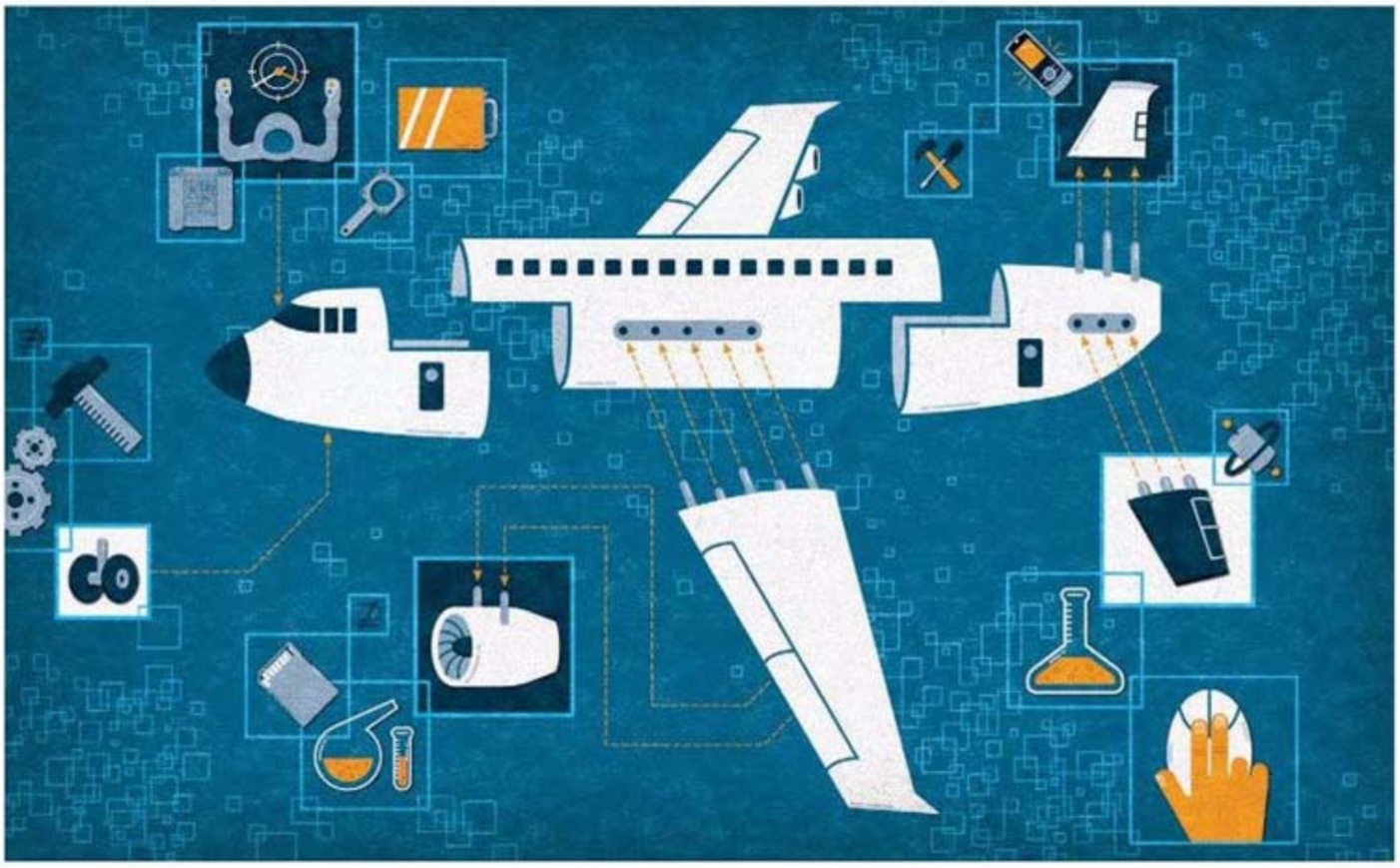
Capability: What differentiates the analytics winners from the also-rans—and how can you get to the front of the pack?

Technology: What should you be investing in now?

REGISTER TODAY

HARVARD BUSINESS SCHOOL PUBLISHING CONFERENCES

WWW.THINK-ANALYTICS.COM
or email conferences@hbsp.harvard.edu



Are Your Engineers Talking to One Another When They Should?

Cost overruns, schedule slippage, and quality problems often result from a failure to provide timely information or resources. Here's a way to help prevent that from happening.

by Manuel E. Sosa, Steven D. Eppinger, and Craig M. Rowles

COMPANIES THAT DESIGN COMPLEX, highly engineered products all have their horror stories. Ford and Bridgestone Firestone lost billions of dollars after their failure to coordinate the vehicle design of the Ford Explorer with the design of its tires. Similarly, Airbus's development of the A380 "superjumbo" suffered major delays and cost overruns because of late emerging incompatibilities in the design of the electrical harnesses of various sections of the plane's fuselage. These mistakes probably contributed to the loss of Airbus's CEO and to important changes in the management of the A380 program.

What's striking about these stories and many others like them is that in virtually every case, the people involved all agreed, in hindsight, that they could have avoided their expensive mistakes by making sure that the different teams responsible for

Jude Buffum

developing the products' components had communicated more effectively. Of course with complex development projects, you can never be certain that you have planned for every contingency. However, our experience shows that in the design phase of such projects, many companies would benefit from focusing sharply on the critical points of contact among their various component development teams to ensure that everyone knows when and with whom they should be sharing information.

This article helps managers mitigate this design communication problem. Drawing on detailed research into how Pratt & Whitney handled the development of its highest-thrust commercial jet engine – the PW4098, which powers the Boeing 777 – we present a new application of an established project management tool: the design structure matrix (DSM). Our application helps managers identify where failures in planned communications could occur as well as recognize when project teams engage in unplanned technical communications. We also analyze communications between project teams that take place both within and outside the formal project structure. We conclude by discussing how managers should handle communications problems that are revealed in the process. While we do not pretend to offer a definitive solution to the design communication problem, we do believe that managers who use our tools over succeeding generations of products will improve the quality of their development processes.

Article at a Glance

Companies that design complex products all have their horror stories. Yet, they can all avoid mistakes by ensuring that the different teams responsible for developing the components of the products communicate more effectively.

A new application of an established project management tool, the design structure matrix, can help a company identify where failures in planned communications could occur as well as recognize when project teams engage in useful technical communications that were not planned.

If a company finds that a lot of planned communication is not taking place, then it should revisit its product development organization. Even projects that are completely organized around a product's architecture are typically vulnerable to communication breakdowns.

A company can ensure that critical communication occurs by tasking special teams (or the teams involved) with making sure that the right people talk to each other. It's also important to ensure that the teams are working with the optimum communication tools.

Catching Missed Interfaces Before They Occur

The first thing a project team does when faced with a complex development challenge is break the project down into manageable pieces that are then assigned to dedicated subteams. In the context of developing a product like a jet engine, this results in a large number of specialized cross-functional teams, each working on a different component or subsystem of the engine. Of course, these teams cannot work in isolation; in addition to designing their assigned components, they must also integrate their designs with those of the other components to ensure that the entire product or system functions as a whole. It is critical, therefore, in planning a complex product development process that the project managers specify just which resources and information different teams will need from each other at particular stages of the project.

In the Pratt & Whitney jet engine development project we studied, the engine was divided into eight subsystems, each of which was further decomposed into five to ten components, for a total of 54 engine components. Typical for such projects, the development organization was correspondingly structured into 54 cross-functional design teams responsible for each component, plus six integration teams responsible for managing engine-level requirements in areas such as fuel efficiency. These teams had to interact a lot: There were several hundred interfaces among the engine components, many of which would have experienced significant problems without proper communication among the relevant design teams.

To help manage the communications aspect of such projects, we propose the following approach: (a) identify *unattended interfaces,* areas where communication should be occurring but is not, and (b) look for *unidentified interfaces,* areas where communication is occurring but has not been planned. The result of implementing this approach is what we call an *alignment matrix,* which reveals mismatches between the communications and exchanges that are supposed to occur and those that actually do. It also demonstrates, therefore, how well the project has been planned and executed.

To see how the approach works, let's suppose that we plan to develop a product with four components, each of which requires its own specialized design team. (This approach may be used when the organizational structure maps directly to the product architecture – that is, component X is designed by team X – which is the case in most of the complex development projects in the automobile and aerospace firms we have studied. For cases in which the organizational and product struc-

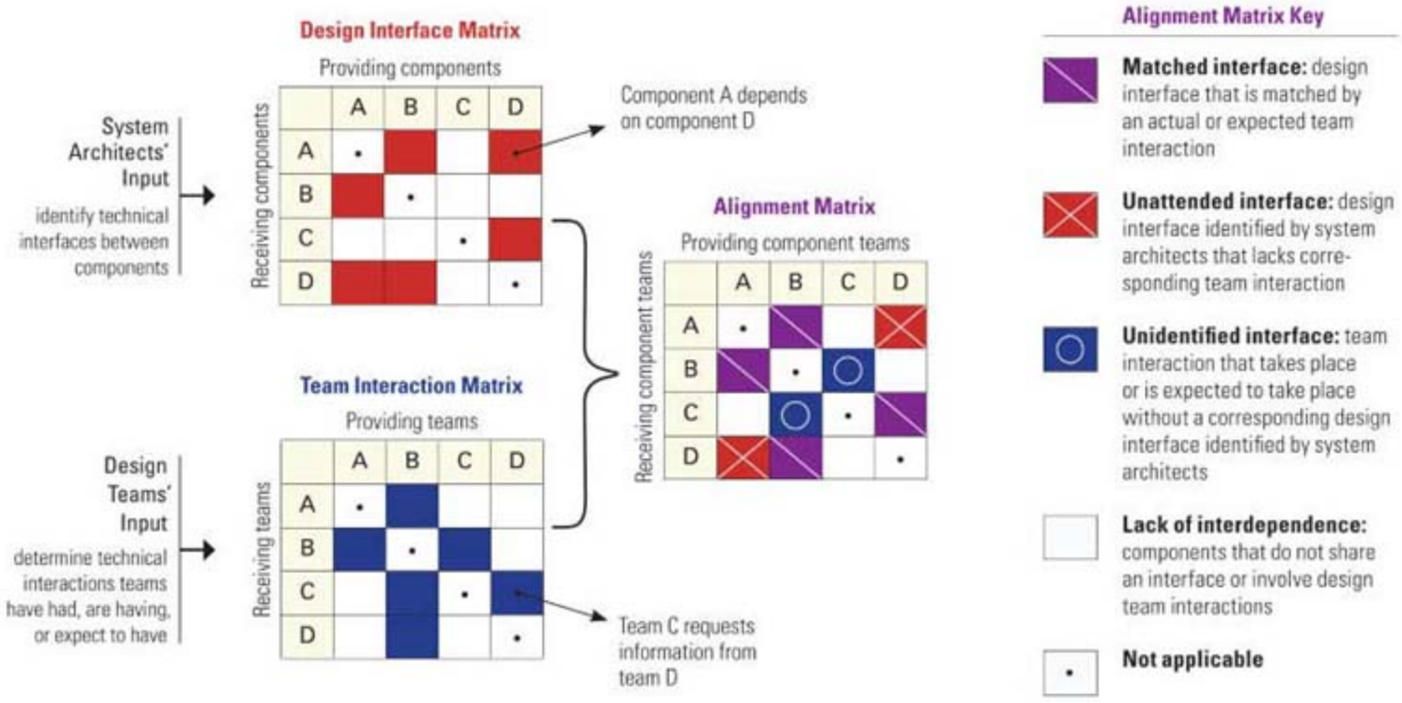
Manuel E. Sosa is an assistant professor of technology and operations management at Insead in Fontainebleau, France. **Steven D. Eppinger** is a professor of management science and engineering systems and deputy dean at MIT's Sloan School of Management in Cambridge, Massachusetts. **Craig M. Rowles** was a Module Center manager at Pratt & Whitney, based in East Hartford, Connecticut; he is now CEO of Emegear, a medical device company in Carpinteria, California.

Assessing the Fit Between Design and Communication

The first step in analyzing the communication problem among design engineers is to have the system architects identify technical interfaces between components and record their responses on a design interface matrix. Next, have component and subsystem design team members identify the technical interactions they have had, are having, or expect to have with other teams, and present those responses on a team interaction matrix. Then merge the two matrices to generate an alignment matrix that reveals matches and mismatches between interfaces and interactions. The matrices below are based on a product with four components.

In the design interface matrix below, a shaded cell indicates the presence of a technical interface between two components. Thus, the first row of the matrix indicates that component A will require some input from components B and D but nothing from C. The first column shows that A will be expected to provide input to (or impose technical constraints on) B and D but not C.

In the team interaction matrix, each row indicates from which other teams a particular team expects to need information and resources, and each column shows where a team will be expected to provide the information and resources. A shaded cell indicates where the teams expect to interact.



tures do not map directly, refer to M.E. Sosa's "Aligning Process, Product, and Organizational Architectures in Software Development" in the *Proceedings of the 14th International Conference in Engineering Design*, Paris, August 2007.) Our analysis involves the following three steps:

1. Interview the system architects. We begin by requiring the senior engineers responsible for the product's overall function and layout – the system architects in engineering lingo – to identify the technical design interfaces among the four components. Do components need to be spatially connected with each other? Do some components transfer forces, material, energy, or information to other components to enable them to work properly? Answers to such questions are used to identify the interfaces among all the components of the product.

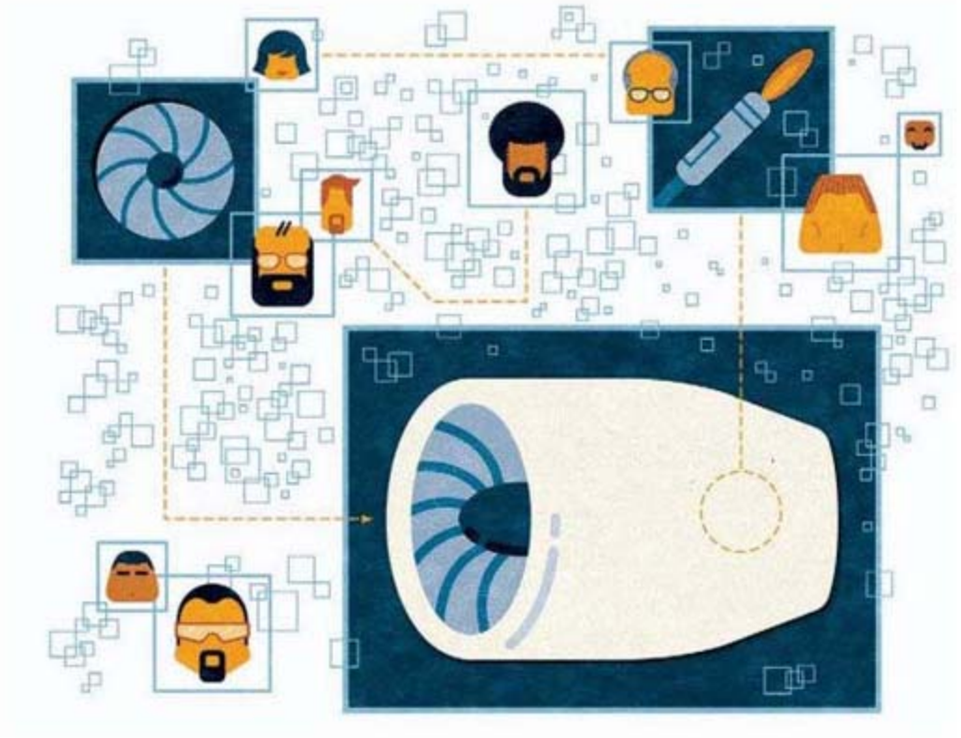
Armed with this data, the project managers can present the responses on a four-by-four *design interface matrix* (a type of DSM used to map the network of component interfaces), such as that illustrated in the exhibit "Assessing the Fit Between Design and Communication."

2. Survey the component design teams. In the second step, we identify the technical communications that the people working on each component design team expect to take place with people from the other teams. Specifically, we ask members of each team whether they anticipate the need for technical information or resources from other teams. In surveying them, we need to make sure they are all familiar with the function and specifications of the component or components they are developing. (We do not share with them the matrix produced in the first step, as this would bias the teams' responses.) Using these survey data, we can represent the technical interaction patterns of the teams in another four-by-four matrix (corresponding to the

four design teams) that we call a *team interaction matrix,* also shown in the exhibit "Assessing the Fit Between Design and Communication."

3. Combine the results. In the third and final step, we overlay the two matrices to obtain the *alignment matrix* (again, see the exhibit "Assessing the Fit Between Design and Communication). This matrix shows the matches and mismatches between the product's architecture as conceived by the system architects and the expectations of the teams involved in the product's development. More important, it highlights the mismatches – when design interfaces have been identified but team interactions are not taking place (unattended interfaces) and when team interactions take place without a corresponding design interface being identified by system architects (unidentified interfaces). As we shall see, sometimes these unidentified interfaces turn out to be critical.

At the end of a project, managers can update the alignment matrix by redrawing the team interaction matrix based on more recent surveys in which component team members are asked to state where they actually received the information and resources they needed. Overlaying the new team interaction matrix on the original design interface matrix would reveal whether the mismatches uncovered at the start of the project had persisted and whether other mismatches had appeared. A postmortem of this kind yields valuable insights into future product development projects, especially for companies that expect to develop similar products in the future or further generations of the same product.



We conducted one such analysis of Pratt & Whitney's development of the PW4098, the engine that, at the time, set new standards in the aviation industry for development speed and cost. (It was also the first commercial jet engine ever certified for 180-minute extended-range twin operations from its first day of service.) We began by interviewing the engine's architects, who identified 569 interfaces among the 54 main components of the engine. Many of these interfaces were critical and complex because they not only involved physically adjacent components but also the transfer of material (air, fuel, or oil), energy (vibration or heat), structural forces, or signals used by the control system of the engine. The design interface matrix drawn from this information is shown in the exhibit "Creating an Alignment Matrix for Pratt & Whitney." We then asked at least two members of each of the 54 teams involved in the project how often they received technical information from other teams during the detailed design phase of the project and how critical they perceived this information to be. The results of this survey documented 423 interactions among component teams, which appear on the team interaction matrix shown in the exhibit. We finally computed an alignment matrix by merging the two first matrices.

Readers armed with a magnifying glass would count 220 unattended design interfaces that were not matched by team interactions and 74 unidentified interfaces in which teams exchanged technical information even though there was no identified design interface between the components. Although it would be naive to expect a perfect alignment of design interfaces and team interactions – and, in this case, many of the 220 unattended interfaces were unproblematic or not critical – misalignment on this scale indicates that Pratt & Whitney was subject to considerable risks involving cost overruns or other problems with this project.

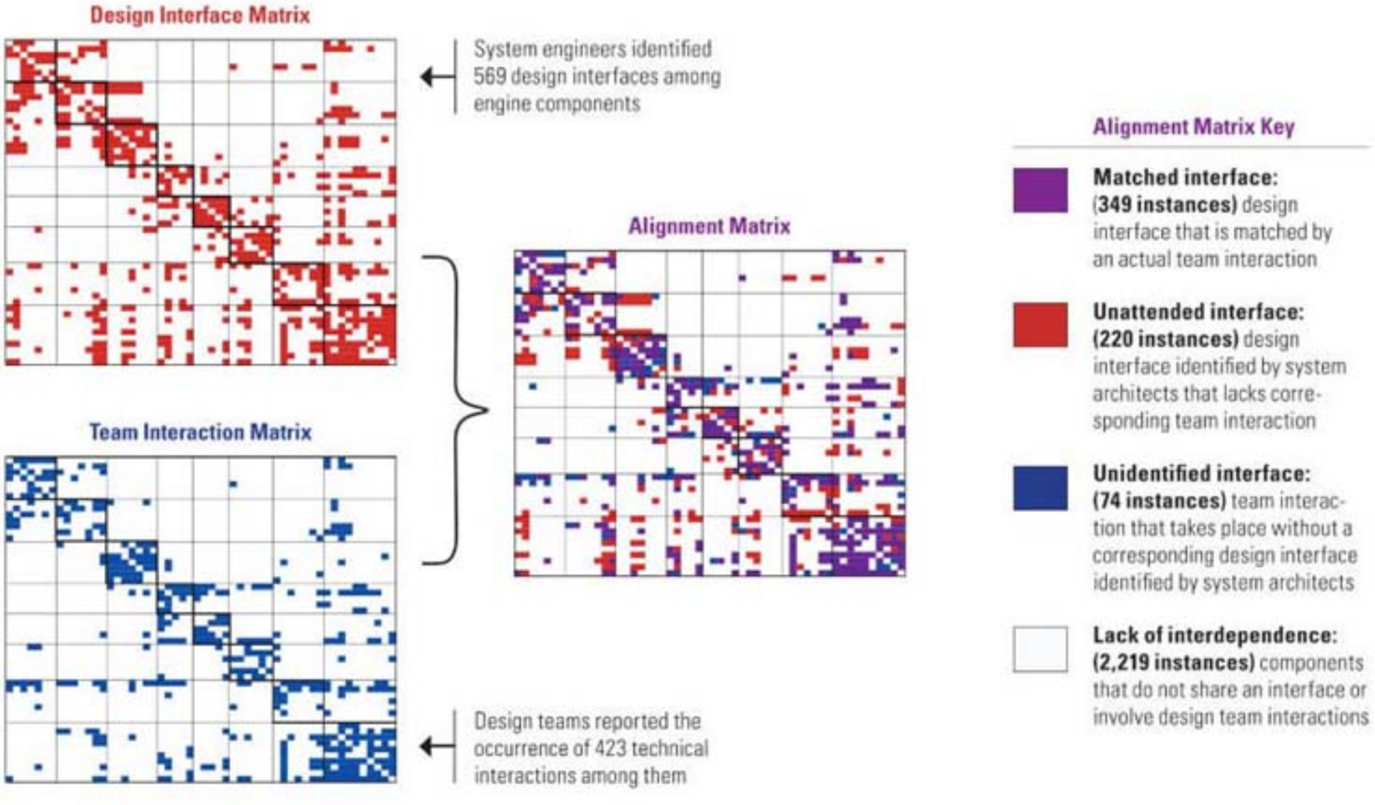
Why Mismatches Occur

Mismatches do not occur randomly in a product or organization. Rather, they are the result of product design and organizational factors. Planned key communication points may remain problematic for several reasons, including the presence of organizational boundaries (cross-boundary interfaces are more likely to be missed than interfaces with a team belonging to the same group), the lack of interface criticality (complex and critical interfaces receive more attention than noncritical ones), the use of indirect communica-

Harvard Business Review
Seven Transformations of Leadership
David Rooke and William R. Torbet
Creating the Living Brand
Neeli Bendapudi and Venkat Bendapudi
What Makes Global Firms Resilient?
Daniel Yergin
www.hbr.org

Creating an Alignment Matrix for Pratt & Whitney

This exhibit shows the design interface, team interaction, and alignment matrices we developed for Pratt & Whitney after the PW4098 project. It is striking how many mismatches (294 in all) turned up even in a post hoc analysis. Conducting this exercise before or during the project would probably have revealed many additional mismatches that got fixed during the course of the project. Note that components (in the design interface matrix) and teams (in the team interaction matrix) that belong to the same subsystem are clustered together so that we can easily distinguish (with the boxes along the diagonal) between interfaces (and interactions) that occur within boundaries versus those that fall across boundaries.



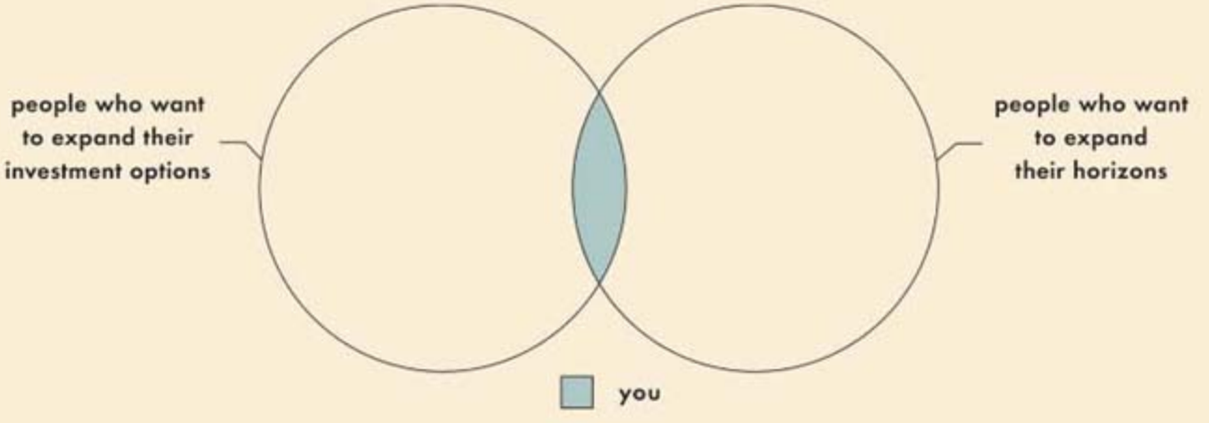
For details, refer to M.E. Sosa, S.D. Eppinger, and C.M. Rowles, "The Misalignment of Product Architecture and Organizational Structure in Complex Product Development," *Management Science* 50, no. 12 (2004): 1674–1689.

tion channels (teams sometimes pass technical information through other intermediary teams rather than interact directly), the presence of interface carryover (interfaces that have been defined in previous projects may not need to be reconfirmed in designing the new project), and the use of interface standardization (interfaces whose specifications have been formally documented are supposed to remain unchanged).

In the case of the Pratt &Whitney project, some mismatches occurred because component designs were carried over from previous designs. A number of components of the high-pressure compressor, for example, were virtually unchanged from a previous engine generation. As a result, some of the teams responsible for these components had to pay only marginal attention to coordinate their interfaces among themselves, though they still needed to coordinate with other highly redesigned components. Such inattention trickled over into their communications involving other highly designed components. In addition, many structural and thermal design interfaces were left unattended because they were noncritical or assumed to be standard. In many cases, these interfaces involved teams from different parts of the organization that had fewer opportunities for informal communications, which might have uncovered changes to the previous standards. The impact of these unattended interfaces probably resulted in very small reductions in performance or durability of affected components and systems. But given the 25- to 30-year life expectancy of a product like the PW4098, even small performance deviations could add up and cause significant warranty or service expense over the life of the product. For example, if a critical component like a turbine airfoil misses its

© 2007 Northern Trust Corporation.

BROADENING PERSPECTIVES



If you want to optimize the numbers in your investment portfolio – and maximize the number of stamps in your passport – Northern Trust will help get you there. Our investment approach starts with strategic asset allocation and includes multifaceted solutions such as alternative investments, enhanced indexing and multi-manager programs. As one of the world's largest asset managers, our clients look to us to deliver a comprehensive investment program that drives their overall financial plan. So you can expand your portfolio as well as your horizons. To learn more about our investment solutions, call 866-803-5857 or visit northerntrust.com.

Northern Trust

Private Banking | Investment Management | Financial Planning | Trust & Estate Services | Business Banking

CORPORATE LEARNING SOLUTIONS FOCUSED ON **YOUR SUCCESS**

CORPORATE AND EXECUTIVE EDUCATION

CUSTOM SOLUTIONS integrate industry's best practices and Drexel University's LeBow College's innovative development programs with your business culture and organizational capabilities.

LeBow's Global Knowledge Network, comprised of leading researchers and sought-after business consultants, help you to find contemporary ways to create long-term sustainable value for your company in the global marketplace.

Programs are offered online or face-to-face on Drexel's Philadelphia campus or on-site at your location.

For more information on custom designing a program to complement your organization's strategic corporate training initiatives, call **215-895-1604**, email **executive@drexel.edu** or visit **www.lebow.drexel.edu/execed**

LEARN HERE. LEAD ANYWHERE®

Drexel UNIVERSITY COLLEGE OF BUSINESS LeBow

Harvard Business Review

FOR THE BLIND

Subscriptions to *Harvard Business Review* are available in a special cassette format at a new low price of $49 per year for individuals who are print handicapped.

For further information on HBR for the Blind and other custom recordings services, please contact: MAB Recording Studio, 313 Pleasant Street, Watertown, MA, at 617-972-9117 or e-mail rpierson@mabcommunity.org.

MAB COMMUNITY SERVICES

life expectancy by only a few percent, it could mean one or more unplanned engine removals for maintenance over the life of the engine. For such a product, a single unplanned engine removal could add up to a $150,000 incremental cost to the customer.

Although most unattended interfaces are not critical, some are. Those critical unattended interfaces mostly occur when the teams involved come from different parts of the organization. The costs can be substantial. In the PW4098 project, two unattended interfaces turned out to be critical, and their costs varied with the time it took for problems associated with the interfaces to be uncovered and resolved. One related to a change in the structural loads transferred between rotating hardware assemblies in the high-pressure core and resulted in excessive loads on coupling hardware during tests of early development engines. Consequently, Pratt & Whitney had to disassemble, redesign, and rebuild the test engines. We estimate that this one problem added 1% to 2% to the cost of the program and a three- to four-month delay to certain elements of the program. The other unattended interface was uncovered later, after early production assembly had begun but before any engines were shipped. This one, also related to loads transferred between engine modules, reduced the life expectancy of one of the main engine bearings. The number of affected parts and engines was significantly greater than those associated with the first problem – and so was the impact on the program in terms of cost and time.

We have found unidentified interfaces to be less common than unattended interfaces. However, unlike unattended interfaces, their occurrence is almost always positive for the project because they reveal potentially critical but unanticipated interdependencies among a product's parts or systems. Many of the unidentified interfaces we uncovered at Pratt & Whitney related to investigations into possible engine-

level design problems that could have resulted in excessive strain, overheating, or insufficient pressure in the test engine. Because the teams involved talked to each other as they began to see or anticipate the unexpected problems, they were able to mitigate them before the product testing phase of the project, resulting in considerable time and cost savings potential. When unidentified interfaces like these are uncovered, the main question is whether to formally incorporate them into a project's schedule and routines or leave them be. This decision depends largely on how critical the communication is. In the case of the interfaces described above, Pratt & Whitney formalized some of the relevant team interactions in planning the development of its next-generation engine.

Most integration teams pay only marginal attention to the quality of communication between component teams. That needs to change.

The conditions that generate unidentified interfaces are different from those that cause people to overlook interfaces. Several of Pratt & Whitney's unidentified interfaces occurred between teams working on engine-level design scenarios that created adverse structural or thermal loads. This, in turn, generated the need for technical solutions across distinct components. In one case, three teams from both the high-pressure turbine and the low-pressure turbine had to interact with teams working on the combustion chamber to optimize the thermal environment and resulting durability of their respective components. These were deemed critical interfaces that had not been identified by the system architects. Fortunately, the people on these teams had worked together in the same roles in previous projects, making it more likely that they would have unplanned exchanges of information.

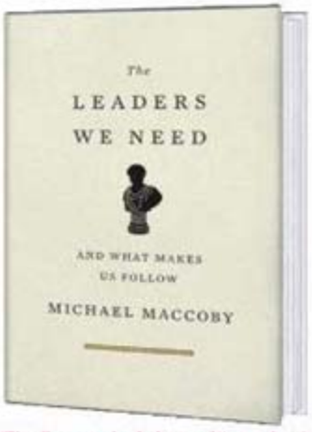
How to Manage Mismatches

Once the root causes of mismatches are understood, an organization can then decide how to deal with them. Potential solutions can be varied, including redrawing organizational lines, reassigning or creating new interface management responsibilities and facilitation tools, or even redesigning the system architecture (some of these are discussed below). To find the solution appropriate for your project, consider the following three steps:

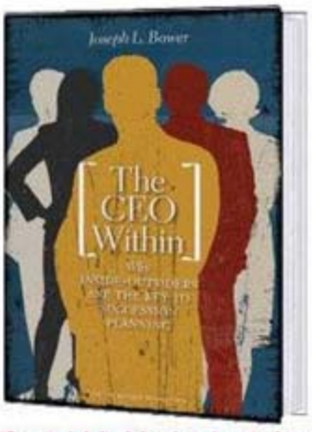
1. Review organizational and system boundaries. For projects in which a significant number of unattended interfaces span organizational boundaries, project managers should revisit their organizational structures. Doing so would probably have helped Airbus avoid the problems it encountered. The company based the organizational structure of its programs not only on the architecture of the plane but also on the share of work owned by the various partners of EADS (the European consortium to which Airbus belongs). The addition of this extra set of boundaries increased the likelihood of unattended interfaces occurring and reduced the likelihood of problem-solving unidentified interfaces taking place.

To change the organizational structure, though, may necessitate changing the system architecture, because that is what drives the organizational structure at most companies. Developing more-modular components that share fewer direct and indirect interfaces with other components in the product is especially helpful because technical communication in such projects is easier to manage than in projects requiring a great deal of component interaction. In the Pratt & Whitney project, teams responsible for designing more-modular components missed far fewer critical interfaces with teams from other components. There were fewer to

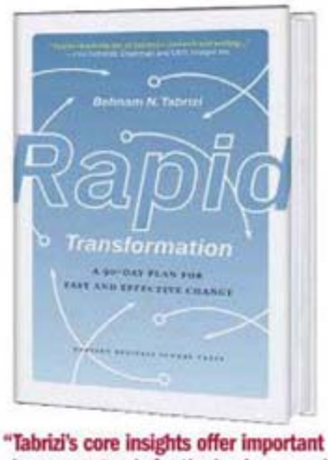
A Call to Action



"Finally, somebody has written a book about what it really means to be a leader."
Lydia Thomas, President and CEO, Noblis, Inc.



"Great, rich insights into how to improve succession planning."
Steve McMillan, CEO, Stryker



"Tabrizi's core insights offer important lessons not only for the business world, but also for organizations in general."
Eric Schmidt, Chairman and CEO, Google Inc.

Available wherever books are sold

HARVARD BUSINESS SCHOOL PRESS www.HBSPress.org

be missed, and the workload associated with fewer direct and indirect interfaces was more predictable. Too much modularity, though, can lead to myopia, particularly at the subcomponent level. At Pratt & Whitney we found that the design teams of highly modularized subsystems were less likely to talk to teams working on other modularized subsystems than were teams working on more integrated subsystems. In going modular, therefore, product designers still need to pay careful attention to critical interfaces across those subsystems.

2. Form teams to handle mismanaged interfaces. Managers also have the option to manage critical interfaces – to ensure that unidentified ones occur or that unattended ones are formalized – by assigning such work to the teams already tasked with the interaction or by making people on the involved teams formally and actively accountable for the interfaces. We would recommend this approach for managing identified interfaces across boundaries – the interfaces design teams are most likely to ignore.

Another way to handle missed interfaces – one that also avoids the need to significantly change the organizational structure – is to extend the responsibility of existing integration teams. Most large projects have such teams: At Pratt & Whitney there were six teams managing system issues like air and fuel efficiency, which affected the design of practically all engine components. Even though the management of team communications is not usually the primary function of integration teams, by the nature of their work, these teams communicate with almost all other teams in the organization. Accordingly, they are in a position to learn in real time about the status of critical interfaces during the design process and to bring unconnected teams together to handle critical interfaces that need special attention. These integration teams could be made responsible for flagging those critical interfaces that are not being properly attended to. In the PW4098 project, the secondary airflow team (one of the six integration teams) was responsible for managing the engine's multiple internal thermal and pressure management systems to optimize engine aerodynamic performance and component durability. It regularly set up meetings and other communications between otherwise unconnected teams to address critical interfaces.

Unfortunately, most integration teams focus on milestone planning and resource allocation, paying only marginal attention to the quality of communication between component teams. That needs to change. Consider the pain that could have been avoided in the last phases of the development of the Airbus A380 if one of the integration teams had realized that the electrical harnesses team in Germany and its counterpart team in France, which were responsible for different sections of the fuselage, were not properly communicating about their design interface specifications.

Many design teams miss interfaces because project planners haven't thought through their use of communication tools and shared platforms.

3. Select appropriate communication support tools. Many design teams miss interfaces because project planners haven't thought through their use of communication tools and shared platforms. At Airbus, one of the main reasons for the communication breakdown between the A380 teams was the lack of compatibility between the computer-aided design (CAD) tools they used.

Being smarter about using communication tools doesn't have to involve a lot of technology: Pratt & Whitney requires teams to regularly complete controlled interface documents and component requirements documents (specifications) to ensure that critical interfaces are identified and attended to. In cases where team members use technology to complete work, the various tools and platforms must be carefully integrated. In planning the development of the engine project that followed the PW4098, for example, Pratt & Whitney linked full engine aerodynamics and secondary air flow analytical models with component models to help the design teams manage their interfaces with the support of the integration teams. Specific people on each team were then tasked with tracking the impact of design changes across the component and system models and communicating those findings to their counterparts on other teams.

• • •

Our approach provides a systematic method for an organization to learn how and where it is exposed to the risk of communication failures between design teams working together to develop complex products. Moreover, an organization can use our tools to determine how changes in system architecture, or the emergence and removal of interfaces between system components, will affect its ability to avoid communication failures in the future. By using DSMs to document the architecture of the product for every generation of a product family, managers can identify key differences between old and new architectures. With the alignment matrix, managers create a compact and visual representation of interfaces and interactions that allows them to diagnose how their organization addresses design interfaces. Most important, the alignment matrix can help managers properly direct their efforts to align team interactions with design interfaces to prevent costly problems from occurring later in the product life cycle.

Reprint R0711J

To order, see page 155.

A Missed Issue Could Be a Missed Opportunity

Harvard Business Review OnPoint Executive Edition is published quarterly and presents articles from *Harvard Business Review* on a common theme. The articles include full-text *Harvard Business Review* articles plus a summary of key ideas and company examples to help busy managers quickly absorb and apply the concepts. Each OnPoint enhanced article also includes an annotated bibliography.

ORDER BACK ISSUES TODAY

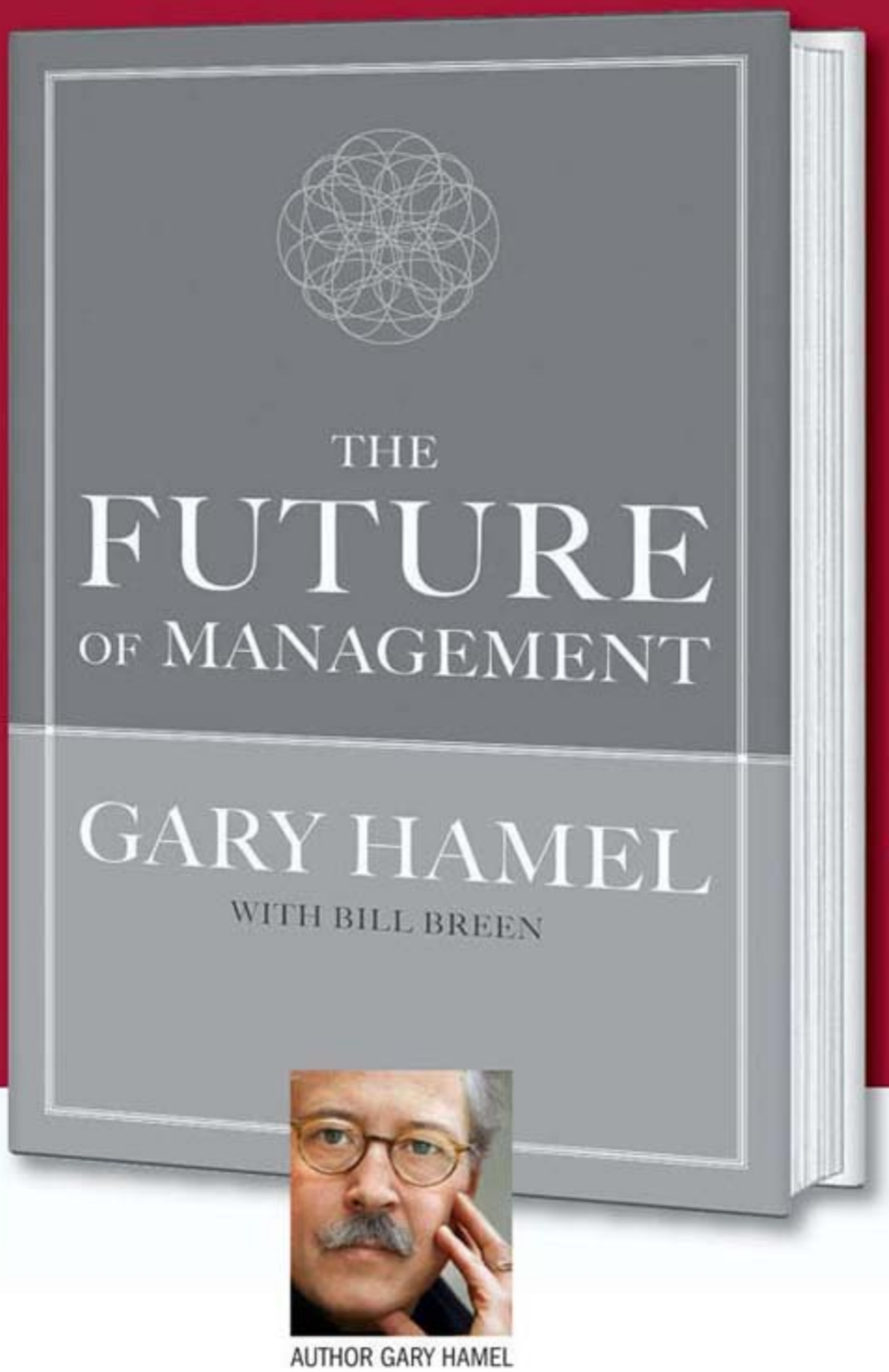
www.onpointhbr.org

Harvard Business Review OnPoint Executive Edition is published quarterly and available only at select newsstands and on our website. It is not available by subscription.

Harvard Business Review
OnPoint
EXECUTIVE EDITION

WWW.ONPOINTHBR.ORG

IS YOUR COMPANY FIT FOR THE FUTURE?



It will be, if you make innovation a core competency. Learn how to do this in *The Future of Management*, by management pioneer, Gary Hamel.

"...Provides a new route map for 21st-century managers."

STEFAN STERN
IN HIS *FINANCIAL TIMES* REVIEW OF *THE FUTURE OF MANAGEMENT*

Available wherever books are sold.

AUTHOR GARY HAMEL

HARVARD BUSINESS SCHOOL PRESS

www.HBSPress.org

Letters to the Editor

To Succeed in the Long Term, Focus on the Middle Term

In his article "To Succeed in the Long Term, Focus on the Middle Term" (July–August 2007), Geoffrey A. Moore succinctly describes the challenges of managing Horizon 2 businesses in large companies. His treatment resonates strongly with my own experience.

To Succeed in the Long Term,
Focus on the Middle Term
by Geoffrey A. Moore

When we originally created the three horizons model detailed in our book *The Alchemy of Growth,* my coauthors and I found that the most difficult part of the growth pipeline was the transition from Horizon 3 to Horizon 2. Moore has not only drawn attention to this treacherous terrain but has also offered six rules of the road to guide CEOs trying to accelerate the growth of a major new business.

What Moore doesn't address explicitly, however, is what happens beyond the early transition stage. As Horizon 2 businesses gather momentum, scale up, and become major profit engines, they pose an entirely different (and difficult) set of challenges for CEOs.

Horizon 2 businesses tend to move companies into new spaces, such as new products, customer segments, channels, and geographies. This shift can affect the very identity of the company. Some leaders, especially those who grew up in the legacy Horizon 1 businesses, resist this natural migration. Worried about the market's reaction to such moves, they deprive the company of an opportunity to reposition itself with more comprehensive market definitions. In those cases, a change in leadership might be necessary in order to make the bold transition to a new world.

Other executives, however, embrace the move, actively driving the natural evolution of both the brand and the company. When Apple Computer's iPod and iTunes music store proved so successful that they challenged the computer company's narrowly defined image, for example, Steve Jobs and his team officially propelled the enterprise – now known simply as Apple – into a broader competitive arena.

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

Clearly, the three horizons are more than just a novel portfolio management framework. By connecting an organization's growth businesses to today's core businesses, they mark a vector that describes the likely evolution of that company. A CEO's decisions about which businesses to build in Horizon 2, therefore, will turn out to be critical.

Mehrdad Baghai
Managing Director
Alchemy Growth Partners
Sydney

Moore responds: The idea that another stage exists on the journey from Horizon 3 to Horizon 1 is enlightening. The challenges Baghai points out revolve around the ability and willingness of a management team to participate in a fundamental change of corporate identity. Several companies have experienced transitions similar to Apple's, including Intel (from memories to microprocessors), Nokia (from a diversified portfolio of businesses to an exclusive focus on wireless communications), and Kimberly-Clark (from pulp and paper to consumer products). In each case bold leadership was required to break and recast the mold. I can see how the inertia of an established reputation could be tough to overcome.

Managing Our Way to Economic Decline *and* Six Rules for Effective Forecasting

Robert H. Hayes and William J. Abernathy's article, "Managing Our Way to Economic Decline" (Best of HBR, July–August 2007), offers a landmark analysis of the root causes of America's competitive weakness at the time it was first published, in 1980. Relating this piece to Paul Saffo's article, "Six Rules for Effective Forecasting," in the same issue is fascinating.

Hayes and Abernathy support their arguments with several exhibits that highlight "our sorry decline." If we extrapolate the trend line they depict, we are bound to conclude that disaster is inevitable. Saffo points out, however, that the future does not unfold linearly. Instead, events occur in a succession of short-term S curves of growth and decline, often within a large longer-term curve. How these trends play out depends on wild cards that can affect the course of events. The cathartic effect of Hayes and Abernathy's article itself is a good example: A couple of years after it was published, Thomas J. Peters and Robert H. Waterman, Jr.'s, book *In Search of Excellence* took the world by storm, and the quality movement finally gained traction in America.

Toward the end of the 1980s, the Japanese prime minister commissioned a study of his country's future in view of the approaching new millennium. The report's main conclusion was that Japan would remain the world's second most powerful economy while the United States would rebound, thanks to an innate competitive spirit that would drive Americans to restructure their businesses and regain their preeminent position in the world. And, indeed, that's what happened. Perhaps the Japanese recognized that the U.S. had been on the declining slope of one S curve but was more than capable of jumping into the growth phase of a new one. Meanwhile, Japan and Europe, America's other greatest challenger, reached the end of their growth curves and began to stagnate – a situation from which they have barely begun to recover.

Today, the focus is on China and India, and the prevailing view seems to be that their growth curves will trend inexorably upward to the top right-hand corner of the chart. But that is not guaranteed. When contemplating the future of the emerging economies we might keep in mind that Hayes and Abernathy provide one still frame of a picture, but Saffo leads us to consider the whole movie.

Bob Clarebrough
Independent Consultant
Weymouth, England

The Making of an Expert

In the article "The Making of an Expert" (July–August 2007), K. Anders Ericsson, Michael J. Prietula, and Edward T. Cokely reinforce a belief in the value of experience. They rightly emphasize the importance of acquiring expertise and point out that leadership is not achieved in a day, but rather is the result of time, effort, strategy, and determination.

Experts are not born virtuosos. They first need to establish their credentials and then move on to build relationships with the right stakeholders and acquire skills in their domains. They need to bring value-added contribution to the organization and eventually create sustainable advantage through

thought and practice leadership. This is the path to achieving gurudom.

In Asia, the traditional value on seniority and experience, which play a role in competence building, seems to be eroding. This is unfortunate. As the article illustrates clearly, there are no shortcuts to success.

Aneeta Madhok
Dean, Center for Human Resources Management
S.P. Jain Center of Management
Dubai

Ericsson, Prietula, and Cokely respond: We appreciate Aneeta Madhok's note and strongly agree that extensive practice and preparation are necessary to acquire superior professional performance.

At the same time, Madhok's appeal for restoring the appreciation of seniority and experience in businesses throughout Asia inspires comment. In our article, we certainly present considerable evidence corroborating the need for a long period of preparation, study, and deliberate practice. However, we also demonstrate that seniority and extensive experience are often weakly – or even negatively – related to objective measures of performance across a variety of professional domains. As a consequence, we recommend that businesses develop and adopt direct, objective measures of reproducibly superior performance rather than rely on soft indicators such as seniority and experience.

We believe that a focus on measurable aspects of expert performance not only aligns with Madhok's primary goal but also increases professional respect and motivation for learning. For example, without valid measurement, aspiring managers can only trust that experienced, senior managers are indeed performing at higher levels and thus deserve the greater responsibilities and compensation they are afforded. Valid measurement replaces that faith with tangible evidence. Furthermore, measurement allows candidates for advancement to identify the aspects of their own performance that they must improve.

In traditional domains of expertise with explicit measures of performance – such as chess, music, and sports – hopeful contenders can respect and learn from their more skilled colleagues and actively seek out the right deliberate practice activities for improving their performance.

Executive Summaries

I have been a longtime reader and am an avid fan of the professional product that is HBR. One thing that seems a bit contradictory to the magazine's approach, however, is the position of the Executive Summaries in the back of each issue. In almost any formal proposal, presentation, or correspondence, an Executive Summary is presented up front.

I assume the current placement is to leverage the reprint business, which is certainly an important consideration. But a reader busy with day-to-day work sometimes doesn't have time to review the entire edition. Though the Table of Contents is helpful, I would prefer to scan the Executive Summaries and decide how best to proceed. At the end of the day, Executive Summaries just get lost in the back. I think that could use some review.

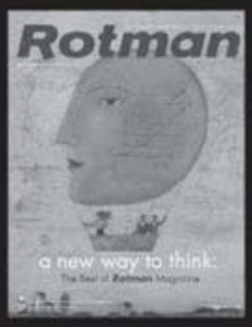
Mark Kramer
Strategic Business Technologist
Network Appliance
St. Augustine, Florida

The editors respond: As magazine editors, we aim to set the stage for readers with the Table of Contents and the Editor's Letter in the front of *Harvard Business Review.* We then offer the Executive Summaries as a detailed guide in the back. Though many readers already use the Executive Summaries in their current location, you're right: We need to make sure that all readers are aware of them. Thanks for the feedback.

"What the Rotman School is doing may be the most important thing happening in management education today."

Peter F. Drucker
(1910-2005)

Find out what thought leaders already know.



Order your FREE copy of:

The Best of Rotman Magazine

www.rotman.utoronto.ca/best
e: best@rotman.utoronto.ca
t: 416 946 0103

Rotman
a new way to think

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.

Photo by Deborah Samuel

THE NATIONAL DISASTER SEARCH DOG FOUNDATION™

It costs up to $10,000 to train our FEMA-certified search and rescue dogs.

To donate, call us at (888) 4K9-HERO, visit www.SearchDogsUSA.org

or write to NDSDF: 206 North Signal Street, Suite R, Ojai, CA 93023

BE PART OF THE SEARCH™

Executive Summaries

NOVEMBER 2007

"Good leadership is not a one-size-fits-all proposition."
–page 68

COVER STORY

68 | A Leader's Framework for Decision Making

David J. Snowden and Mary E. Boone

Many executives are surprised when previously successful leadership approaches fail in new situations, but different contexts call for different kinds of responses. Before addressing a situation, leaders need to recognize which context governs it – and tailor their actions accordingly.

Snowden and Boone have formed a new perspective on leadership and decision making that's based on complexity science. The result is the Cynefin framework, which helps executives sort issues into five contexts:

Simple contexts are characterized by stability and cause-and-effect relationships that are clear to everyone. Often, the right answer is self-evident. In this realm of "known knowns," leaders must first assess the facts of a situation – that is, "sense" it – then categorize and respond to it.

Complicated contexts may contain multiple right answers, and though there is a clear relationship between cause and effect, not everyone can see it. This is the realm of "known unknowns." Here, leaders must sense, analyze, and respond.

In a *complex* context, right answers can't be ferreted out at all; rather, instructive patterns emerge if the leader conducts experiments that can safely fail. This is the realm of "unknown unknowns," where much of contemporary business operates. Leaders in this context need to probe first, then sense, and then respond.

In a *chaotic* context, searching for right answers is pointless. The relationships between cause and effect are impossible to determine because they shift constantly and no manageable patterns exist. This is the realm of unknowables (the events of September 11, 2001, fall into this category). In this domain, a leader must first act to establish order, sense where stability is present, and then work to transform the situation from chaos to complexity.

The fifth context, *disorder*, applies when it is unclear which of the other four contexts is predominant. The way out is to break the situation into its constituent parts and assign each to one of the other four realms. Leaders can then make decisions and intervene in contextually appropriate ways.

Reprint R0711C

FORETHOUGHT

24 | Munchausen at Work

Nathan Bennett

Someone suffering from Munchausen by proxy, a psychological disorder, fabricates or induces illness in another to win attention and praise as a caregiver. A similar pathology in the workplace leads employees to create or exaggerate problems in order to get credit for solving them. Here are some questions to help managers recognize such behavior. **Reprint F0711A**

A Staged Solution to the Catch-22

Andrei Hagiu and Thomas Eisenmann

Companies looking to launch a two-sided platform – between, for example, credit card users and merchants, or search engine users and advertisers – must overcome the reluctance of one side to sign on until it's confident the other side will be well populated. It's a common business quandary, but Google and Charles Schwab both found a way around it. **Reprint F0711B**

The Best Advice I Ever Got

Fred Carl, Jr.

The founder and CEO of Viking Range recalls the eventful words of an early adviser: "You should run this from day one like it's a public company. Treat it like it's going to be big." He did, and it was. **Reprint F0711C**

Break the Paper Jam in B2B Payments

Steve Berez and Arpan Sheth

Many companies still overlook the virtues of electronic invoice and payment systems: Some 70% of U.S. business-to-business transactions involve paper invoices and checks, and managing them costs about $116 billion a year. Electronic systems can help cut accounts payable overhead by more than 50% – but suppliers need to be converted quickly. **Reprint F0711D**

Strategic Insight in Three Circles

Joel E. Urbany and James H. Davis

Executives can delineate their corporate strategy with three simple circles: one for what customers value, one for how customers perceive the company's offerings, and one for how customers perceive competitors' offerings. The overlap (or lack thereof) will provide valuable insights. **Reprint F0711E**

Improve Your Return on Returns

A "reverse logistics" value chain strategy – what you do with goods your customers send back – can strengthen your company's competitiveness, according to the authors of a recent article in the *Academy of Management Perspectives*. Estée Lauder built a $250 million product line from returned cosmetics. **Reprint F0711F**

Conversation with Lynne Brindley

The CEO of the British Library explains how the United Kingdom's exclusive repository for rare books, manuscripts, and scientific papers has loosened up the design of its Business & IP Centre to encourage entrepreneurship and innovation. **Reprint F0711G**

Lessons from the Leaders of Retail Loss Prevention

Adrian Beck and Colin Peacock

Arresting thieves and investing in technology, the main approaches to retail loss prevention, haven't managed to diminish it over the past 15 years. A study of companies that have successfully reduced shrinkage uncovers nine practices behind their success, beginning with organizational and senior management commitment to making loss prevention a priority. **Reprint F0711H**

Reviews

Featuring *The Three Signs of a Miserable Job*, by Patrick Lencioni.

HBR CASE STUDY

39 | Mad About Plaid

Julia Kirby

Castlebridge & Company, a maker of high-quality outerwear, is a century-old British institution. Its headquarters remain in London, but most of its manufacturing has moved offshore. With the last domestic factory slated to close, the firm's executives struggle to preserve the "Britishness" of the brand. Four experts comment on this fictional case study.

For historian Niall Ferguson, the plant closure is a logical step. The British public has been down this road, as have foreign consumers of British products. The real risk to the brand, Ferguson asserts, is the potential loss of its high-class cachet – not its national identity.

Fashion reporter Dana Thomas argues that by broadening their markets beyond the superwealthy, luxury brands have made themselves vulnerable to economic fluctuations. Cutting costs by moving production offshore is inevitable, so Castlebridge should, with characteristic British candor, come clean about it. If the firm shines light on its native roots and its international production, it could establish a winning reputation as a truly modern, global brand.

Dov Seidman, CEO of LRN, takes issue with *how* Castlebridge has gone about the shift to offshore production. In a world where reputation matters more than ever, the firm can't just outperform competitors. It must "outbehave" them, by keeping its promises and acting in a principled manner. Seidman advises the company to rediscover and recommit to the core values that have brought it this far.

Writer and consultant Gill Corkindale looks inside Castlebridge, focusing on the staff that will stay on as the company restructures. She recommends a trust-building people strategy, modeled by the CEO, that emphasizes forthright communication from management, as well as genuine solicitation of and response to the opinions of employees.

Reprint R0711A
Reprint Case only R0711X
Reprint Commentary only R0711Z

EXCLUSIVE NEW BENEFIT FOR SUBSCRIBERS ONLY

On the road…
On demand…
ONLINE—
A full year's worth of HBR

There are many benefits to being a HBR subscriber, and now we've added one more:

www.hbr.org

Now with your subscription you gain unlimited access to HBR Online—including the full year's back issues.

HBR subscribers, go to www.hbr.org to put HBR Online to work for you right away.

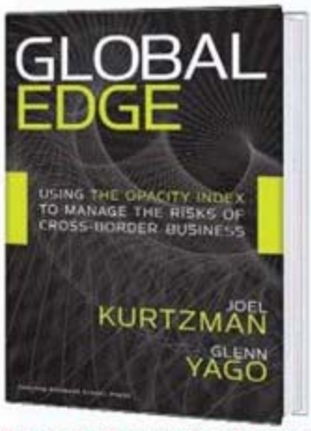
Not a subscriber? Don't miss another issue—go to www.hbr.org and subscribe today!

NOW EMAIL A COLLEAGUE FULL-TEXT ARTICLES!

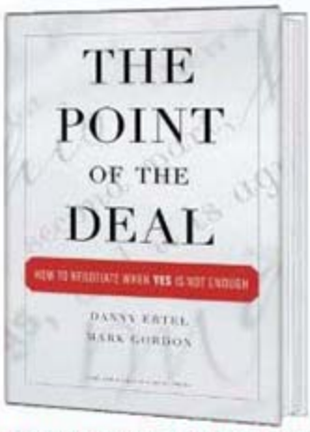
Web access is for the personal use of each HBR print subscriber while paid subscription is active; no corporate or library use intended. All content is copyrighted.

Harvard Business Review

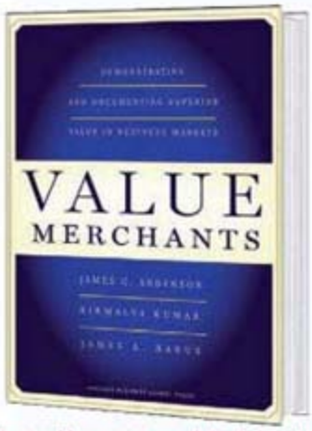
Push Your Limits



"This book offers new tools for gauging risks and turning them to your advantage."
Alvin Toffler, President, Toffler Associates



"Ertel and Gordon remind us all: in every negotiation, know your purpose and don't forget it."
Roger Fisher, coauthor of *Getting to Yes*



"...provides an approach to demonstrate superior value to customers, avoiding the commodity trap."
Markus Akermann, CEO, Holcim, Switzerland

Available wherever books are sold

HARVARD BUSINESS SCHOOL PRESS www.HBSPress.org

| SELF-MANAGEMENT |

53 | Cognitive Fitness

Roderick Gilkey and Clint Kilts

Recent neuroscientific research shows that the health of your brain isn't, as experts once thought, just the product of childhood experiences and genetics; it reflects your adult choices and experiences as well. Professors Gilkey and Kilts of Emory University's medical and business schools explain how you can strengthen your brain's anatomy, neural networks, and cognitive abilities, and prevent functions such as memory from deteriorating as you age.

The brain's alertness is the result of what the authors call cognitive fitness – a state of optimized ability to reason, remember, learn, plan, and adapt. Certain attitudes, lifestyle choices, and exercises enhance cognitive fitness. Mental workouts are the key. Brain-imaging studies indicate that acquiring expertise in areas as diverse as playing a cello, juggling, speaking a foreign language, and driving a taxicab expands your neural systems and makes them more communicative. In other words, you can alter the physical makeup of your brain by learning new skills.

The more cognitively fit you are, the better equipped you are to make decisions, solve problems, and deal with stress and change. Cognitive fitness will help you be more open to new ideas and alternative perspectives. It will give you the capacity to change your behavior and realize your goals. You can delay senescence for years and even enjoy a second career.

Drawing from the rapidly expanding body of neuroscience research as well as from well-established research in psychology and other mental health fields, the authors have identified four steps you can take to become cognitively fit: understand how experience makes the brain grow, work hard at play, search for patterns, and seek novelty and innovation. Together these steps capture some of the key opportunities for maintaining an engaged, creative brain.

Reprint R0711B; HBR Article Collection "Get in Shape to Lead" 2613

| GOVERNANCE |

78 | If Private Equity Sized Up Your Business

Robert C. Pozen

As the dust settles on the recent frenzy of private equity deals (including transactions topping $20 billion), what lessons can companies glean? Directors and executives of public companies may now be slightly less fearful of imminent takeover, yet the pressure remains: They face shareholders who wonder why they aren't getting private-equity-level returns. Rather than dismiss the value private equity has created as manipulated or aberrant, public company leaders should recognize the disciplined management that often underlies it.

Pozen, a longtime leader in the financial services industry, finds that in the aftermath of buyouts, companies undergo five major thrusts of reform. These translate into five key questions that directors should pose to senior management: Have we left too much cash on our balance sheet instead of raising our cash dividends or buying back shares? Do we have the optimal capital structure, with the lowest weighted after-tax cost of total capital, including debt and equity? Do we have an operating plan that will significantly increase shareholder value, with specific metrics to monitor performance? Are the compensation rewards for our top executives tied closely enough to increases in shareholder value, with real penalties for nonperformance? Finally, does our board have enough industry experts who have made the time commitments and been given the financial incentives necessary to maximize shareholder value?

The era of private equity is far from over – the top funds have become very large and are likely to play an influential role in future market cycles. Boards that ask these questions, and act on them, won't just beat the takeover artists to the punch. They will build stronger businesses.

Reprint R0711D

MANAGEMENT DEVELOPMENT

90 | Solve the Succession Crisis by Growing Inside-Outside Leaders

Joseph L. Bower

In his analysis of 1,800 successions, Harvard Business School professor Bower found that companies performed significantly better when they appointed insiders to the job of CEO. Other researchers, including Jim Collins in *Good to Great*, have come to similar conclusions working from different data sets. Yet Bower finds far too many companies have no succession plans; as a result, when the time comes to name a new chief executive, more firms turn to outsiders.

Both insider and outsider CEOs have strengths and weaknesses at the start. Insiders know the company and its people but are often blind to the need for radical change. Outsiders see the need for a new approach but can't make the necessary changes because they don't know the organization or industry sector well enough. What companies must do, then, is find a way to nurture what Bower calls *inside-outsiders* – internal candidates who have outside perspective.

Often such executives have spent much of their time away from the mainstream of the organization, and away from headquarters, living with new opportunities and threats. Before becoming CEO, Procter & Gamble's A.G. Lafley, for instance, worked for years building P&G's Chinese cosmetics operation rather than the core detergent business. IBM's Sam Palmisano was a champion of software and open systems at a time when Big Blue was essentially a closed-system, hardware-oriented company.

Nascent inside-outsiders should enter the CEO-training process by the time they are 30 and be given the opportunity to manage a whole business, so that they become good insiders. But they also need to be mentored with an eye toward preserving their outsider perspective, so they learn how to turn their new ideas into great businesses and are protected from old-timers who might be inclined to teach them a lesson.

Reprint R0711E; HBR Article Collection "So You Want to Be CEO" 2616

INNOVATION & CREATIVITY

100 | Eight Ways to Build Collaborative Teams

Lynda Gratton and Tamara J. Erickson

Executing complex initiatives like acquisitions or an IT overhaul requires a breadth of knowledge that can be provided only by teams that are large, diverse, virtual, and composed of highly educated specialists. The irony is, those same characteristics have an alarming tendency to decrease collaboration on a team. What's a company to do?

Gratton, a London Business School professor, and Erickson, president of the Concours Institute, studied 55 large teams and identified those with strong collaboration despite their complexity. Examining the team dynamics and environment at firms ranging from Royal Bank of Scotland to Nokia to Marriott, the authors isolated eight success factors: (1) *"Signature" relationship practices* that build bonds among the staff, in memorable ways that are particularly suited to a company's business. (2) *Role models of collaboration* among executives, which help cooperation trickle down to the staff. (3) *The establishment of a "gift culture,"* in which managers support employees by mentoring them daily, instead of a transactional "tit-for-tat culture." (4) *Training in relationship skills,* such as communication and conflict resolution. (5) *A sense of community,* which corporate HR can foster by sponsoring group activities. (6) *Ambidextrous leadership,* or leaders who are both task-oriented and relationship-oriented. (7) *Good use of heritage relationships,* by populating teams with members who know and trust one another. (8) *Role clarity and task ambiguity,* achieved by defining individual roles sharply but giving teams latitude on approach.

As teams have grown from a standard of 20 members to comprise 100 or more, team practices that once worked well no longer apply. The new complexity of teams requires companies to increase their capacity for collaboration, by making long-term investments that build relationships and trust, and smart near-term decisions about how teams are formed and run.

Reprint R0711F

100 YEARS 1908-2008

HARVARD BUSINESS SCHOOL EXECUTIVE EDUCATION

MARKETING FOR SENIOR EXECUTIVES
JANUARY 15–18, 2008

LEADERSHIP BEST PRACTICES
FEBRUARY 18–22, 2008

LEADING CHANGE AND ORGANIZATIONAL RENEWAL
MARCH 2–7, 2008

GETTING GLOBAL STRATEGY RIGHT
MARCH 25–28, 2008

MAKING CORPORATE BOARDS MORE EFFECTIVE – La Jolla, California
MARCH 26–29, 2008

CHANGING THE GAME: NEGOTIATION AND COMPETITIVE DECISION MAKING
MARCH 30–APRIL 4, 2008

CREATING CORPORATE ADVANTAGE: STRATEGY IN THE MULTIBUSINESS FIRM
APRIL 23–25, 2008

THE WOMEN'S LEADERSHIP FORUM: INNOVATION STRATEGIES FOR A CHANGING WORLD
APRIL 27–MAY 2, 2008

For more information, visit
www.exed.hbs.edu/pgm/uphbr/

| STRATEGY & COMPETITION |

110 | Mapping Your Competitive Position

Richard A. D'Aveni

A price-benefit positioning map helps you see, through your customers' eyes, how your product compares with all its competitors in a market. You can draw such a map quickly and objectively, without having to resort to costly, time-consuming consumer surveys or subjective estimates of the excellence of your product and the shortcomings of all the others.

Creating a positioning map involves three steps: First, define your market to include everything your customers might consider to be your product's competitors or substitutes. Second, track the price your customers actually pay (wholesale or retail? bundled or unbundled?) and identify what your customers see as your offering's primary benefit. This is done through regression analysis, determining which of the product's attributes (as described objectively by rating services, government agencies, R&D departments, and the like) explains most of the variance in its price. Third, draw the map by plotting on a graph the position of every product in the market you've selected according to its price and its level of primary benefit, and draw a line that runs through the middle of the points.

What you get is a picture of the competitive landscape of your market, where all the products above the line command a price premium owing to some secondary benefit customers value, and all those below the line are positioned to earn market share through lower prices and reduced secondary benefits.

Using examples as varied as Harley-Davidson motorcycles, Motorola cell phones, and the New York restaurant market, Tuck professor D'Aveni demonstrates some of the many ways the maps can be used: to locate unoccupied or less-crowded spaces in highly competitive markets, for instance, or to identify opportunities created through changes in the relationship between the primary benefit and prices. The maps even allow companies to anticipate – and counter – rivals' strategies.

Reprint R0711G

| ORGANIZATION & CULTURE |

122 | Simple Rules for Making Alliances Work

Jonathan Hughes and Jeff Weiss

Corporate alliances are growing in number – by about 25% a year – and account for up to a third of revenues and value at many companies. Yet some 60% to 70% of them fail. What is going wrong?

Because alliances involve interdependence between companies that may be competitors and may also have vastly different operating styles and cultures, they demand more care and handling than other business arrangements, say Hughes and Weiss, management consultants at Vantage Partners. The authors have developed five principles – based on their two decades of work with alliances – to complement the conventional advice on alliance management: (1) Focus less on defining the business plan and more on how you and your partner will work together. (2) Develop metrics pegged not only to alliance goals but also to performance in working toward them. (3) Instead of trying to eliminate differences, leverage them to create value. (4) Go beyond formal systems and structures to enable and encourage collaborative behavior. (5) Be as diligent in managing your internal stakeholders as you are in managing the relationship with your partner.

Companies that have adopted these principles have radically improved their alliance success rate. Schering-Plough, for example, engages in a systematic "alliance relationship launch": four to six weeks of meetings at which the partners explore potential challenges, examine key differences and develop shared protocols for managing them, and establish mechanisms for day-to-day decision making. Blue Cross and Blue Shield of Florida measures the quality of alliance progress through regular surveys of both its own staff and its partners'.

These companies have learned that the conventional advice is not so much wrong as incomplete. The five simple rules can help fill in the blanks.

Reprint R0711H

| OPERATIONS |

133 | Are Your Engineers Talking to One Another When They Should?

Manuel E. Sosa, Steven D. Eppinger, and Craig M. Rowles

Communication may not be on managers' minds at companies that design complex, highly engineered products, but it should be. When mistakes take place, it's often because product-component teams fail to talk. The consequences can be huge: Ford and Bridgestone Firestone lost billions by not coordinating the design of the Explorer with the design of its tires. The major delays and cost overruns involved in the development of Airbus's A380 "superjumbo" – which most likely led to the CEO's exit – were a result of unforeseen design incompatibilities.

To help managers mitigate such problems, the authors present a new application of the design structure matrix, a project management tool that maps the flow of information and its impact on product development. Drawing on research into how Pratt & Whitney handled the development of the PW4098 jet engine, they have developed an approach that uncovers (a) areas where communication should be occurring but is not (*unattended interfaces*, usually bad) and (b) areas where communication is occurring but has not been planned for (*unidentified interfaces*, usually good).

After finding the unattended and unidentified interfaces, the next step is to figure out the causes of the critical ones. If a significant number of unattended interfaces cross organizational boundaries, executives may need to redraw organizational lines. Executives can then manage the remaining critical interfaces by extending the responsibilities of existing integration teams (those responsible for cross-system aspects, such as a jet engine's fuel economy) to include supervising the interaction, by dedicating teams to specific interfaces, or by formally charging teams already involved with the interfaces to oversee them. Finally, it's important to ensure that the teams are working with compatible design equipment; inconsistencies between CAD tools have cost Airbus dearly.

Reprint R0711J

ACCESS TO HBR ONLINE

Subscribers can access the online version of HBR at www.hbr.org. First-time visitors will need to verify subscription information, such as their subscriber ID number, which can be found through the "look up" function.

Nonsubscribers can also access select articles at www.hbr.org.

SUBSCRIPTION SERVICES

Visit www.hbr.org to subscribe or to renew or manage your subscription.

U.S. AND CANADA

800-274-3214 | 813-354-3467 fax
subsvcs@hbr.customersvc.com
www.hbrcustomerservice.com
Harvard Business Review
P.O. Box 62270
Tampa, FL 33662-2701

OVERSEAS AND MEXICO

31-20-4874465 | 31-20-4874412 fax
hbr.intl@customersvc.com
www.hbr.org/customerservice
Harvard Business Review
P.O. Box 20501
1001 NM Amsterdam
The Netherlands

RATES PER YEAR

U.S., $119 | **Canada**, U.S.$139
International, U.S.$165 | **Mexico**, U.S.$139

ARTICLE REPRINTS

To purchase reprints of *Harvard Business Review* articles or to obtain permission to copy, quote, or translate them, contact our customer service team. Reprint numbers and article collection information appear at the end of articles and executive summaries. Reprints are available in hard copy, as electronic downloads with permission to print, and in customized versions.

FOR INFORMATION OR TO ORDER

Customer Service Department
Harvard Business School Publishing
617-783-7500
U.S. and Canada: 800-988-0886
(8 AM – 6 PM ET weekdays)
www.hbrreprints.org

CUSTOM AND QUANTITY ORDERS

For quantity estimates or quotes on customized *Harvard Business Review* article reprints, contact Rich Gravelin:
617-783-7626 | rgravelin@hbsp.harvard.edu

LIBRARY ACCESS

Libraries offer online access to current and back issues of *Harvard Business Review* through EBSCO host databases.

POSTMASTER:

Send domestic address changes, orders, and inquiries to: *Harvard Business Review*, Subscription Service, P.O. Box 62270, Tampa, FL 33662-2701. GST Registration No. 1247384345. Periodical postage paid at Boston, Massachusetts, and additional mailing offices. Printed in the U.S.A. *Harvard Business Review* (ISSN 0017-8012; USPS 0236-520), published monthly (with a combined July–August issue) for professional managers, is an education program of the Harvard Business School, Harvard University; Jay O. Light, dean. Published by Harvard Business School Publishing Corporation, 60 Harvard Way, Boston, MA 02163.

Copyright © 2007 Harvard Business School Publishing Corporation. All rights reserved. Volume 85, Number 11

Save Your Back Issues of *Harvard Business Review*

Save time and effort searching for back issues and avoid lost or damaged copies. These custom-made library slipcases are designed to hold 12 issues. They're covered in a durable, crimson, leather-like material, and their spines are labeled with the *Harvard Business Review* logo in gold. Perfect for your home or office.

Slipcase Quantities and Prices:
(one) $15; (three) $40; (six) $80

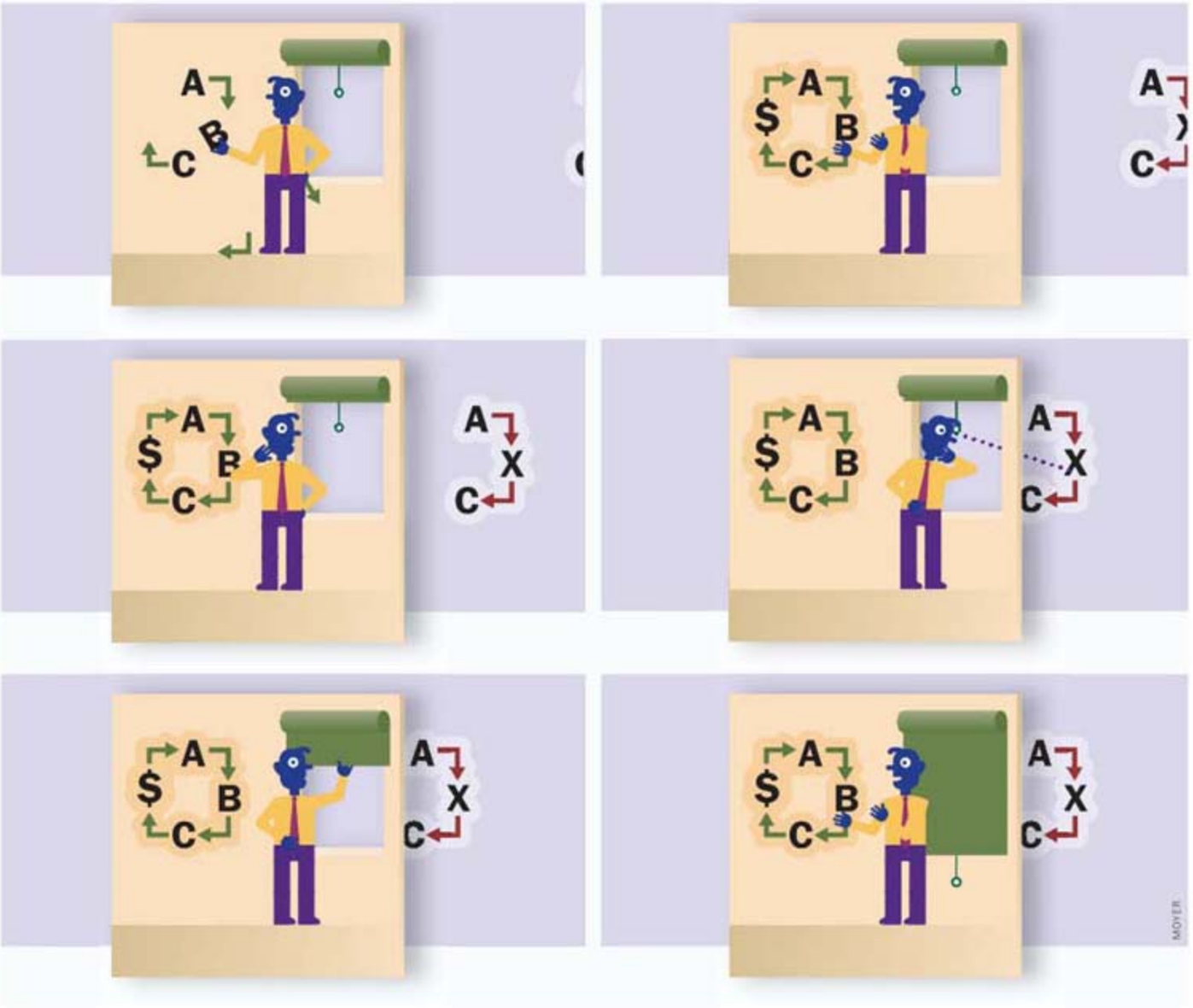
Order on-line:
www.tncenterprises.net/hbr.html

by telephone: 215-674-8476

or send your orders to: TNC Enterprises, Dept. HBR, P.O. Box 2475, Warminster, PA 18974

Please include your name, address (no P.O. boxes, please), telephone number, and payment with your order. For credit card payment, indicate name as it appears on the card, card number, and expiration date. AmEx, Visa, and MasterCard accepted.

Add $3.50 per slipcase for postage and handling. This offer is available to U.S. customers only. PA residents add 6% sales tax. Satisfaction Guaranteed



What Evidence?

IN *STUMBLING ON HAPPINESS,* Daniel Gilbert explores some of the techniques humans use to make themselves happy. For example, "Our eye looks for what our brain wants. The conspiracy between these two servants allows us to live at the fulcrum of stark reality and comforting illusion" – a pleasant address for an individual but a bad place to run a business.

One danger involves seeking out "information that supports our existing instinct or point of view while avoiding information that contradicts it," John Hammond, Ralph Keeney, and Howard Raiffa write in *Smart Choices.* We also have a tendency to make overly optimistic forecasts when analyzing proposals for major investments, Dan Lovallo and Daniel Kahneman point out in "Delusions of Success" (HBR July 2003). By exaggerating the likely benefits of a project and ignoring the potential pitfalls, managers lead their organizations into initiatives that are doomed to fall well short of expectations.

Combating these innate human tendencies isn't easy, but we can start by consciously searching for conflicting evidence, which is easy to find – once we remove the filters that prevent us from seeing it.

Don Moyer can be reached at dmoyer@thoughtformdesign.com.

Giraffes get dropped 6 feet to the ground at birth.

They can't avoid rude awakenings.
But you can. With proven performance management software from SAS.

www.sas.com/giraffes

sas | THE POWER TO KNOW.

CLIPPER CHRONO WATCH
COSC-CERTIFIED SELF-WINDING MOVEMENT

1-800-441-4488

AN HERMÈS WATCH HAS
TIME ON ITS SIDE

Publicis EtNous